SAP Oil & Gas (PRA - Production and Revenue Accounting)

SAP

Content

1 SAP Oil & Gas (PRA - Production and Revenue Accounting)

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2 Ownership

Purpose

Ownership is an ownership management component designed to manage division order interests for producing properties and operating interests (gross working interests) for both producing and non-producing properties. Ownership is used to create the master data used throughout PRA. It provides a single source for ownership to support Revenue Distribution. SAP JVA is designed to manage joint interest billing. The SAP components are integrated and share both ventures and cost center assignments for linking revenues and expenses for custom or SAP-specific corporate reporting.

Ownership supports date-sensitive tracking of ownership, including a complete online ownership history, and the ability to link burden groups to specific working interest owners. It can also track unit property information.

It also includes mass data change processes that make possible changes across multiple division orders. The ownership transfer, provision change, suspend/suspense release owners, and division order approval are examples of mass change processes.

The ownership transfer process (see: Ownership Transfers (Transfer Requests) [page 46]) in PRA can handle various scenarios of ownership change. It can be used to transfer interest from one owner to other owners. It creates a history for old owners, and handles burden group transfer automatically for the source and destination owners. It can also combine the owners based on combine criteria to allow division order consolidation. The combine process allows for an online simulation and review to reduce situations where ownership cannot combine automatically and allow you to adjust the combinability criteria as needed.

Ownership is integrated with the accounting processes necessary to transfer funds from suspense to pay, and from pay to suspense based on owner interest transfer requests and changes, or by direct funds-only transfer requests.

Ownership is integrated with all SAP PRA components, and as such, generates prior period notifications (PPNs) for changes that impact both Valuation and Contract Allocation processes, including automatic updates of marketing group changes, when necessary.

Ownership works on the concept of 'checking out' DOIs for maintenance, and 'checking in' DOIs for updating the data in the processing stream (see: DOI Check-In and Check-Out [page 27]). That process controls when maintenance can be applied to the system without impacting work in progress from the other components.

The component also allows for a correction process outside of transferring ownership. This process can become vital to fix errors without impacting chain of title records or owner payments based on current ownership.

Ownership also contains functionality for:

- Linking well completions and measurement points to division orders (see: Creating a DOI to MP/WC Cross-Reference [page 64]).
- Maintaining DOI revenue accounting rules (see: Defining Tax and Revenue Attributes for a DOI (DOI Accounting) [page 45]).
- Managing production payment balances (Maintaining Production Payment Information [page 42])
- Reviewing owner suspended balances (legal suspense balances, see: Displaying Outstanding Summary (Legal Suspense) Balances [page 41]).

2.1 Creating a Business Associate (PRA Owner)

Use

Use this to create a business associate in PRA.

In PRA, you create owners as master records to represent owners in divisions of interest (DOIs), who will receive revenue in subsequent revenue processes in PRA. An owner master record in PRA consists of a business associate (BA) record linked to a vendor record from SAP Core.

In order to create an owner, it is thus necessary to create a business associate, and link the BA to a vendor, or create a BA and also create a vendor in Core. Every owner that you create or use in PRA has to be linked to a business associate record and a vendor.

The main reason that you use vendors from Core is that when you set up an owner in PRA, you will need some of the attributes attached to that vendor in Core, which will not exist in Ownership. So for the overall attributes of the owner, some come from the Core vendor attributes, and some you set up in the BA record when you create it here. The BA type identifies the type of owner (working interest, royalty interest, etc.) that you are creating.

The graphic below illustrates the link between business associate and Core vendor.
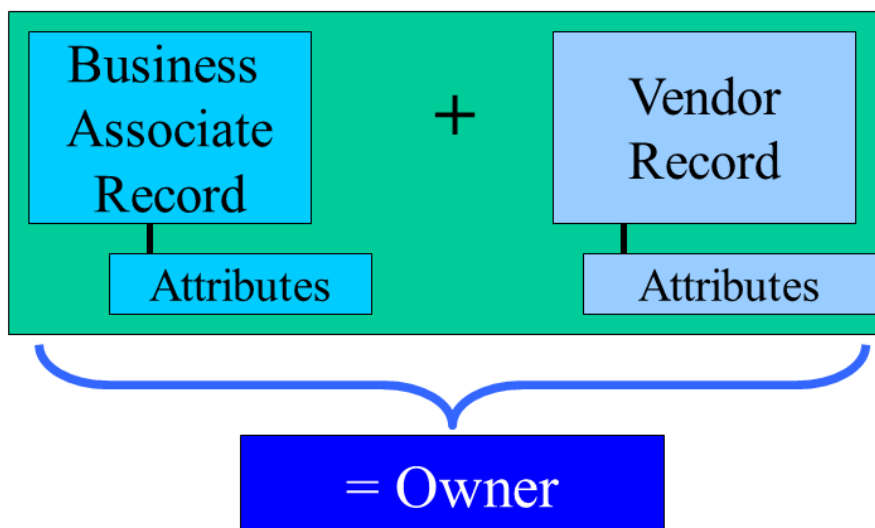
In ownership, you will almost always link business associates (owners) to Core vendors. Outside of Ownership in PRA, it is possible to use Core customers instead of vendors (see the table below for a list of which entities are vendors and which are customers in the system). Customers can represent third parties, with whom Upstream companies trade and do business. These third parties – sometimes referred to as "partners" in the industry – can also be set up in the system as business associates. For example, you could do business with a transporter or shipper, and set up the transporter or shipper in the system as a customer in Core (and an owner in PRA).

From a PRA point of view:

In Ownership: Core Vendors are used to represent owners.

In PRA, outside of Ownership: Customers can be used. They can be: marketing representatives, transporters, or operators.

After the BA master record is created, it can then be used by the PRA Ownership, Revenue Distribution, Journal Entry, Check Input, and tax applications of SAP PRA. The entity type that you define (on the *BA Overview* Screen) is used by the system for tax computations. BA residence information identifies where the business associate is located. Resident country and region are used for non-resident tax calculations.

The specific BA type is chosen to reflect the business situation that the owner is in. It determines whether that BA record is to be linked with a vendor or a customer record (see the table below). In choosing a BA type, you thus choose a BA type that reflects the relation your company has to the business associate. For example, if the business associate that you want to create is a working interest owner in the DOI, you would select "working interest" (WI) as the BA type, and "V" (for vendor) for the vendor/customer.

It is no longer a requirement in PRA that you create a Core vendor (or customer) at the same time as you create a business associate. It is now possible to create a business associate, and then link it to an already-existing vendor record (on the BA creation screen, the *Link BA to Master Record* screen tab is used for that).

Once you have created a business associate record, you should not attempt to change the vendor that is linked to that BA from within the Core SAP vendor master transaction. Doing that could result in inconsistencies between the BA data and the Core data. Always maintain BA-related core master data through the BA application.

The table below shows the BA types and whether each BA type links to a vendor or to a customer in SAP Core:

Table 1:

BA type	BA Type Description	Vendor/customer (in Core)
BI	Billing interest	C (Customer)

BA type	BA Type Description	Vendor/customer (in Core)
CI	Carried interest	V (Vendor)
OI	Non-working interest	V
OP	Operator	C
PR	Purchaser	C
RM	Remitter	C
SH	Shipper	V
SL	Seller	C
TA	Taxing authority	V
TR	Transporter	V
WI	Working interest	V

The BA Type options above are delivered by SAP as a standard part of PRA Ownership customizing. However, you can add your own BA Types to this list in Customizing. To do that, in the IMG, select *Industry Solution Oil & Gas (PRA) à Ownership à Business Associate à Business Associate Types*

Procedure

1. At the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Ownership Business Associate* .

The *Business Associate: Initial Screen* is displayed.

There are two ways that you can now proceed:

1. Create a business associate 'from scratch':

Select *Create* and then begin entering your BA master data (for descriptions of the screen tabs, please see the table below), or

1. Create a business associate with reference:

You can create a BA that references an already-existing BA record. To reference existing data: in the *Parameters* screen area, enter data and then select *Execute* , and use the results of your search as a worklist. For example, you could enter the company code and run your search, and then use all the records that are displayed after you select *Execute* as a worklist from which to create a new BA master record. If you decide to do that, to select a record, double-click one record from the ALV list after selecting *Execute* . The system will take you back to the *Business Associate: Initial Screen* . From there, proceed as follows:

On the *Business Associate: Initial Screen* , at the top of the screen, enter the header data for the BA record: *Business Associate ID* , a *sequence number* (used to further break down BAs into additional records – representing separate ownership interest situations – such as one for carried interest owner, and one for royalty interest owner, for example), whether the record is to be a *vendor or customer* in Core (choose vendor for Ownership situations), and the relevant *company code* that the BA is to be assigned to.

On the *Business Associate – Create* screen, there are several screen tabs. They are used to do the following:

Table 2:

General data As the tab suggests, General Data contains general, header-level data on the BA, such as address and entity type. Enter the business associate type (what type of owner you would like the BA to be), the entity type (used for tax purposes), the country and region in which the business associate is located, and whether the BA is in escheat or not. Escheat is a situation in which there is no owner, and the property then reverts to the government. For escheat, enter Y = yes (this business associate is in escheat), N = no (this business associate is not in escheat), or S = Owner has been processed after having been in escheat, and the relevant date if the owner is in escheat.
Payment data Onthis screen tab, you enter payment master data for the business associate. For vendor BAs, if the entity type is "U.S. Indian" or "Taxable U.S. Indian", the *Allottee payment method* field will dynamically appear on the *Payment data* screen (but if the entity type is not one of those Indian entity types, that field will not be displayed).
Address data This screen tab is for display use only. The data that appears here is based on the BA that you chose, and will be defaulted from that BA record. The address data is maintained for the vendor in Core. You can view the address data here, but you cannot make any changes to it (you would have to go into Core for the vendor in order to make changes).
Alternate addresses (only available in change/display mode) – One requirement is to be able to store more than one address type per business associate, to be used in specific reporting situations. In some business situations, sending documents to an alternate address is required. On the BA screen, there is a main address that is usually used for the BA. The main address is pulled from the Core record by the system, to be used in Checkwrite, for example. The alternate addresses, when entered, are used by various reporting programs. The goal is to be able to send a report to an address other than the main address on the BA screen. It is now possible to do that. Within the BA change mode, there is an *Alternate Addresses* screen tab. You can use this to create multiple different address types for your business associate, to be used in situations in which you want to use different addresses from the defaulted one. On the *Business Associate: Change* screen, you select the drop-down list for *Address type* and choose one (example: *Balancing*). Next, in the icon on the right, select it and maintain the actual address, and save it.

Link BA to Master Record You can use this screen tab to link your business associate record to a Core vendor record (in rare cases: to a Core customer record).

There are two options on this screen tab:

Option A

Create a new vendor (or customer).

The system displays a vendor/customer master creation dialog box.

You then enter vendor data that you would like to create.

The system then takes you to Core maintenance for the vendor/customer. You maintain either customer or vendor, and save the record.

That saves the record so that you now have two records: an oil BA master record, and a Core vendor master record.

Option B

Assign an already-existing Core vendor (or customer) master record to the BA.

Select the *Assign existing vendor to the BA* pushbutton.

Then, in the *Customer (or Vendor)* field (the field changes dynamically, depending on what you are working with: customer or vendor), enter a customer or vendor.

Now select *Assign* .

The system will, at this point, carry out validations to make sure that the data is allowed. The *Save* icon will now appear active on the screen.

Choose *Save* to save the record.

That saves the business associate record and links it to the vendor or customer record in Core.

Result

A business associate record is created, with reference to a vendor (or customer).

2.2 Joint Venture

A joint venture (JV) is an association of two or more parties formed to diversify risks, achieve operational efficiencies, and share in costs and revenues.Sharing is proportional according to each party's interest in the venture.Each cost object that is used to post joint venture accounting expenses must be assigned to a single joint venture.

In PRA-Ownership, you create ventures as "extensions" of JVA joint ventures. If you do not have Joint Venture Accounting installed and active, you can, however, still create ventures in PRA (see: Setting Up JVA Master Data for Non-JVA Systems [page 20]).

See also:

2.2.1 Setting Up JVA Master Data for Non-JVA Systems

Purpose

The usual process for creating a venture in PRA-Ownership is as follows:

Step 1 – You create a joint venture in JVA (in a JVA system)

Step 2 – In PRA-Ownership, you set up the venture, as an 'extension' to the joint venture (see: Creating a PRA Venture [page 23]).

Usually, you set up joint ventures ("ventures") in the Joint Venture Acounting JVA system, within the Joint Venture Master: Initial screen. This entails creating a master data object called the joint venture, with the following attributes: venture type, venture class, joint operating agreement (JOA) assignment, description, and posting method. The attributes define what kind of venture it is, for example, for revenue and tax purposes. The venture type can be one of the following: operated – tax, operated – non-tax, non-operated, and non-operated on billing.

You can also create master data for a group of business partners – as an equity group, which operates the (joint) venture. That is the usual way to create a joint venture in the system, when you are using Joint Venture Accounting (you have JVA installed and activated). After the joint venture has been set up in JVA, you can then create a joint venture extension in Ownership – which is called a venture.

However, you might want to create a venture, but you do not have JVA installed and activated. You thus cannot carry out the first step, detailed above, which is necessary.

This process is designed to re-create that first step, in situations in which you do not have JVA. It allows you to create the required master data for venture creation.

Prerequisites

This process is only to be used if you do not have access to a JVA system – in other words, JVA is not installed, and also not activated.

Process Flow

To recreate the JVA-step (Step 1 mentioned above, in which you create a joint venture), specifically, you:

Assign operators to the relevant JVA company code (see: Assigning an Operator to a JVA Company Code [page 21]).

Assign partners ("customers") to the company code (see: Assigning a Partner to a JVA Company Code [page 22]).

Create all the relevant attributes for the venture (see: Creating Venture Attributes for JVA [page 23]).

Result

A joint venture is created, and you can now create a venture in PRA-Ownership (to continue on to the create a venture, please refer to: Creating a PRA Venture [page 23]).

2.2.1.1   Assigning an Operator to a JVA Company Code

Use

Use this to assign an operator to a JVA company code, for venture creation in situations in which you do not have access to a JVA system (see: Setting Up JVA Master Data for Non-JVA Systems [page 20]).

You can also use this to define a JVA company code in your system.

Prerequisites

You want to create a venture in PRA-Ownership, but you do not have a JVA system installed and activated.

Procedure

From the SAP Easy Access menu, choose *Logistics à Production and Revenue Accounting à Ownership à Master Data Setup for Non-JVA Systems à PRA JVA Companies*

The *PRA JVA Companies: Maintenance* screen is displayed.

Enter the relevant company code.

Select *Create* .

The *PRA JVA Companies: Create* screen is displayed.

On that screen, you assign an operator (customer) to the company code.

Save your record by choosing Save.

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There is an icon, *List Entries* , on the initial screen, which you can use to list and view the operators per company code. The list also has complex display functionality. Select *List Entries* and then *New Field Selection* .

Result

The operator is linked to the company code.

2.2.1.2 Assigning a Partner to a JVA Company Code

Use

Use this to assign a partner to a JVA company code.

In the JVA (Joint Venture Accounting) system, partners are customers. Partners are assigned at the company code level. It is also used to assign a venture and specify the venture type: operated, or non-operated.

Procedure

1. At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Ownership → Master Data Setupfor Non-JVA Systems → PRA Partner Table from JV.*
   The *PRA Partner Table from JV* screen is displayed.
2. Enter the relevant company code, and a customer (partner). The customer is a business associate (owner).
3. Select *Create* .

2.2.1.3   Creating Venture Attributes for JVA

Use

Use this to create the relevant JVA venture attibutes for the venture.

This step provides the attributes for the JVA venture, so that the venture is complete. You can provide, among other things, the following venture attributes:

- Venture type
- Venture class
- Block joint venture for cutback and billing (flag)

After you have created the attributes, the venture can be maintained.

Procedure

- At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Ownership → Master Data Set-up for Non-JVA Systems → PRA Joint Venture Master Data* .

The *Change View Venture Maintenance (Company Code activation): Overview* screen is displayed.

- On this screen, you can define the attributes for the venture. Per company code and venture, you can define the following: venture type, venture class, operator ID, and whether the venture is to be blocked for cutback and billing.

Result

The attributes for your joint venture now have been set up. The attributes define how the venture will be handled, from a revenue point of view. After this step, you can create the venture in PRA (see: Creating a PRA Venture [page 23]).

2.3   Creating a PRA Venture

Use

Use this transaction to create master data for a PRA venture, which represents a property with one or several leases. The PRA venture is an extension of the joint venture record set up in joint venture accounting.

When you create a PRA venture, you will have to define the following venture attributes for the venture (each one of these corresponds with a screen tab on the PRA venture maintenance screen):

Table 3:

General	General information on the type of venture, and revenue-related attributes for the venture.
Location	Information on the geographical location of the venture (country, state, and whether the venture is located onshore or offshore).
Legal description	Information on the surveying method used for that DOI.
Acquisition information	Information on when a venture was acquired, sold, etc., and the parties involved
Unit venture	If the venture is a PRA Unit Venture [page 54] , you specify the applicable combined product codes.

Creating a PRA venture does NOT create a new venture in the system, rather, it is an extension of the joint venture that has already been created in the SAP Joint Venture Accounting system.

You cannot delete ventures in PRA, due to that link.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Ownership* ❯ *Venture* ❯ *Create* ◀ .
   The *Create Joint Venture Maintenance: Initial Screen* is displayed.
2. Enter a joint venture and company code (or you can create one with reference).
3. Choose *Enter* .
4. The *Create Joint Venture Maintenance: Overview Screen* is displayed.
5. Enter a short description of the venture.
6. Within the *General* screen tab, enter the following required data:
   ○ The interest code (specifying who receives interest from the venture), the usage type (how the venture is being used), the status of the venture (active, non-producing, sold, etc.), as well as the status effective date (the date on which the status that you listed is to be active).
   ○ *Field ID* (optional), which will appear in the Schedule A Reports (if entered here) – (for more information on that see: Generating a DOI Schedule A Report [page 61]).
   ○ If the venture that you are creating is a PRA Unit Venture [page 54] , set the *Unit venture* flag. Set the *DOI by tract* flag to indicate whether ownership and the resulting revenue disbursement for the unit that is being set up is under one division order, or under multiple division orders – that is, one for each tract in the unit.
   ○ *DOI Print Flag* – Set this if you want the DOI name, instead of the venture name, to be printed on checks.
1. Select the *Location* screen tab, and enter the relevant data. This defines what state and region the venture is in, and whether the venture is an onshore or offshore venture.

2. Select the *Acquisitions* tab. Note that the acquired from party, and the sold-to party have to be valid customers in the SAP System.

1. *Legal description* – You can only access the *Legal Description* screen tab if you have already entered a legal description on the *General* screen tab. Based on the legal description type that you enter, the system displays a list of legal description fields, for which you enter data in the *Value* column. The unit of measure is also displayed.
2. *Unit Venture* screen tab – In order to be able to select this, both the *Unit venture* flag, as well as the *DOI by tract* flags have to already be set on the *General* screen tab. Select the *Unit venture* screen tab. Within that screen tab, select the applicable combined product codes for the unit venture.

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You can also create a long text description for the venture that you are creating. To do that, from the screen that you are on (*Create Joint Venture Maintenance: Overview Screen*), select *Edit → Long Text* .

Save the PRA venture.

More Information

Joint venture [page 19]

2.3.1 Creating a Base Division of Interest

Use

Use this transaction to create a base division of interest (base DOI).

A base division of interest is a master record for a division of interest, that represents an ownership group within a venture. You can maintain details about the base division of interest as well.

Creating a base DOI entails specifying the following attributes, under the following areas (screen tabs):

- *General* – DOI attributes and location information (where the DOI is geographically located)
- *Legal description* – the surveying method used for the base DOI.

Creating a DOI by reference gives you the ability to copy the ownership information from the referenced DOI. You can do that here by selecting a source DOI.

A new DOI is automatically pre-set in the system to "checked out" and "not approved". Approval and check-in brings the owners and burdens into the system area, deletes the data from the work area, and performs the requisite edits and validations (see also: DOI Check-In and Check-Out [page 28]).

Prerequisites

The company/venture must already be set up in PRA, before you can set it up here.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Ownership* ❯ *Base DOI* ❯ *Create* ◗ .
2. The *Create Base DOI Maintenance: Initial Screen* is displayed.
3. Enter the relevant Joint Venture, DOI number, and company code (or you can create one with reference), and choose *Enter* .

The *Create Base DOI Maintenance: Overview* screen is displayed.

1. Enter a description of the base DOI.
2. On the *General screen* tab: select either < **permanent>** or < **temporary>** as the DOI type (this is only for informational purposes for your later reference, it does not affect how PRA processes the DOI. As a rule, select permanent), a DOI start and end date, and combined product code, which represents the type of product(s) that the DOI produces. Also, enter a location (the country and primary geographic location is then defaulted from the venture master).
3. On the *Legal Description* screen tab, enter a legal description type for the DOI. In legal documents for divisions of interest (the actual paper documents used to define DOIs for legal purposes), there is often a legal description, which describes the surveying method used for that DOI. For example, a land title might have a legal description contained in it, called "metes and bounds", or "longitude and latitude". In the system, legal descriptions are grouped into legal description types. You choose one of the legal description types from the drop down list box, that represents the legal description in the legal document. You can enter a long text free-form description at the bottom of the screen, to better describe the legal description.

1. *Legal description* screen tab:
   The legal description type that you selected on the *General* screen tab will be defaulted into the *Legal Description Type* field.
   Based on the legal description type, there will be various entries in the *Field* column, for which you maintain entries in the *Value* column.
   You can also enter a unit of measure and a long text for each entry.
   To display the legal description, select *Preview legal description* .
2. Save your base DOI record.

Result

The base DOI is saved in *checked out* status.Once owners are maintained for the base DOI, the status changes from *checked out* to *checked in* and *approved* .

2.3.1.1   DOI Check-In and Check-Out

Purpose

In Ownership, divisions of interest are checked in and checked out. The reason for doing that is the following:

- **Check-out** : In order to make changes to a DOI that is already created, you have to check the DOI out. Check – out copies the data from the check-in area to the check – out area (work area). Ownership data can then be modified by ownership transactions in the check – out area. Once changes are complete, the DOI can be validated and checked in again, using the check–in process. You can reset the ownership information that was previously checked out by selecting the *DOI refresh* option in the Base DOI transaction, or the DOI list processing transaction. See: Checking Out a Division of Interest (DOI) [page 29]).

- **Check-in** : In order to use a DOI in PRA, it has to be checked in. Check-in also triggers edits and validations, by which the system makes sure that the data in the DOI being checked in is valid and does not contain errors. Check-in can also trigger funds processing, if funds processing is relevant to the DOI. Check-in also copies ownership changes from the check-out area to the check-in area. In addition, as part of the check-in process, the system updates marketing groups, and generates prior period notifications (PPNs) – if required, which are a result of changes that have been made to ownership data in the work area. The check-in process also can trigger funds processing, if funds-relevant data is in the DOI.

ⓘ In PRA-Ownership, there are three ways to check in DOIs:

Table 4:

Location	Mode
• From the *Change Base DOI Maintenance* screen (described in this document, below) – dialog mode (see: Checking in a Base DOI (DOI Change Mode [page 28]).	dialog mode
• From the *DOI List Processing* screen and subsequent DOI Workarea screen – batch mode (see: Displaying and Processing Base DOI Records [page 30]).	batch mode
• From Owner Request Processing – batch mode	batch mode

Every DOI in Ownership has a status: either checked-in, or checked-out.

Funds processing integration in DOI check-in :

Funds processing is integrated with owner request processing. Funds processing will only be triggered during DOI check – in, if there are funds to be processed in the DOI. Funds processing involves a movement of data – in a background job between the Owner Payable Line Item Table in PRA, and the PRA Legal Suspense Ledger (for example, amounts could be moved from Suspense to Owner Payable).

If customized in the IMG, the funds movement can occur, with subsequent journal entry posting to the SAP Financial Accounting (FI) module. This is triggered when the division of interest is checked in, and the transfer document is complete, or, for funds-only transfers, when the document is complete.

DOI check-in log / JE posting summary :

You can display funds movement reports in Ownership. The journal entry posting summary report is available in the DOI check-in log.

Prerequisites

Prerequisites for check-in are: The Base DOIs have to have been created, owners assigned for the DOI, and bearer groups properly set up, if required. Another prerequisite for DOI check-in is that the DOI has already been checked out. A prerequisite for check-out is that the DOI is approved, and checked in previously.

Result

The DOI can be changed (DOI check-out), or the DOI can be used in Ownership, subject to a validity check and the relevant edits.

2.3.1.1.1 Checking In a Base DOI (DOI Change Mode)

Use

Use this to check in a base DOI, in Base DOI change mode.

For general information on DOI check-in and check-out, see: DOI Check-In and Check-Out [page 27] .

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Checking in a division of interest updates marketing groups defined at the unit level.

Prerequisites

Prerequisites for check-in are: The base DOIs have to have been created, owners assigned for the DOI, and bearer groups properly set up, if required. Another prerequisite for DOI check-in is that the DOI is currently in checked out status.

Procedure

For check in :

1. At the *SAP Easy Access Menu* , choose *Logistics → Production and Revenue Accounting → Ownership → Base DOI → Change* .

The *Change Base DOI Maintenance: Initial Screen* is displayed.

- Enter a venture/DOI and a company code, and then select *Enter* .

The *Change Base DOI Maintenance: Overview* screen is displayed.

- At the top of the screen, Select *Check In.*

(The pushbutton here is dynamically generated: it will display relevant to the current status of the DOI. *Check In* will be displayed if the status of the DOI is currently checked out. If the current status of the DOI is check in, the *Check Out* button will appear).

The *Display logs* screen is displayed, if there are errors. The log displays any errors having to do with the check-in process, as well as any edits that have failed for ownership data.

If there are no errors, the system displays a *Log* pushbutton (at the top of the screen). Select *Log* . The *Display logs* screen appears. It displays a list of all changes to various system tables that will be carried out if you continue on and save the transaction. At that point – after you choose *Save* , the changes will be commited to the database. This allows you to view the potential changes before making the change.

For check out :

1. At the *SAP Easy Access Menu* , choose *Logistics → Production and Revenue Accounting → Ownership → Base DOI → Change* .

The *Change Base DOI Maintenance: Initial Screen* is displayed.

- Enter a venture/DOI, and a company code, and then select *Enter* .

The *Change Base DOI Maintenance: Overview* screen is displayed.

- Select *Check Out* .

- From there, you can make changes to the DOI and save those changes. (After which, you will then need to check the DOI back in. See: Checking In a Base DOI (DOI Change Mode) [page 28]).

2.3.1.1.2   Checking Out a Division of Interest (DOI)

Use

Use this to check out a division of interest.

You check out a DOI in order to make changes to it (for more information on DOI check-out, please refer to DOI Check-In and Check-Out [page 27]).

Prerequisites

In order to check out a division of interest, the current status of the DOI must be "checked in".

Procedure

1. At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Ownership → Base DOI → List Processing* .

The *DOI List Processing* screen is displayed.

This screen is a report selection screen. The first thing to do is enter data and run the report, to retrieve records that match your search.

1. Enter data relevant to your search: company code, venture, and DOI.
2. Select *Execute* .

The *DOI List Processing* screen is displayed.

1. Select the record that you would like to check out, and then select *Check Out* .

Result

The record is checked out (the status of the record is "checked out"), and you can now make changes to the record.

2.3.1.2 Displaying and Processing Base DOI Records

Use

Use this to display and process base DOI records.

This transaction is the main "work area" for processing divisions of interest. This transaction consists of two separate processes:

A report for displaying DOIs

A work area for processing DOIs

In the work area, you can do the following:

Approve individual base DOIs (in batch)

Check out individual DOIs (in batch)

Check in individual DOIs (in batch)

Refresh the DOI (in dialog mode)

View the activity log (session activity: DOIs check in, checked out, etc.).

See the table below for a full description of the actions that you can take on individual DOIs.

Display

You can display DOIs based on the following selection criteria: company code, venture, and date range, division of interest, approval status (approved, unapproved, or "all"), and check-out status (checked out, checked in, or "all").

Procedure

1. From the SAP Easy Access menu, choose *Logistics àProduction and Revenue Accounting àOwnership àBase DOI àList Processing*

The *DOI List Processing* screen is displayed. Enter the relevant selection criteria for your search. Select a company code, and also select an approval status and check-in/check-out status for the DOI.

Select *Execute.*

The *DOI List Processing* screen is displayed, which contains the records retrieved from your search. This screen is the work area for processing DOI records.

Aside from viewing the displayed base DOI records, you can do a number of things for each retrieved DOI record at this point (Note that for the actions listed below, to view the results of each action, select the *Activity Log* pushbutton):

Table 5:

Action:	Purpose:	How to do it:
Approve the base DOI (see: Approving a DOI [page 32])	Before you use a DOI in Ownership, you have to approve it.	Select the record, and then select *Approve* .
Check out the base DOI.	You check out base DOIs in order to change data in them.	Select the record, and then select *Check Out* .
Check in the base DOI.	You check in base DOIs in order to validate the data in the system (meaning that the system checks for any errors in the DOI).	Select the record, and then select *Check In* .
Refresh the list.	Update all changes made in the list.	Select *Refresh the List* .

Display the activity log for the base DOI.	To view results of the actions taken on a DOI (approve, check in, check out, refresh)	Select the record, and then select *Activity Log* . You will see a list of check-in and check-out jobs. Select a record. Report selection dialog box is displayed. You can choose from the push-buttons, to view logs.
View details of the base DOI.	Allows you to view all saved, checked-in details for a base DOI.	Select the record, and then select *Display record* .
Change/display/delete the base DOI.	To make changes to the DOI: change it, display it, or delete it.	Select the record, and then select *Change/Display/Delete* (also located in the menu).
Refresh the DOI.	Erases changes made (if you find errors). Refreshes the DOI, but does not impact chain of title (see: Viewing Chain of Title List Processing [page 43]). Reverts back to the previous version.	Select the record, and then select *Refresh DOI* .
View the jobs for a DOI.	To view what jobs exist for a DOI (check-in, check-out jobs, etc.). If you want to see the details of the jobs for a DOI.	Select the record, and then select *Jobs* .

2.3.1.3   Approving a Division of Interest (DOI)

Use

Use this to approve a division of interest (DOI), which is required before the DOI can used in the Ownership system.

DOI approval is only carried out once for a division of interest. That results in the status of a DOI being set to "approved".

When you approve a DOI, the system does two things:

- It validates (checks for validity) the ownership information contained in the DOI, including DOI owners, and bearer groups.

- It triggers the check-in process.

⚠️

It is not possible to "unapprove" a DOI once you have approved it. It is also not possible to change the DOI start date and the combined product code, after the DOI has been approved.

The check-in process is used to do the following: to validate ownership data, and copy ownership changes from the check-out area to the check-in area. In addition, as part of the check-in process, it updates marketing groups, and generates prior period notifications (PPNs), which are a result of changes that have been made to ownership data. The check-in process can be called from the Base DOI transaction (Displaying and Processing Base DOI Records [page 30]), or from the Owner Request background job.

Resetting, in addition to replacing the work area ownership data with the check-in data, also removes the refreshed DOI from owner requests.

Prerequisites

You have to have first set up a base DOI and ownership information, which includes DOI owners and bearer groups.

Procedure

At the SAP Easy Access Menu, choose *Logistics Production and Revenue Accounting Ownership Base DOI Change* .

The *Change Base DOI Maintenance: Initial Screen* is displayed. Enter a venture and DOI, and a company code, and then select *Enter* .

The *Change Base DOI Maintenance: Overview* screen is displayed.

Select *Approve/Check In* .

This approves the base DOI.

The *Display logs* screen will be displayed, if there are errors. The log displays any errors having to do with the check-in process, as well as any edits that have failed for ownership data.

If there are no errors – a dialog box prompting you to continue with the check-in is shown. You have the option of either proceeding further with check-in, or cancelling the action. If you select <OK>, the system will apply the relevant edits, delete the work area, copy the division of interest into the system area, and set the approval flag; the log button will be available to view the check-in log and results.

Result

The result is that the approval process is complete, and the DOI approval status is changed, and is set to "approved", and the ownership data is checked in.

2.3.1.4 Maintaining Division of Interest Owners

Use

Use this transaction to maintain master data for owners within a particular division of interest (DOI).

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Ownership* ❯ *DOI Owner* ❯ *Maintain* ❯ .
   The *Maintain DOI Owners: Initial Screen* is displayed.
2. Enter data as required to maintain the DOI owner (venture/DOI, company code, and selection date) and choose *Enter* .
   The *Maintain DOI Owners: Overview Screen* appears.
3. As required, maintain net revenue interest, pay code, and joint interest billing data, as well any additional required data.
   On the *Overview* screen, there are three icons that you can use to add, change, or delete records to the list at the bottom of the screen: *Cut* , *Copy* , and *Paste* . Select an item and then select either, delete, cut, or copy, and then paste, to add, change, or delete items.

> ℹ
>
> Once data has been entered in all key fields, double-click on the owner (item), which will present a dialog box that displays all owner details.

Save the owner data.

Result

Owner data is saved in checked-out status.

2.3.1.4.1   Creating DOI Owner Sliding Scale Values

Use

Use this to create and maintain sliding scale range values and decimal increment/decrement values.

Sliding scale is a method used to calculate the decimal interest applicable to a royalty owner, when the owner's interest varies depending on the amount of volume produced. The sliding scale calculation is used in the formula process of Valuation (see: Valuation Formula [page 287]).

Sliding scale details are valid for non-working interest owners only. Sliding scale data is comprised of sliding scale range values and decimal incremental/decremental values. The information is used when a royalty owner's NRI is calculated using the sliding scale in batch.

ⓘ

Sliding scale records cannot be created for working interest owners.

Sliding scale methods are:

Sliding scale

Sliding scale with gravity

Step scale

Ranley sliding scale with gravity

Rangley step scale

ⓘ

Prior period adjustment notifications are automatically generated when changes are made to either the sliding scale range values or to the decimal values.

Procedure

At the *SAP Start Menu* , choose *Logistics Production and Revenue Accounting Ownership DOI Owner à Display* . From there, there are three ways to create and maintain sliding scale range values:

a. From the *DOI Owner Overview* screen, select an owner, and then select *Sliding Scale* .

b. From the *DOI Owner Detail screen* , select *Sliding Scale Maintenance* .

c. Select the Sliding Scale pushbutton for the relevant owner (within the table control for the item that you are interested in). If sliding scale records exist for the owner, a green icon is displayed on the pushbutton; if no records exist for the item, the pushbutton will have a red icon.

After selecting one of those three options, continue as follows:

From there, the *Maintain Sliding Scale* dialog box is displayed.

Select a sliding scale method (if the method selected requires a gravity measurement, the *gravity* , *greater than/equal to* , and *less than* radiobutton will be activated and are then mandatory.

Now choose the range for the scale by selecting either the *volume/value* radiobutton.

Fill in all the fields, as required.

Select *Enter* .

ℹ

To enter a sliding scale, you have to enter the *From value* and the *Decimal increment* . The *To* value is automatically calculated to be the highest permissable value (by two decimal places) based on the next higher range *From* value. If no higher range *From* value exists, the *To* value defaults to the highest possible value. Once the scale is created, the record is saved, edits and validations are carried out, and the records are saved in the database.

Header information becomes inactive while the table control becomes active. The scale ranges table control allows you to create the ranges for a royalty owner's NRI calculation based on the sliding scale. The calculation is carried out as a batch job.

2.3.1.4.2   DOI Owner Marketing Free

Use

Use this to designate an owner in the system as exempt from paying internal marketing costs. You can also use it to indicate whether or not an owner will receive external marketing reimbursements.

When an owner is exempt from paying internal or external marketing expenses, those expenses are not considered in calculating the owner's net amount. Likewise, if an owner is exempt from receiving marketing reimbursement amounts, those additional income amounts are not included in calculating the owner's net amount.

ℹ

If a royalty owner is exempt from paying marketing expenses, the working interest owners who are responsible for bearing the royalty owner must pay the royalty owner's share of the expenses. When a royalty owner is exempt from receiving marketing reimbursements, the bearing working owners receive the royalty owner's share of the reimbursement amount.

A notable exception to the above rule relates to special transportation reimbursements for gas products. Special transportation reimbursements are reimbursement amounts using marketing cost type 05 or 06 for gas products. When a royalty owner is not exempt from receiving this marketing reimbursement amount (i.e. he receives his share), the working interest owners who bear him must pay for his share of the reimbursement. When a royalty owner is exempt from receiving special transportation reimbursement, his bearing working interest owners do not receive the royalty owner's share of the reimbursement amount.

When a working interest owner is exempt from paying internal and/or external marketing costs, the amount that the owner would have paid is not allocated. Likewise, if a working owner is exempt from receiving marketing reimbursement amounts, the owner's share is not allocated.

Procedure

At the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Ownership DOI Owner Maintain* . The *Maintain DOI Owners: Initial Screen* is displayed.

On the *Maintain DOI Owners: Initial Screen* , enter the required DOI data and select *Enter.*

The *Maintain DOI Owners: Overview* screen is displayed.

Now do one of the following:

a. Select an owner, and then select *Marketing Free* .

b. From that screen (*Maintain DOI Owners: Overview Screen*), select the relevant owner, and then select *Marketing Free*).

c. From the *DOI Owners Detail* screen, select *Marketing Free* .

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With respect to the pushbuttons mentioned directly above, if records exist for the item (owner), a green icon is displayed on the pushbutton for the item; if no records exist for the owner, a red icon is displayed.

The *Maintain Marketing Free Detail* dialog box is now displayed.

You can now maintain your data (select the external deduction checkbox, external reimbursement checkbox, and/or the internal deduction checkbox to create, change, and delete records), and then select *Save* .

Explanation of the fields on the *Maintain Marketing Free Detail screen*

Table 6:

Major product code	Identifies the type of product produced or sold.
Marketing type	A cost that can be incurred for the expense of selling products.
External deduction checkbox	Indicates whether the owner is exempt from paying the external costs associated with the selected marketing type. Set this if the owner is to be exempt.

External reimbursement checkbox	Indicates whether the owner is exempt from receiving external reimbursements associated with the selected marketing type. Set it if the owner is to be exempt.
Internal deduction checkbox	Indicates whether the owner is exempt from paying the internal costs associated with the selected marketing type. Set this if the owner is to be exempt.

i

The marketing type and major product code are non-editable fields. They are filled based on the DOI combined product code. All marketing type and major product code combinations will populate the table control based on a major product code (derived from the combined product code) and the marketing type valid for the major product code.

2.3.1.4.3 Creating Owner Tax Exemption Records

Use

Use this to create DOI owner exemption records (exemptions from taxes). Owner exemption is part of the DOI Owner Maintenance transaction.

Procedure

At the *SAP Easy Access Menu* , select *Logistics Production and Revenue Accounting Ownership DOI Owner Maintain* , or *Display* .

The *Maintain DOI Owners: Initial Screen* is displayed (or the *Browse/Display DOI Owners* screen is displayed).

Enter the required data, and select Enter.

The *Maintain DOI Owners: Overview Screen* (or display screen) is displayed. From this screen, do one of the following:

a. Select an owner and then select *Owner Exemption Maint* .

b. Select the *Owner Exemption* (icon in the item row) for the relevant owner on that screen.

c. From the *DOI Owner Detail Screen* , select *Owner Exemption* .

ℹ

With respect to the pushbuttons mentioned in Step 3, if there are records for the item, the icon on the pushbutton will appear green on the screen; if there are no records, the icon will be red.

The *Maintain Owner Exempt Detail* dialog box is now displayed.

The purpose of the owner exempt dialog box is to maintain DOI owner exempt records that will be stored in the system.

In the *Maintain Owner Exempt* dialog box, all major product codes derived from the combined product code are displayed. For each major product code displayed, set the owner exempt checkbox indicating that the owner is exempt from state withholding tax for that product code. You can create, change, display, and delete exemptions.

2.3.1.4.4   Displaying Owner Interest Records

Use

Use this to view owner records for divisions of interest in list form, and to recalculate GRI for specific records in the list.

Procedure

1. At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Ownership → DOI Owner → Owner Interest List Processing* .

The *Owner Interest List Processing* screen is displayed.

2. Enter the owner for which you would like to view records, and the interest category (carried, royalty, override royalty, or working, as well as an effective date range). You can also specify either checked in or checked out DOIs.

3. Select *Execute* .

The system displays records based on your search criteria. Note: you can recalculate the GRI for a record. To do so, select the item (record) and then select *Calculate GRI* . The system will then prompt you to enter a date for the GRI calculation.

2.3.1.4.5 Displaying Interest-Type Records, Per DOI

Use

Use this to view DOI interest records (per venture/DOI, what records exist, per interest type).

When you make your selections, you specify the venture/DOI, and the interest category that you would like to see records for. The options for the interest category are:

- Working interest
- Royalty interest
- Carried interest

Procedure

1. At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Ownership → DOI Owner → DOI Interest List Processing* .

The *DOI Interest List Processing* screen is displayed.

- Enter the relevant data for your search (company code, joint venture, DOI, interest category, date range, and whether you would like to run the search for a checked in or checked out DOI area).
- Select *Execute* .

The *DOI Interest List Processing* screen is displayed, which displays the records, based on interest category.

2.3.1.4.6 Displaying Owner Changes

Use

Use this to view changes for a PRA owner; more specifically, to display all change documents for a specific owner.

You can use it to display field-by-field changes that have been made to an owner in PRA. The retrieval of the records is based on several parameters that can be entered on the selection screen. Selection criteria includes the owner, owner interest type, owner interest sequence number, company, venture, DOI, and effective date range.

For example, you can view all changes to a specific owner for a specific date range.

Procedure

1. At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Ownership → DOI Owner → Owner Change List Processing* .

The *Owner Change List Processing* screen is displayed.

1. Enter the relevant data for your search, and then select *Execute* .

1. The *Owner Change List Processing* screen is displayed. On that screen, you can view the records based on your search criteria. On that screen, there is also a *Chain of Title* pushbutton that you can select to navigate to the chain of title transaction.

See also:

Displaying Chain of Title Records [page 43]

2.3.1.4.7 Displaying Outstanding Summary (Legal Suspense) Balances

Use

Use this to display owner summary balances from owner payable or legal suspense line item tables.

You can view summary balances at the owner level, venture level, or venture/DOI level for a specified range of sales dates. The summary balances are displayed at two levels of detail: at the first level, the summary is shown by pay code and suspense reason. At the second level, the first level summary balance is displayed, broken down by batch type and accounting period. At this summary level, the gross owner values, volumes, tax, costs, and deducts are totaled and displayed.

Procedure

1. At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Ownership → Owner Request → Outstanding Summary Balance* .
2. The *Owner Payable/Legal Suspense Summary Balance* screen is displayed. Enter the owner ID (business associate) for which you would like to query the summary balance(s).
3. In the *Scope of List* screen area, select either:
4. *- Owner payable summary*
5. *- Legal suspense summary*
6. Select *Execute* .

The system displays the *Owner Payable / Legal Suspense Summary Balance: Details* screen.

On the split-screen that is now displayed, at the left, there is a hierarchy listing the venture(s) and the divisions of interest for which the owner balances can be displayed.

At each node of the hierarchy, you can display the summary balance(s), by double-clicking on the node, or by chosing the *View owner summary* context menu option (right click on the node to display the context menu).

When you select a node on the hierarchy tree, the *Enter additional selection* criteria dialog box can be displayed - depending on whether you have set that – (see the information box directly below this), where a range of sales dates is required to be entered for displaying the summary overview.

i

Table 7:

> Whether or not the *Enter additional selection* dialog box appears or not when you select a specific node, depends on whether or not you have set the *Show popup for defaults (double click)* flag on the *Owner Payable/Legal Suspense Summary Balance: Defaults* screen (which you can access from the hierarchy screen by selecting *Defaults* – the *Defaults* pushbutton on that screen).
>
> The system will automatically ask you to maintain sales date ranges to be used as defaults when you request summary balance overview for the first time.

On the Owner Payable/Legal Suspense Summary Balance: Details screen, the right-hand side of that screen the *Summary Overview* list is displayed. The list shows transaction amount totals at the following levels:

- DOI level totals
- Property level totals
- Owner interest type level totals

You can drill down on a particular summary overview row by either double-clicking the row, or by selecting the row and choosing *Summ->Detail* .

The summary overview list is split (split screen) and the summary details list, showing the breakdown totals by batch type and accounting period are shown.

To leave the split screen, select Close when in split screen mode.

2.3.1.4.8 Maintaining Production Payment Information

Use

Use this to create and maintain production payment information. Production payments can be set up with either volume or value as the basis (but not with both). You can also display production payment information records, and then change or delete them.

ℹ️

The balance information is updated with amounts paid to the owners after the payment is tied to ownership information (there is no automatic notification when a balance is paid in full).

Procedure

1. At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Ownership → DOI Owner → Production Payment* .

The *Production Payment: Initial Screen* is displayed.

1. Enter the relevant owner (and *Volume* , *Value* , or *Both*) and the material, and then select *Create* .
2. The *Create Production Payment: Maintenance View* is displayed.
3. Enter the owner and then select *Enter* . (Note: only enter data in fields that are "key fields" – which are the "open" fields – the white, non-greyed out ones - at the top of the screen).

4. Enter data in the relevant fields (see below), and then select *Save* to save the record.

ⓘ

Fields on the Production Payment have the following meaning:

Combined product code = The product that is associated with the production payment.

Gross volume/UoM = The total production payment amount in volume.

Gross value/curr = The total production payment amount in value.

Include on Report = By selecting this, it means that the production payment information is to be included on the report that is generated by the production payment owner balance job.

Volume balance/UoM = The balance field shows the amount that remains to be paid.

Value balance/Curr = The amount that remains to be paid.

A second processing option exists :

1. From the *Production Payment: Initial Screen* , enter the relevant owner and any other selection criteria (payment method, combined product code), and then select *Execute* .

The system displays the *Production Payment List Viewer* , which contains a list of records that match your selection criteria.

1. You can now change or delete the records that are displayed.

From there, you can either create new records either by selecting an existing record from the list and selecting *Create* , or by reference, by selecting an existing record from the list and selecting *Create with reference* .

In the former case, the system displays the FormView screen, with the key fields open, and the data fields closed. No data is defaulted or present in the fields. For subsequent navigation, see the standard procedure above. In the situation with *create by reference* , the selected record key and data fields are transferred to the Form View, and the key fields are open for input.

Save the record.

ⓘ

When you are creating by reference, when you are in the Form View with the key fields open, the key fields need to be changed in order to be able to proceed.

2.3.1.4.9   Displaying Chain of Title Records

Use

Use this to view chain of title records for an owner.

Chain of title list processing is used to determine the chain of title (who owned what, when) for a PRA owner.

Procedure

1. At the SAP Start Menu, choose *Logistics → Production and Revenue Accounting → Ownership → DOI Owner → Chain of Title* .
2. The *Chain of Title List Processing* screen is displayed.
- Enter the selection criteria that you would like to use.
- Select *Execute* .

The *Chain of Title List Processing* screen is displayed, with records which correspond to your selection criteria.

i

From the list, you can drill down to the owner transfer request document. To do that, from the list of records that is displayed based on your search, select a record, and then select *Display* . The owner transfer request document will be displayed.

2.3.1.4.10 Maintaining Owner Interest Calculation Data

Use

Use this to maintain interest calculation data for use by the interest calculation jobs for suspended balances. Interest can be calculated on either previously-paid royalties payable accounts, or on amounts recently released from suspense.

Procedure

1. At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Ownership → DOI Owner → Owner Interest Calculation* .
2. The *Owner Interest Calculation: Initial Screen* is displayed.
3. Select *Create* .
4. On the subsequent screen (*Owner Interest Calculation - Create*), enter the relevant data (select: *Check* or *Suspense Release* , *company* , *property* , *owner* , *check* , *default interest rate* , and *suspense pay code*).
5. Save your record.

2.3.1.5   Creating a Bearer Group

Use

Use this to create a bearer group.

A bearer group represents the relationship between working interest owners and the respective royalty owners. The bearer group is used in burdening in PRA. "Burdening" in PRA is the process of the working interest owners "bearing" the costs from a PRA venture for the royalty interest (RI) owners.

A bearer bears the costs associated with exploration/development and production. The bearer group describes the relationship (obligations and percentage share) that each working interest owner has to their respective royalty interest owners.

The bearer group is linked to a division of interest to indicate the working interest owners that are responsible for paying the non-working interest owners. The bearer group is also used to determine working interest owners' gross revenue interest (GRI), which is used to determine working interest (WI) owners' entitled volumes for marketing and production.

The following are the bearer group types:

- Carried bearer group (links WI owners with CI owners)

- Royalty bearer group (links WI owners with RI owners)

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Ownership* ❯ *DOI Bearer Group* ❯ *Create* ▐.
2. The *Create Bearer Group: Initial Screen* appears.
3. Enter data as required and choose *Enter* . A dialog box is displayed, in which you choose whether the burden group will be "royalty" or "carried".
4. The *Create Bearer Group: Overview* screen is displayed.
   All working interest owners from the DOI are listed in a table.
5. Enter the owner's percentage of the bearer group.
6. Save the bearer group by choosing Save.

2.3.2 Defining Tax and Revenue Attributes for a DOI (DOI Accounting)

Use

Use this to define tax and revenue information specific to a division of interest (DOI).

Each accounting record is set up by major product code, making it possible to have multiple accounting records for the same DOI.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Ownership* ❯ *DOI Accounting* ❯ *Create* ◀ .
   The *Create DOI Accounting: Initial Screen* is displayed.
2. Make entries as required, and choose *Enter*
   The *Create DOI Accounting: Overview* screen appears.
3. On the *Accounting* screen tab, enter the relevant data.

   Table 8:

Accounting : Here, you can choose the revenue process, for example: system valued, check input, or settlement statement, whether billing is to be current or historical, and whether payment should be for actual or entitled volumes and values. You can also set up information on the checkwrite process (pay in 30 days, pay in 60 days, etc.).

1. On the *Severance Tax* screen tab, enter data as required.

   Table 9:

Severence tax payment indicators are maintained here.
For example, if $1,000 is to be received from the purchaser as a result of a sale, but severance tax of $ 50.00 is due from the sale, RD allocations will distribute both the revenue and the tax amounts to the lease owners. The net payable amount to all of the lease owners combined is $ 950.00, which leaves the processing company with $ 50.00, which should be remitted to the taxing authorities.
The tax payment flags are not an indication of whether payment of severance taxes is required; they are an indication of who is responsible for remitting tax payment amounts to the taxing authorities (this later influences Revenue Distribution Allocation [page 395]).
(If the processing company is responsible for remitting the tax, a Taxes Payable Journal Entry will be created. If the purchaser is responsible, the tax amount is subtracted from the receivable amount, which will effectively transfer the funds with which to pay the tax to the purchaser. If the operator is payable, the taxes will be remitted to him via a royalties payable credit.

1. If necessary, enter data as required for the *Plant Cond Sev Tax* tab and *Scrubber Oil Tax* tab.These two tabs are used for entering tax details relevant to natural gas liquids.
2. Save the DOI accounting data.

2.3.3 Ownership Transfers (Transfer Requests)

Purpose

In PRA-Ownership, you can transfer ownership interests within a division order.

Various owner request types can be processed: Funds transfers, ownership change requests (with or without funds), ownership consolidations (with or without funds), and ownership transfers (with or without funds).

Functionality exists for "approving" or not approving owner requests. Transfer reports can be created and printed. You can use this process to create, create with reference, change, and delete owner requests, as well as to set or change the status of the request (a background process exists, which only processes approved requests).

The transaction also offers the option of simulating a request, to show the results of transfer, consolidation, or change, before any ownership tables are updated. A funds transfer request can be carried out separately, or at the same time as an owner transfer/consolidation/ or change request.

The following is a short description of the ownership transfer types (you can carry them out with or without funds transfer):

Table 10:

Owner transfer	Allows the ownership within a division of interest or several divisions of interest to be transferred from one owner to another, or to many owners.
Owner consolidation	Allows the ownership within a single division of interest to be transferred to a single owner.
Mass owner change	Allows certain attributes of an owner to be changed across mulitple divisions of interest.
Funds transfer	Moves funds from one owner to another, or transfers an owner's funds from or to "suspense".

Depending on which request type is chosen, the system will display tabs for that type of request on the subsequent screen.

Owner requests are given status codes. The following status codes exist: maintained, released, approved, completed, and failed.

Process Flow

On the initial screen, you either immediately create an owner request, which takes you to the Form View Screen with the various request types, and which displays the relevant tab, based on your selection. From there, you enter owner request information.

Or, from the initial screen, you can create selection criteria, and carry out a selection, whereupon the system displays a list processing screen. The list processing screen displays all the records that correspond with your selections. From list processing, you can select a record, and create or create with reference (which then takes you to the Form View screen where you can create a request). From the list processing screen, you can also refresh the list, approve individual requests (setting the status of the request to "approved", or execute the request (which processes the owner request in background mode and updates the request status).

Result

Based on your selections, transfer of ownership is carried out, as are changes to divisions of interest, and changes to the statuses of requests.

2.3.3.1 Creating an Owner Transfer

Use

Use this to create an owner transfer request (which transfers ownership within a division of interest).

For more information on owner transfers, see: Ownership Transfers [page 46] .

Procedure

At the SAP Start menu, choose *Logistics Production and Revenue Accounting Ownership Owner Request Owner Transfer/Maintenance Request* .

The *Owner Request: Initial Screen* is displayed. This is your starting point for creating, displaying, or deleting owner requests.

There are two possible options, starting from the Initial Screen:

Option A: Create an owner request

1. On the Initial Screen (Owner Request: Initial Screen), select *Create* .
2. A dialog box is now displayed, which requests that you select a document type. The "document type" is the type of owner request that you would like to create.
3. Select a document type (for example: <Funds transfer>).

The screen that now appears is directly dependent on the document type that you chose in the previous step. The *Create Owner Request* : xxxxx screen is displayed. (The precise title of that screen depends on the document type that you selected in the previous step; please refer to the table below, which explains the various screens that can be accessed, based on the document type that you selected).

1. Enter the relevant data for the owner request. Enter the owner, effective date range, a reason code, etc. You can enter transfer details and new owner values as well.

The *Description* field allows you to enter a short text description for the ownership transfer.

1. Save the record.

🛈
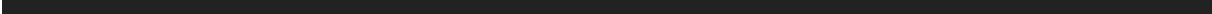
Depending on which document type you choose, the subsequent screen (Form View screen) will be one of the following ... (the screen tab can vary, depending on your selections).

Use the screen tabs to enter the relevant information for the ownership transfer: old owner, new owner, ownership to transfer, comments, etc.

Table 11:

Ownership transfer request with funds: (Used for transferring interest and funds from one owner to multiple owners) - Old owner - Includes old owner and other key information of transfer - Ownership to transfer – Table control to select & display DOIs to be included in transfer - New owners – Table control where new owners are created - Funds – Provides option to transfer all funds from a specific date - Comments – Free form editor; you can write internal extended comments related to the request.
Ownership transfer request without funds: (Used for transferring only interest from one owner to multiple owners) - Old owner – Includes old owner and other key information or transfer - Ownership to transfer – Table control to select & display DOIs to be included in transfer - New owners – Table control where new owners are created - Comments – Free form editor to write extended comments related to request
Ownership consolidation request with funds: (Used for transferring interest or funds from multiple owners in a DOI to one new owner) - New owner – Includes new owner and other key information of transfer - Ownership to consolidate – Where DOI(s) is entered & old owners are selected & displayed - Funds - Provides option to transfer all funds or from a specific date - Comments - Free form editor to write extended comments related to request
Ownership consolidation request without funds:(used for transferring interest only from multiple owners in a DOI to one new owner) - New owner – Includes new owner and other key information of transfer - Ownership to consolidate – Where DOI(s) is entered & old owners are selected & displayed - Comments - Free form editor to write extended comments related to request

Ownership change request with funds:(used for changing DOI ownership records and moving an owner's funds from/to "suspense")

- Owner – Includes owner to change & other key info. of change request

- Ownership to change – Table control to select & display DOIs to be included in change

- New values – List of owner fields to be changed

- Funds – Provides option to transfer all funds or from a specific date

- Comments – Free form editor to write extended comments related to request

---

Ownership change request without funds:(used for changing DOI ownership records only)

- Owner – Includes owner to change & other key info. of change request

- Ownership to change – Table control to select & display DOIs to be included in change

- New values – List of owner fields to be changed

- Comments – Free form editor to write extended comments related to request

---

Funds transfer request: (used to transfer funds from one owner to another, or move an owner's funds from/to suspense)

- Old owner – Includes old owner and other key information of transfer

- Ownership to transfer – Table control to select & display DOIs to be included in transfer

- New owners – Table control where new owners are entered

- Funds – Provides option to transfer all funds or from a specific date

- Comments – Free form editor to write extended comments related to request

Option B Create an Owner Request by Reference

1. On the *Owner Request: Initial Screen* , you can create a list of owner requests by running an ABAP report. Select relevant parameters for your search (document type, year, document number, effective date range, status, and venture/DOI data).
2. Select *Execute* .
3. The *Owner Request: List Viewer* screen is displayed. This displays all of the records that correspond to your search. Here, you can do the following:

- By selecting a row or multiple rows, you can carry out the following actions on a record: *create* , *create by reference* , *change* , *display* , or *delete* .

Carrying out one of the actions above will take you to the Form Viewer screen to process the individual request chosen.

If multiple records are selected, you are taken to the Form View to process the first record. The next record is displayed when you select "Back". The *create* icon is used for both *Create* and *Create by reference* .

In addition, you can also do the following in the list viewer:

- *Refresh List* – Refreshes the data in the ALV list after any changes have been made during the transaction.

- *Approve* – Sets the request status to "approved". The request must be in released status before this action can be performed. A record must be selected.

- *Execute* – This action will process the owner request in the background and will update the request status to "completed" or "failed" based on the successful completion of the request. The request must be approved before you can execute the process. This process will update the ownership tables in the checked out area. You have the option of automatically checking the DOIs back in or not.

- Show Detail– Brings up another list of all ventures/DOIs for the given request selected.

- Show DOIs

- Show Trace/Funds Report

Result

An owner transfer request is created, displayed, approved, etc.

2.3.3.2   Displaying Ownership Transfers

Use

Use this to display ownership transfers (owner transfer requests), based on a variety of selection criteria.

Procedure

1. At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Ownership → Owner Request → Owner Request Execution Reporting* .

The *Execute Owner Requests* screen is displayed.

2. On that screen, select the relevant document type (the specific ownership transfer document), document year (the year that the ownership transfer was created), document number, effective date range, owner type, and the document status (approved, complete, failed) as your selection criteria.

- You can also run the search based on who created the transfer request (using the *Created by* field).
- You can also search based on the request process date. That is the date on which the request was processed.

3. Select *Execute* .

The *Execute Owner Requests* screen is displayed. That screen displays job overviews, and you can choose an individual item (an individual owner request) and then execute the transfer (select the item, and then select *Execute Transfer*).

The following subsequent actions are also possible at this point (from the list screen):

Table 12:

To:	Select the pushbutton:
Refresh the list after you make changes.	*Refresh list*
View job logs and reports.	Job / logs reports
	Job Overview – (takes you to the "Simple Job Selection" screen).

2.3.3.2.1   Displaying a Schedule A Report (Transfer Order)

Use

Use this to view a Transfer Schedule A Report.

The Transfer Schedule A Report is created at the time of a transfer from a current owner to one or more new owners. It is attached to a transfer order, letter in lieu, or some other document and sent to the new owners to confirm the conveyance of interest to the new owners.

Procedure

1. At the *SAP Easy Access Menu* , choose *Logistics → Production and Revenue Accounting → Ownership → Owner Request → Owner Request Execution Reporting* .
   The *Execute Owner Requests* screen is displayed.
2. Use this screen to make selections in order to select and execute the desired request, and create a batch job (*Execute in background*) to carry out the required update processing.
3. Continue to refresh the screen using the *refresh* pushbutton, until the job status for the request is displayed as "finished" in the background job list.
4. Now select the relevant job in the list line and double click on it.
   A dialog box provides pushbuttons for possible reports.
5. To view the report, select *Transfer Report* .
6. If no report was generated, the system will display the message " *There is no report for that selection* ".

2.3.3.2.2 How a Combine Report is Viewed

Use

The CombineReport highlights reasons why ownerships cannot be combined during an ownership transfer.

The report can be viewed in either of two ways:

- In dialog mode, for ownership transfer request creation
- In background mode, for updating ownership records from ownership transfer requests

Features

The report displays a list containing the following fields:

Table 13:

CoCd	Company code
JV	Venture
DOI	Division of interest
Old owner	Old owner's number
IT	Interest type
ISQ	Interest sequence number of old owner
Eff.fr.dt.	Effective from date of ownership being transferred
Eff To Dt	Effective to date of ownership being transferred
Reason	Description of the reason why ownership cannot be combined
Old Value	Combinability criterion value for old owner
New Owner	New owner's owner number
IT	Interest type of new owner (combine target)
ISQ	Interest type of new owner (combine target)
Eff.fr.dt.	Effective from date of combine target
Eff To Dt	Effective to date of combine target
New val.	Combinability criterion value for new owner

Activities

Within the path SAP Easy Access → *Logistics* → *Production and Revenue Accounting* → *Ownership* → *Owner Request* → *Owner Request: Initial Screen* , you create a transfer request for the desired ownership and owners. You then select *Combine* (a pushbutton). (Note: there are various ways of carrying out this process, so the description here is not in great detail; the exact process depends on how you want to use the Combine Report).

If all records can be combined, see message OIURVOW 490 ("Match found: all records can combine"). Otherwise, the Combine Report is displayed, listing reasons why records cannot combine.

In the Owner Transfer Execution Report (transaction O3UOW_OTX), select the relevant request, creating a batch job to carry out the required update processing. Continue to refresh the screen by selecting Refresh until the job status for the request is displayed as "finished" in the background job list. Then, select the list line for the relevant job and double-click on it.

A dialog box is displayed, which provides buttons for possible reports. Select *Compatibility Report* to view the report.

ⓘ

If all records combined, there will be no report. In that case, the system message "There is no report for that selection" will appear at the bottom of the screen.

2.4 PRA Unit Venture

Purpose

A unit venture is a type of venture in Ownership, in which several wells/ventures from different owners are put together into a unit (unit venture) for ownership and revenue purposes. Each unit venture (sometimes referred to as a 'unitized venture') is made up of individual tracts, which represent individual wells or divisions of interest.

For example, on a single piece of land, there might be two owners who own land next to one another on that property. Owner A decides to drill on the land, and sends a well into a reservoir. However, the underground reservoir from which he is drawing product is not 100 % located under his land, but also extends under the land of owner B. So, because the product in question is fluid, there is no 'stable' ownership situation underground with respect to the minerals, because the fluid product extends across more than one property.

In response to seeing that he is losing product from his land to Owner A, Owner B begins to drill into the reservoir under his own land. Now, there are two separate wells on two adjacent pieces of land, both drilling into the same reservoir. Instead of treating these two as separate, the government wants them to be treated as one unit. That it why it is referred to as a unit venture. The adjacent wells are then put together as one unit venture, and instead of each owner deriving product in a 'competitive' environment, they divide up the interest from the drilling (unit ventures are desired by the government for environmental and regulatory reasons. The government does not want competing owners to drill into land in order to forestall a competing owner from gaining access to liquid minerals. Thus unit ventures are requested by government). The divisions of the unit are henceforth referred to as "tracts" of the unit.

PRA units are Ownership master data objects that are created in the system for a company code and combined product code. Units are created for a specific date range and material. Unit ventures consist of "tracts", which are divisions of interest (DOIs). A unit venture is a single entity in the system that can be defined by the user based on company code/venture/combined product code. The unit venture can be created, changed, displayed, and checked in and out of the system for maintenance from the PRA Joint Venture screen. In list processing, the user can display and check in and check out unit ventures.

Based on the PRA unit venture, the following processes can be carried out:

- Unit to tract participation (see: Maintaining Unit / Tract Records [page 55]).
- Unit venture list processing (see: Displaying Unit Ventures [page 58])
- DOI tract by tract list processing (see: Tract by Tract List Processing [page 59]).
- DOI tract by owner processing (see: Displaying DOI Tract by Owner (List Processing) [page 60]).

The unit venture is set up on a check-in/check-out basis. Unit to tract maintenance can only be performed when the unit venture is checked out.

Prerequisites

A PRA venture has to first have been created.

Process Flow

1. You create a PRA unit venture (having first created a PRA venture). You set up a venture as a unit venture by setting the *Unit Venture* flag on the PRA Venture screen (see: Creating a PRA Venture [page 23]).
2. After that, you can carry out unit to tract participation, unit venture list processing, DOI tract by tract list processing, and DOI tract by owner processing.
3. Checking In/Checking Out a Unit Venture [page 57]

2.4.1 Maintaining Unit / Tract Records

Use

Use this to maintain and display tract records per unit records ("unit to tract participation"). It shows which tracts "participate" in the unit venture.

Unit to tract participation is used to group divisions of interest (DOIs) into groups, which are then referred to as unit ventures, or units, for one company code/venture/combined product code, and effective date.

Thereafter, the DOIs are referred to as "tracts" of the unit venture. Each tract is valid for the specific date range. The system gives each tract a tract number, tract name, and tract participation factor. The participation factor can be anywhere between 0.00 and 1.00 (1.00 representing 100 % of ownership, so each participation factor is a part of that 100%). The system also creates a Property Use Control record (PUC), which lists tracts and tract participation factors.

Prerequisites

Divisions of interest have to be approved first in the system before they can be processed as part of this process.

In addition, on the PRA venture maintenance screen (*General* screen tab), the *Unit venture* and *DOI by tract* flags have to be set, for the venture to be able to be used here.

Procedure

At the SAP Easy Access Menu, select *Logistics → Production and Revenue Accounting → Ownership → Unit Venture → Unit to Tract Participation* .

The *Unit to Tract Participation: Initial Screen* is displayed.

There are two ways to proceed from here:

Table 14:

Display already-created records :
If you simply want to view records that were already created, enter the relevant data for your search and then select *Execute* . The system will display a list of unit to tract records that match your search.
From that list, you can then select an individual record (a unit venture record) and then select display. The screen that follows lists the tracts and tract participation factors for that unit. To display details of the record, select the record, and then select *Details* .

To create new records , on the *Unit to Tract Participation: Initial* screen, select *Create* .

The *Create Unit to Tract Participation: Application maintenance from* screen appears.

1. Fill in the relevant fields (company code, unit venture, combined product code. Note: company code, venture, and combined product code are mandatory, as is the effective date).
2. Choose *Enter* .

When you choose Enter, the system will validate the data that you entered. If there are no errors, the item fields – below, where you enter the tract information – will be accessible (tract number, tract name, company code, venture, DOI, and tract participation factor).

3. Enter the tract participation information.

4. Save your data.

Table 15:

> **i**
>
> **Cut and paste for tract maintenance** :
>
> You can use a clipboard within this transaction to cut and paste tracts from the screen, back into the screen, or into another screen. From either the *Create* or *Detail* screens, you can use the icons: *Cut, Copy,* and *Paste* to copy tracts into (a system) clipboard, and then paste them back onto the screen. This allows you to copy and paste many tract records at once.

Result

A unit record is created with the divisions of interest as "tracts" of the unit venture. The unit is created for a company code/venture/combined product code. The system assigns a tract number, tract name, and participation factor to each tract. The system also creates a Property Use Control (PUC) record – which lists tracts and tract participation factors.

2.4.2 Checking In/Checking Out a Unit Venture

Use

Use this to check in units that were set up using unit to tract participation. You can also use it to check out units for maintenance in the check out area (work area).

Unit ventures have to be checked in to be used in the PRA system, and checked out, if you want to make any changes to them. The process is the same as for DOI Check-In and Check-Out [page 27] .

Check-in/check-out checks in or checks out all units belonging to the unit venture, for all combined product codes, for which it is valid.

The reason that you check in unit ventures is so that the system can carry out the required edits. For example, the system checks to see if any prior period notifications are required for that unit venture.

The reason that you check out the unit venture is so that you can change data in the unit venture.

⚠️

You cannot check in unit ventures whose tracts are defined at a product level.

i

Checking in unit ventures updates marketing groups defined at the unit level for plant NGLs and oil/condensate. The check-in of divisions of interest also updates marketing groups defined at the unit level.

Prerequisites

For check-in :

Units have been created and the total tract participation factor is 1.00.Additionally, the necessary edits were successful in the check-in process.

For check-out :

The unit should have already been checked in.

Procedure

For check-in :

1. At the SAP Easy Access Menu, Choose *Logistics → Production and Revenue Accounting → Ownership → Venture → Change* .
2. The *Change Joint Venture Maintenance: Initial Screen* is displayed.
3. Enter the unit venture and company code, and then select *Enter* .
   The *Change Joint Venture Maintenance: Overview Screen* is displayed. If units have been defined for this unit venture, a check-in pushbutton will be dynamically displayed on the application toolbar at the top of the screen.
4. To check in all the units defined for this unit venture, select *Check-in* .

   i

Prior period notifications will be generated if you changed or edited the units that were checked out. If there were any errors during processing, an error log is displayed. If check-in was successful, there will now be a *Log* pushbutton at the top of the screen. You can now select that pushbutton to view the results of the check-in.

For check out :

The procedure is the same as above (at step 3., select Check-Out), only, no logs are displayed.

2.4.3 Displaying Unit Ventures

Use

Use this to display all ventures that have been defined as unit ventures in the " *Create Joint Venture Maintenance* " transaction. You can list unit ventures that are "checked in", or "checked out" (in other words – in the "check in area" or the "check out area").

Procedure

1. At the SAP Easy Access Menu, select *Logistics Production and Revenue Accounting Ownership Unit Venture Unit Venture List Processing*

The *Unit Venture List Processing* screen is displayed.

i

On this selection screen, company code, combined product code, and effective from date are required fields. The venture is also required, if the company code is not entered. A "scope of selection" choice: "checked in area" or "checked out area" is also required.

Fill in the relevant selection screen fields.

In the *Scope of List* screen area, select either *Checked-In Area* or *Checked-Out Area* .

Select *Execute* .

The *Unit Venture List Processing* screen is displayed.

Result

The system produces a list based on the selection criteria chosen, of records that conform with that selection.

2.4.4 Tract by Tract List Processing

Use

Tract by tract list processing is a standard selection process that allows you to, given specific selection criteria, produce a list of units, unit details, and tract details. For example, for a given division of interest (DOI), you can display a list of units that have that DOI as one of the tracts. You can limit selection either by DOI and/or by date range.

Procedure

At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Ownership → Unit Venture → DOI Tract by Tract List Processing* .

1. Carry out your selections, based on DOI and/or date range (in other words, enter a company code, venture, DOI, combined product code, and effective date range for the selection).
   Select *Execute* .

The system now displays a list based on your selections.

Result

A list is produced, which lists units based on the selections chosen. The list contains the following: units and unit details (company code, unit venture, combined product code), and tracts and tract details (tract name, tract number, and tract participation factor).

2.4.5 Displaying DOI Tracts per Owners

Use

Use this to list tracts with DOI information, in which a specific owner appears. It also lists the net revenue interest (NRI) and the gross revenue interest (GRI). Once the list of records is displayed, you can select a record, and recalculate the gross revenue interest.

Procedure

- At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Ownership → Unit Venture → DOI Tract by Owner List Processing* .

The *DOI Tract by Owner List Processing* screen is displayed.

- On that screen, enter the relevant data for your search (company code, venture, and owner are required entries); you can also enter an effective date range to further limit selection).

3. Select *Execute* .

The *DOI Tract by Owner List Processing: List Viewer* screen appears, which lists tracts with DOI information, in which the specified owner appears ("tracts by owner"). It lists the owner, the unit GRI, unit NRI, tract, tract name, and effective date range, along with other information.

Table 16:

Recalculating the GRI :

If you want to, you can now recalculate the GRI for an owner from the list screen.
 	
1. To do that, in the list, select an owner and then select *Calculate GRI* .
    The system displays a dialog box asking you for the GRI start date.
2. Select a start date for the (re)calculation.
3. Select *Continue* .
    The system now (re)calculates the GRI.

2.5 Generating a DOI Schedule A Report

Use

Use this to generate a division of interest Schedule A Report – which is a report that lists the division of interest, owner details, and decimal amount per owner, for a specific division order (property), for a specific date.

After you have generated the report, you can then print it out and send it to the owners involved in the DOI. The main purpose of the report is for anyone working in, for example, the land department of an oil and gas company, at any time, to print the division order details. You can also sort and print the owner records by interest type.

Details of the report include:

Header details:

Table 17:

• State and county information
• Field ID
• Effective date
• Operator
Legal description

Owner details:

Table 18:

• Owner (number)
• Taxpayer ID
• Owner interest sequence
• Owner name and address
• Decimal interest
• Combined product of the division order
• Pay status of the owner

ⓘ

By making settings in the IMG, you can suppress some of the fields listed above from display when the report is run (in the IMG, choose *Industry Solution Oil & Gas (PRA) Ownership Schedule 'A' report field settings*).

Procedure

From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Ownership DOI Schedule 'A' Report*

The *DO Schedule A Report* screen is displayed.

On the *DO Schedule A Report* screen, on the *Business Key Fields* screen tab , enter data in the following fields: Company code, venture ('joint venture'), division of interest, and effective date (the relevant date for your search).

Here, the mandatory fields are: company code, venture, combined product, and effective date. The DOI field is not mandatory for running the report.

If you enter data in the DOI field, the system will print the Schedule A Report for the specific DOI that you entered; otherwise, the system prints schedule A Reports for all division of interests for the specified venture.

Select the *Additional Parameters* screen tab.

In the *Owner Selection* area, the following options exist:

- *Full DO print* – Select this to print all the owners in the DOI

- *Partial DO print* – Select this to print less than all of the owners. If you select *Partial DO print* , you must then select either:

- *Working interest owners* (to print only working interest owners), or

- *Non-working interest owners*

- Regardless of the option you choose, you can also enter the owner numbers you would like to print (if you know the specific owner numbers). To do that, in the *Owner* field, enter the owner number (or a range of owner numbers, for example, 1 to 99999).

- If you want to have each owner printed on its own separate page, set the *Print 1 owner per page* flag.

Define exactly what you want to print out in the *Form Print Options* section of the *Additional Parameters* screen tab:

- *Schedule A* – To print the Schedule A Report.

- *Labels* – To print labels for envelopes when you send out the reports.

Note that you can choose either *Schedule A* and *Labels* , or just *Schedule A* . You cannot choose just *Labels* .

In the *Sort by* screen area, you can apply a sort to the list that is generated, by:

- *Owner number*

- *Owner name*

Note that sorting only occurs by interest type (for example: for working interest owners).

2.6 Using the Responsibility ID in Ownership

Use

Use this to create, display, change, or delete a record that links a venture/DOI, product code, and responsibility ID, for data access and security purposes.

Responsibility IDs are used throughout the SAP system, and are data and user-specific security master records. The responsibility ID gives a user specific data access privileges to certain key items, based on the assigned responsibility. This distinction allows the classification of specific items according to the organization's responsibility relationships. For example, a user must have responsibility for a contract to maintain that contract.

A responsibility hierarchy can be created to allow certain responsibility groups access to specific items. Responsibility is assigned at both the user level and object level. The responsibility ID consists of three parts.

Examples:

Table 19:

Responsibility ID	Description	User Responsibility ID	Item Responsibility ID
'******'	Global responsibility	Can update all items regardless of Responsibility ID	Can be updated by all Responsibility IDs
'AC****'	AC Group Responsibility	Can update any item with a Responsibility ID beginning with an AC	Can be updated by global responsibility and all Responsibility IDs beginning with AC
'999999'	Individual Responsibility 999999	Can update items with Global Responsibility or Individual Responsibility of 999999	Can be updated by Global Responsibility or Individual Responsibility 999999

For example, a company might want to create an Accounting Responsibility Group, a Marketing Responsibility Group, and an Engineering Responsibility Group. Individual responsibility IDs could then be created for each of thosegroups (some users may fit into their company's responsibility hierarchy in more than one group). For example, a user might be responsible for ten items under his responsibility ID. When a responsibility ID is set up, a description is entered to describe what the Responsibility ID is for.

ℹ️

You can create a responsibility ID for more than one venture/DOI/product code.

Procedure

- From the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Ownership → Responsibility ID* .

The *Responsibility ID: Initial Screen* is displayed.

1. From that screen, you can create, display, or delete responsibility ID – venture/DOI – product code records.

Table 20:

To create	Select *Create* , and then enter a venture, DOI, product code, and a responsibility ID that you would like assigned to that combination. Save your record.
To display / change	Enter selection criteria and select *Execute* .
To delete	Select a record and then choose *Responsibility ID → Delete* .

2.7　Creating a DOI to MP/WC Cross-Reference

Use

Use this to maintain (create) a relationship between a well completion and a base DOI, for a given material (major product) and effective date range.

The purpose of the DOI/WC cross reference is to link a division of interest (DOI) to well completion(s) and measurement point(s). This information must be set up before a Valuation cross reference can be set up at either the measurement point or the well completion level.

You can also process a list of DOI relationships (all relationships for a given company and venture, or a given well completion, etc.).

The list is generated based on your selection criteria. The system looks at which pushbutton you choose as the starting point: *well completion* , *measurement point* , or *company/venture/DOI* . From the list that is then generated, you can select an individual record for maintenance, display, deletion, or *creation with reference* . For example: all relationships for a given company and venture, or a given well completion can be retrieved and displayed in report (list) form.

Procedure

1. At the SAP Easy Access menu, Choose *Logistics → Production and Revenue Accounting → Ownership → DOI to MP/WC Cross Reference* .

The *DOI Cross Reference: Initial Screen* is displayed.

- Select *Create* .

The *DOI Cross Reference: Create* screen is displayed.

- Choose the creation method - based on either: *well completion* or *measurement point* .

1. Enter the relevant data (measurement point or well completion and company/venture/DOI); additional fields are: major product code and effective from and effective to dates).
   Choose *Enter*
   Enter the relevant data and then select *Save* .

3 Upstream Graphics

Purpose

The Upstream Graphics application is a highly integrated component of the Production and Revenue Accounting system; the data that you enter into the application updates the corresponding SAP databases with virtually no delay.

Upstream Graphics is a graphics engine that allows you to maintain and view data graphically.The Upstream Graphics display includes icons representing different types of entities, such as well completions.

3.1 Upstream Graphics Functions

The features of upstream graphics are divided into functions that are **standard** as well as functions that are **view-specific** .

The standard functions are available for any view, while the view-specific features are currently available for use with the Production application area.

For detailed information about standard functions, see Standard Upstream Graphics Functions [page 66] .

For detailed information about view-specific functions, see View-Specific Upstream Graphics Functions [page 73] .

3.2 Standard Upstream Graphics Functions

The standard functions are available for any view, while the view-specific functions are currently available for use with the Production application area.

Standard Upstream Graphics functions are listed below.

Using Upstream Graphics Views [page 67]

Inserting Entities into the Upstream Graphics Display [page 68]

Inserting a Free Form Bitmap into the Upstream Graphics Display [page 69]

Inserting Free Form Text into the Upstream Graphics Display [page 70]

Maintaining Entities in Upstream Graphics [page 71]

Using Variants in Upstream Graphics [page 72]

See also:

View-Specific Upstream Graphics Functions [page 73]

3.2.1 Using Upstream Graphics Views

Use

Use the upstream graphics view function to arrange the display.

Prerequisites

At the *Upstream Graphics Editor: Initial Screen* , use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in a network.

In a *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

Customizing Your View/Zooming

You can arrange the icons displayed by clicking and dragging them as required. Also, you can either enlarge the view of your document by choosing *View Zoom in* or you can reduce the view of your document by choosing *View Zoom out* .

Displaying a Section of Large Network

If a network is large and you would like to display only a section of it, you can select which section to display by sizing and moving the highlighted rectangle at the bottom left corner of the screen.

Using the Complete View

To display the entire network on the screen, not just a section of it, choose *View Complete view*

Grouping Nodes

Sometimes there are large numbers of entities connected to one node. To reduce the number of entities displayed, you can group them under one icon.

To group entities, select all the entities that you want to group together by holding down the SHIFT key and clicking the mouse button. Then choose *Edit Group nodes* .

The *Please enter desired text* dialog box appears.

In the *Group text* field enter a name for the group of entities. Then choose *Enter* .

The system highlights the selected group of entities.

Choose *Edit Groups Collapse* .

The system displays an icon labeled with the name you assigned to the entities.

Using the Alignment Feature

To automatically align all of the nodes, choose *Edit Align* . The *Confirm Operation* dialog box appears. Select whether to adjust only selected nodes or links, or the entire graph. The system then aligns the nodes vertically and horizontally.

To align one node, select the node and then choose *Select Align*

Refreshing the Screen

To refresh the screen, choose *View → Refresh Display* as required.

Saving the Default View

To save the default view in the particular way that you have arranged it, choose *Save* .

When you choose save, the system replaces the default view that was saved previously.

3.2.2 Inserting Entities into the Upstream Graphics Display

Use

Use this function to insert entities into the graphics display.

Prerequisites

At the *Upstream Graphics Editor: Initial Screen* , use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in a network.

In a *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

Option 1

To insert an existing entity, at the bottom right corner of the screen, click on an icon to select it and then release the mouse button.

The cursor changes to a white box outlined in black.

Position the cursor where the entity should be inserted, and then click the mouse again.

Either choose Add an existing object to enter the ID for an entity that already exists or choose Create a new object to set up a new entity. Then choose *Enter* and make additional entries as required.

The system displays the entity.

ⓘ

To view the icon label, place the cursor over the icon.

Option 2

If you choose to hide the free-form area of the screen by choosing View→ *Display* , you must insert an existing well completion or measurement point by choosing *Add Well Completion* or *Add Measurement Point* .

In the next dialog box enter either the well completion ID or the measurement point ID. Then choose *Enter* .

The system displays the entity.

3.2.3 Inserting a Free Form Bitmap

Use

Use this function to insert a bitmap into the display. You can configure this function in Customizing to establish your own particular set of bitmaps.

Prerequisites

At the *Upstream Graphics Editor: Initial Screen* , use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in a network.

In the *Traverse Starting Point* section, choose from the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

To insert a free form bitmap, at the bottom right corner of the screen, click the *Free Form Bitmap* icon and release the mouse.

The cursor changes to a white box outlined in black.

Position the cursor where the bitmap should be inserted, and then click the mouse again.

The *Please select a bitmap to insert* dialog box appears.

Complete the *Free From Entity* dialog box appears.

Complete the *Line 1* and *Tool Tip* fields as required. Then choose *Enter* .

The system displays the bitmap.

ⓘ

When inserting entities, bitmaps, and text, keep in mind that when the cursor is not positioned to mark a point of insertion, the system inserts the object in the upper left corner of the screen, which is the default location.

3.2.4 Inserting Free Form Text into the Upstream Graphics Display

Use

Use this function to insert free-form text into the display.

Prerequisites

At the *Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify **Entity Description** to display each entity in a network with a description label. Or specify **Volumes** to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

- *Complete Delivery Network* to view all of the entities in a delivery network
- *Start on Measurement Point* to view a network downstream or upstream of a measurement point
- *Start on Well Completion* to view a network downstream of the well completion that you specify

Activities

Using free form text is useful, for example, when you need to include a text note to be included on a print out.

- To insert free form text, at the bottom right corner of the screen, click the *Free Form Text* icon and release the mouse.

The cursor changes to a white box outlined in black.

- Position the cursor where the text should be inserted, and then click the mouse again.

The *Please select a text format to insert* dialog box appears.

- Complete the *Free Form Entity* dialog box and then choose *Enter* .

The *Please change to desired text* dialog box appears.

- Complete the *Line 1* and *Tool Tip* fields as required. Then choose *Enter* .

The system displays the text box.

3.2.5 Maintaining Entities in Upstream Graphics

Use

Use this function to maintain data for entities in upstream graphics.

Prerequisites

At the *Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify **Entity Description** to display each entity in a network with a description label. Or specify **Volumes** to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

- *Complete Delivery Network* to view all of the entities in a delivery network
- *Start on Measurement Point* to view a network downstream or upstream of a measurement point
- *Start on Well Completion* to view a network downstream of the well completion that you specify

Activities

Creating Entities with Reference

- If an entity already exists with the data that is required for a new entity that you need to create, you can copy the data from the existing entity.

To do so, click the existing entity and then choose ▌ *Edit* ❯ *Copy Entity* ▌ .

- The system displays another icon for the entity in the upper left corner of the screen.

Adding a Connection Between Entities

- Choose ▶ *Edit* ❯ *Connect Entities* ❭ .

The cursor appears as a pencil icon.

- Click the cursor on one icon and continue holding the mouse button. Then draw the connection and release the button over the second icon to complete the connection.

Changing or Displaying an Entity or Icon

- To change or display an entity or connection, click the entity or connection and then choose either ▶ *Edit* ❯ *Change Entity* ❭ or ▶ *Edit* ❯ *Display Entity* ❭ . In the *Select* field, designate the attribute you would like to change or display.

3.2.6 Using Variants in Upstream Graphics

Use

Use this function to create or retrieve variants as required. A variant represents a unique view that you establish.

Prerequisites

At the *Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

Creating a Variant

To create a variant, which saves the current arrangement of the view without affecting the default view, choose *Save As New Variant* .

The *Please enter a new variant & description* dialog box appears.

Enter a name for the variant in the *Graphics Var* field and a description for the variant in the *Graph Var Descs* field. Then choose *Enter* .

Retrieving a Variant

When you first access the *Graphics Editor* for any network, the system automatically displays the default view. If instead you would like to retrieve a variant with a different arrangement of the view, choose *Apply Variant* .

The *Please select a variant to apply* dialog box appears.

Select a variant in the *Graphics Var* field. Then choose *Enter* .

The view for the variant appears.

3.3 View-Specific Upstream Graphics Functions

The following view-specific functions are currently available for use with the Production application area.

See also:

3.3.1 Inserting an Existing WC or MP in a Network

Use

Use this function to insert an existing well completion or measurement point into a network.

Prerequisites

At the *Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

Option 1

To insert an existing entity in the network, at the bottom right corner of the screen, click either the *Well Completion* or the *Measurement Point* icon and release the mouse.

The cursor changes to a white box outlined in black.

Position the cursor where the well completion or measurement point should be inserted, and then click the mouse again.

Either the *Well/Well completion* dialog box or the *Measurement Point* dialog box appears.

Either choose Add existing object to enter the ID for an entity that already exists or choose Create a new object to set up a new entity. Then choose *Enter* and make additional entries as required.

The system displays the entity.

i

To view the icon label, place the cursor over the icon.

Option 2

If you choose to hide the free-form area of the screen by choosing *View → Display* , you must insert an existing well completion or measurement point by choosing *Add Well Completion* or *Add Measurement Point* .

In the next dialog box enter either the well completion ID or the measurement point ID. Then choose *Enter* .

The system displays the entity.

3.3.2 Creating Effective Dated Records

Use

Use this feature to create effective-dated records for measurement points and well completions in the network. You can create records for the following transactions.

Measurement Point Dated

Measurement Point Profile

Measurement Point Volumes

Well Completion Dated

Well Test

Well Completion Downtime

Prerequisites

At the *Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

Select a measurement point or well completion. Then choose *Edit → Change Entity*

The *Create addition* dialog box appears.

Select the transaction and choose *Enter* .

The initial screen of the transaction appears.

Complete the fields, including the effective date fields, in the transaction as required. Then save the transaction.

3.3.3 Creating Entities

Use

Use this function to create a new entity, enter the required information in the entity's record, and then insert the new entity into the display.

Prerequisites

At the *Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

Creating a New Well Completion or Measurement Point and Inserting it in a Network

To insert a new entity into the network, at the bottom right corner of the *E&P Graphics Editor* screen, click either the *Well Completion* or the *Measurement Point* icon and release the mouse.

The cursor changes to a white box outlined in black.

Position the cursor where the well completion or measurement point should be inserted , and then click the mouse again.

The *Insert* dialog box appears.

Choose Create a new object and then choose *Enter* .

The *Create <Measurement Point or Well>: Initial Screen* appears.

Complete the fields in the transaction as required, and then save it.

ⓘ

To review information about completing the *Create Measurement Point* or *Well* transaction, choose *Help → Application Help* from either of the transactions.

After you save the well completion or measurement point, go back to view the icon for the newly-created entity.

ⓘ

To view the icon label, place the cursor over the icon.

Creating an Entity with Reference

If an entity already exists with the data that is required for a new entity that you need to create, you can copy the data from the existing entity.

To do so, click the existing entity in the Graphics Editor, then choose *Edit → Copy Entity* .

The *Create <Measurement Point or Well>: Initial Screen* appears.

Complete the fields in the transaction as required, and then save it.

ℹ

To review information about completing the Create Measurement Point or Well transaction, choose *Help → Application help* from either of the transactions.

After you save the well completion or measurement point, go back to the *E&P Graphics Editor* to view the icon for the newly-created entity.

3.3.4 Inserting Multiple Entities at Once

Use

Use this function to insert two or more entities into the display at one time.

Prerequisites

At the *Upstream Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

ℹ

This function is available for entities that already exist; it is not available for creating and inserting multiple, new entities at once.

Choose *Mass Insertion of Entities* .

The *Delivery Network Mass Insert* screen appears.

Select either the Measurement Points or Well Completions radio buttons, as required. Then enter the entity IDs. Then choose *Execute* .

The *Delivery Network Mass Insert* screen (2) appears.

Select the entities to be included. Then choose *Insert Checked Entities* .

The system displays the entities in the upper left corner of the screen.

Connect the entities as required.

3.3.5 Changing or Displaying Entities and Connections

Use

Use this function to change or display either an entity or a connection.

Prerequisites

At the *Upstream Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

Changing or Displaying an Entity or Connection

To change or display an entity or connection, click the entity or connection and then choose either *Edit →* *Change Entity* or *Edit → Display Entity* . In the *Select* field, designate which attribute you would like to change or display.

The change or display screen for the transaction appears.

Complete the fields in the transaction as required, and then save it.

i

To review information about completing the transaction, choose *Help → Application help* .

After you save the transaction, go back to the *Graphics Editor* to view the icon for the entity that you changed or displayed.

Hiding / Showing Well Completions

To hide the well completions displayed on the screen choose *Hide/Show Well Completions* . (This is useful when working with a network that includes hundreds of wells.)

To display the well completions, choose *Hide/Show Well Completions* again.

Changing or Displaying Delivery Network Information

To change or display information about the delivery network, choose *Change Delivery Network Information* .

The *Delivery Network* dialog box appears.

In the *Delivery Network* field select the type of delivery network record that you would like to change or display. Then choose *Change* , *Display* or *Create additional* .

i

The *Create additional* feature allows you to change effective dates as required.

Displaying Effective Dates for Connections

Choose *Toggle Effective Dated Information on Links* to display the effective dates for the connections. To remove the display of effective dates, choose *Toggle Effective Dated Information on Links* again.

3.3.6 Maintaining and Displaying Connections

Use

Use this function to maintain and display connections between entities.

Prerequisites

At the *Upstream Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

End Date Link

To change the date through which the link is effective, choose *End Date Link* .

The *Change Downstream Node: Overview* screen appears.

Change the date as required in the *Effective To* field. Save your change, then go back.

Adding a Connection Between Entities

Choose *Edit → Connect Entities* .

Click the cursor on one icon and continue holding the mouse button. Then draw the connection and release the button over the second icon.

The *Create DN Downstream Node: Initial Screen* appears.

ⓘ

A black line represents normal product flow downstream, while a red line represents gas lift, and a green line represents return lease fuel.

- Complete the fields in the transaction as required, and then save it.

ⓘ

To review information about completing the transaction, choose *Help → Application help* .

After you save the transaction, go back to the *Graphics Editor* to view the connection.

Deleting a Connection Between Entities

To delete a connection between entities, click the connection. Then choose *Delete Entities* .

The *Delete DN Downstream Node: Overview* screen appears.

Choose save to delete the connection.

ⓘ

Deleting connections deletes only the effective-dated links from the system. Measurement point and well completion records are not deleted as well; they remain in the system.

Moreover, when deleting effective-dated links, verify that the true intent is to delete the link and not end-date a link. To end-date a link, see the End Date Link section above.

3.3.7 Validating the Network

Use

Use this function to verify that a delivery network is set up without errors.

Prerequisites

At the *Upstream Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity.For example, specify **Entity Description** to display each entity in a network with a description label.Or specify **Volumes** to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

- *Complete Delivery Network* to view all of the entities in a delivery network
- *Start on Measurement Point* to view a network downstream or upstream of a measurement point
- *Start on Well Completion* to view a network downstream of the well completion that you specify

Activities

- To verify that the delivery network is set up without errors, choose *Validate Errors* . This function verifies that all required nodes are connected together. For example, if there is a receipt point in a network, the function checks for a corresponding supply point.

3.3.8 Launching Other PRA Transactions from the Graphics Editor

Use

Use this function to launch PRA transactions from Upstream Graphics.

Prerequisites

At the *Graphics Editor: Initial Screen* , specify the entity and use the *Display Info* field to specify how to display the entity. For example, specify Entity Description to display each entity in a network with a description label. Or specify Volumes to display monthly or daily allocation amounts for each entity in network.

In the *Traverse Starting Point* section, choose from one of the following:

Complete Delivery Network to view all of the entities in a delivery network

Start on Measurement Point to view a network downstream or upstream of a measurement point

Start on Well Completion to view a network downstream of the well completion that you specify

Activities

To launch PRA transactions from Upstream Graphics, choose *Launch Pad* .

The *Display Structure* screen appears.

Navigate to the required transaction and choose *Execute* .

When you access a standard SAP transaction in this way, keep in mind that if you navigate to another standard SAP transaction and then go back, you will return to the SAP Easy Access menu, not the Upstream Graphics.

For example, if you access the Change Measurement Point ID transaction from Upstream Graphics, then choose *Measurement Point → Display* and then go back, you will return to the SAP Easy Access menu.

3.4 Downloading Upstream Graphics Bitmaps

Use

Use this transaction to download Upstream Graphics bitmaps, which are used in the Upstream Graphics display of a network.

Activities

1. From the *SAP Easy Access* menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Tools* ❯ *Upstream Graphics Bitmaps/Icons Maintenance* ❯ *Download Upstream Graphics/Bitmaps* ❯ .
   The *Download Bitmaps* screen appears.
2. Select *Execute* .
   The *Download Bitmaps/Flashforms* screen appears.
3. From the list, select the bitmap(s) that you would like to download. Then select *Download Selected Entries* .
   The *Download Bitmaps/Flashforms* screen appears, displaying the file path to which the system downloaded the bitmap(s).

3.5 Uploading Upstream Graphics Icons/Bitmaps

Use

Use this transaction to upload bitmaps from a local file so that they can be downloaded for use in the Upstream Graphics display of a network.

> ℹ **Note**
>
> SAP delivers standard bitmaps that are stored in the ERP System, but it is possible to upload your own bitmaps to the ERP system using this transaction.

Activities

1. From the *SAP Easy Access* menu, choose ▍▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Tools* ❯ *Upstream Graphics Icons/Bitmaps Maintenance* ❯ *Upload Upstream Graphics Icons/Bitmaps* ▍.
   The *Upload Bitmaps* screen appears.
2. Select *Execute* .
   The *Select bitmaps to upload* dialog box appears.
3. Select the bitmap(s) that you would like to upload, and then select *Open* .
   The *Bitmap/Flashform Maintenance* screen appears, displaying the bitmap(s)that you uploaded, as well as the status (such as "uploaded successfully").

3.6 Deleting Upstream Graphics Bitmaps

Use

Use this transaction to delete bitmap files that have been uploaded.

> ⚠ Caution
>
> Deleting bitmap files makes them not only unavailable to you, but also unavailable to other users.
>
> SAP recommends that you consider this before deleting any files, and that you ensure that the file is indeed outdated and that no other users will need to use it in the future.

Procedure

1. From the *SAP Easy Access* menu, choose ▍▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Tools* ❯ *Upstream Graphics Icons/Bitmaps Maintenance* ❯ *Maintain Upstream Graphics Icons/Bitmaps* ▍.
   The *Bitmaps/Flashform Maintenance* screen appears.
2. Select *Execute* .
3. Select the files that you would like to delete.
4. Select *Delete* .

4 Production

Purpose

Allocating Volumes

The Production application area in the Production and Revenue Accounting (PRA) product is designed to define allocation rules and to process master data for entities including well completions, measurement points, and delivery networks.The Production application area allocates volumes for a material such as oil or gas from a measurement point back to all relevant well completions.

Allocation rules are defined in the Production application area in order to define how volume allocation is to be carried out (see: Volume Allocation [page 128]). Allocation rules are defined at well completion, measurement point, and delivery network levels within a delivery network in order to determine a specific well completion proportion of the production of a measured volume.

In addition, a well completion production can be determined using functions specific to your company.

Processing Master and Transactional Data

Master data is entered in records with start and end dates, thereby protecting the original version of a record, as well as storing each subsequent version of the record.In addition to processing master data for entities, the Production application area features transactions that capture data resulting from daily activities such as tracking well downtime, and recording well test information.

4.1 PRA General Master Data Set-Up

Purpose

There are two types of master data set-up required to run PRA:

- General master data set-up (described here)
- Master data entity set up (described in:

General master data set-up is necessary, so that the materials you want to use will be able to be used in subsequent processes in PRA, such as PRA-Revenue and Statistical Key Figures (SKF) in SAP-Controlling (the Core CO module).

PRA uses many master data entities such as materials, wells and product codes. Some of the master data entities need to be linked (cross-referenced) to SAP Core objects or other PRA entities, for use in specific PRA and Core processes.

In this process, you can create those required links.

- The general master data set-up process involves the following three transactions:
- Setting up a product code reference for materials. This allows your PRA materials that you are using to be cross-referenced to Core materials, which is necessary to use the materials in certain PRA processes which are 'downstream' from (subsequent to) Production (see: Creating Material to Product Code Cross-References [page 85]).
- Reclassification of materials to product codes. Reclassification of materials allows PRA-Revenue to identify materials, in specific Revenue processes (see: Reclassifying Materials with Product Codes [page 86]).
- SKF cross-referencing allows you to cross-reference PRA materials to statistical key figures (SKF) for reporting to the SAP CO (Controlling) module (see: Creating an SKF Cross-Reference [page 88]).

ⓘ

There are two aspects to setting up master data for PRA-Production:

- The three transactions detailed here
- Setting up PRA-Production master data entities such as wells, well completions, etc. (see: PRA Master Data Entities [page 89]).

Prerequisites

Materials that you are linking to have to already exist in the SAP General Material table, which is a Core table.

Process Flow

Carry out the cross referencing in the transactions, as required.

Result

The materials will be able to be used in PRA-Revenue and CO-SKF.

4.1.1 Creating Material to Product Code Cross-References

Use

Use this to set up the requisite material to product code cross reference record.

The record that you create here ties a material in the SAP Core General Material Data table, to a PRA product code. This allows Core materials to be used in PRA-Production.

Prerequisites

The material that you are linking here has to first exist in the SAP Core General Material Data table.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production → General Master Data Maintenance → Material and Product Code Proc Xref* .

The *Material and Product Code (processing) Xref: Maintenance* screen is displayed.

1. Use the matchcode list box for the *Material* field to choose a material that already exists (in the SAP Core General Data table). Enter that material number in the *Material* field.

1. Select *Create* .

The *Material and Product Code (processing) Xref: Create* screen is displayed.

The material ID that you chose will be defaulted into the *Material* field.

1. In the *Major Product* field, enter a PRA major product code that you would like to link to the Core material. In the *Product Code* field, enter a PRA minor product code that you would like to link the Core material to.
2. Save your record.

Example

For example, you could take a material HIMP-MAH, and link it with major product "Water", which is product code 05.

4.1.2 Reclassifying Materials with Product Codes

Use

Use this to reclassify PRA product codes.

In PRA-Production, materials do not have to be linked to wells, but in PRA-Revenue, materials are linked to wells. If you know that you will need to use a material in Revenue, you can create a record here that assigns the material a new product code: a major product code and a minor product code. When Revenue runs, specific processes in Revenue will 'look for' materials that have been reclassified. The reclassified product code is used to determine the material that should occur at certain types of wells.

A material is created in Production, and allocated, but that material has to be "recognized" by PRA-Revenue. The material has to be reclassified to be recognized by Revenue. You create (reclassify) the material under a different material ID for Revenue. The new reclassified material that you enter will depend on what type of well the material has been allocated to.

ℹ

Here, you can create not just one, but all the **possible** reclassifications for a specific material (in other words, multiple reclassifications).

For more information on this, please see the Example section below in this document.

Procedure

1. At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production → General Master Data Maintenance → Reclassification of Product Codes* .

The *Reclassification of Product Codes: Maintenance* screen is displayed.

1. On that screen, in the *Material* field, enter the material that you would like to reclassify. In the *Reclass MajPd* field, enter the major product code that you would like to reclassify the material as, and in the *Reclass PD* field, enter the minor product code that you would like to use reclassify the material under.

1. Select *Create* .

The *Reclassification of Product Codes: Create* screen is displayed. The fields on the screen show the reclassification that you have already made. In the *Reclass Matnr* field, enter the material that you would like to reclassify the material under.

1. Select *Save* .

Result

The result is that the material is reclassified, and can be used in PRA-Revenue processes, which require reclassified materials.

Example

For example, I might have a material, HIMP-MAH set up in PRA as "oil condensate mix". I know that the material is used not only in Production, but also in Revenue processes, and I need to reclassify it.

Using this transaction, I can create a record that reclassifies the material to material 100 = oil, and a record that reclassifies the material to 300 = condensate.

Subsequent programming logic exists in Revenue, which dictates: if an oil well is involved, use material 100, and if a condensate well is involved, use material 300.

4.1.3 Creating an SKF Cross-Reference

Use

Use this to create a record that links a material / volume type to an SKF Type code (Statistical Key Figure type code). The record is used so that material volume data can be used in SKF controlling (see: Carrying Out an SKF Job Submission [page 197]).

SKF information: Production well completion volumes for pre-configured material / volume type (VT) combinations and production day information are extracted and collected in the system, in order to post the summed up results to the SAP CO Module as statistical key figure (SKF) volumes.

Prerequisites

The material has to exist, that you are cross-referencing.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production → General Master Data Maintenance → Volumetric SKF* .

The *Volumetric SKF: Maintenance* screen is displayed.

1. To create the cross reference, enter an SKF Type code, the material, and volume type.

1. Select *Save* .

Displaying records

Table 21:

If you want to view records that have been created, from the *Volumetric SKF: Maintenance* screen, choose *List Entries* .

Result

A record is created, which ties a material / volume type to an SKF figure code.

Example

For material EP400, you could assign a volume type of 01 = measured production, and an SKF type code of DRILL.

4.2   PRA Master Data Entities

Purpose

The Production application area operates using four basic types of master data entities:

- Producing entities, which include fields, reservoirs, platforms, and wells
- Well completions
- Measurement points
- Delivery networks

The combination of the master data for producing entities, well completions, and measurement points forms the structure of a delivery network.

Process Flow

Set up the producing entities as required.

For wells, set up well completions and well completion dated characteristics (see: Creating a Well Completion ID [page 94] , Creating Well Completion Dated Characteristics [page 95]).

For measurement points, set up measurement point dated characteristics (see: Creating a Measurement Point ID [page 112] , Creating   an MP Dated Characteristics Record [page 113]).

Use the producing entities, well completions, and measurement points as required to set up a delivery network (see: Creating a Delivery Network ID [page 123]).

View the delivery network downstream nodes in order to review the structure of the delivery network.

4.2.1 Producing Entities

Definition

There are four types of producing entities used for processing upstream oil and gas transactions:

- Field - Represents an area comprising one or more reservoirs relating to the same geological structure
- Reservoir - Represents a porous and permeable body of rock below the surface that contains oil and/or gas
- Platform - Represents an offshore production platform, such as a drilling rig, barge, or platform
- Well - Represents a hole drilled in the earth to obtain geological information, to find or produce oil and gas hydrocarbons, and/ or to provide service for the operation of another oil or gas well

Use

Data related to producing entities is captured in the form of ID records, or master records, and these master records are the foundation of a delivery network.

Integration

Master records for producing entities are used along with well completion, measurement point, and delivery network master records to build the structure of a delivery network in SAP.

4.2.1.1   Creating a Field ID

Use

Use this to create a record representing a field.

A field is an area comprising one or more reservoirs relating to the same geological structure.

The field ID number resulting from this transaction is included in the corresponding SAP well completion record.

Procedure

At the SAP Easy Access screen, choose *Logistics   Production and Revenue Accounting   Production Producing Entities   Field ID   Create*

The *Create Field: Initial Screen* is displayed.

Enter the following data:

Field ID

i

If the field number range group is internal (system-generated), leave the Field ID field blank. The system then automatically assigns a number for the field ID.

FL Number Group (the field range used in the assignment of a new delivery network).

Choose *Enter* .

The *Create Field: Overview* screen is displayed.

In the second field of the *Field* row, enter a description. Enter additional data, as required.

Save the field ID.

Using a Reference for a Field ID

If a field ID record already exists with data similar to that of the new field ID you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing field ID in the reference section of the initial screen for the new field ID.

4.2.1.2   Creating a Reservoir ID

Use

Use this to create a record representing a reservoir, which is an underground area from which hydrocarbons are obtained.

Reservoirs can be defined as one single whole, or they can be defined as consisting of multiple zones, with each zone representing a natural structure dividing the reservoir.

Procedure

At the SAP Easy Access screen, choose *Logistics à Production and Revenue Accounting à Production à Production Entities à Reservoir à Create*

The *Create Reservoir: Initial Screen* is displayed.

2. Enter the following data:

Reservoir ID

i

If the reservoir number range group is internal, leave the *Reservoir ID* field blank. The system then automatically assigns a number for the reservoir ID at the end of the procedure.

RS Number Group (the number range used in the assignment of a new reservoir ID). If the reservoir number is internal (generated by the system), choose *Internal* . If the number is not generated by the system, choose *External* .

Choose *Enter* .

The *Create Reservoir: Overview* screen is displayed.

3. In the second field of the Reservoir ID row, enter a description for the reservoir ID. Then, enter other data as required.

4. Save the reservoir ID.

Using a Reference for a Reservoir ID

If a reservoir ID record already exists with data similar to that of the new reservoir ID record you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing reservoir ID in the reference section of the initial screen for the new reservoir ID.

4.2.1.3   Creating a Platform ID

Use this to create a platform ID. A platform isan offshore structure from which production wells are drilled.

At the SAP Easy Access screen, choose *Logistics àProduction and Revenue Accounting àProduction àProducing Entities àPlatform ID àCreate*

The *Create Platform: Initial Screen* is displayed.

2. Enter the following:

Platform

i

If the platform number range group is internal (system-generated), leave the *Platform* field blank. The system then automatically assigns a number for the platform.

PF Number Group (the number range used in the assignment of a new platform ID).

Choose *Enter* .

The *Create Platform <platform number>: Overview* screen appears.

3. In the second field of the Platform row, enter a description, then enter data as required.

4. Save the platform ID.

Using a Reference for a Platform ID

If a platform ID record already exists with data similar to that of the new platform ID you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing platform ID in the reference section of the initial screen for the new platform ID.

4.2.1.4   Creating a Well ID

Use

Use this to create a well ID record. The well ID represents a physical production well in the field.

When you do this, it establishes a record in the system for a well, that:

Is used to obtain geological information

Produces oil and gas hydrocarbons

Provides support to the operation of another oil or gas well

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Producing Entities* → *Well ID* → *Create*

The *Create Well: Initial Screen* is displayed.

In the *Well* field, enter the relevant well.

Choose *Enter* .

The *Create Well <well number>: Overview* screen is displayed.

In the second field on the *Well* row, enter a text description for the well. Then enter the API well number (the API well number for the well is sent to you by the government), and choose the *Physical Description* tab .

In *the Physical Description* tab, enter data as required. Here, you can enter data that physically describes the well.

Choose the *Legal Description* tab, and enter data as required (the legal description describes the surveying method used for the well).

Save the well ID.

Using a Reference for a Well ID

If a well ID record already exists with data similar to that of the new well ID that you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter number of the existing well in the reference section of the initial screen for the new well.

4.2.2 Well Completion

Definition

A well completion is one individual, physical completion made within a well. A well completion is represented by a well completion ID in the standard system.

Structure

A well completion ID, along with dated well completion characteristics, serve as the basis for defining data about a well completion.

Some data for well completions may need to be captured on a conditional basis, that is, only in certain situations. The following conditional data related to well completions can be captured in the standard system.

- **Contamination override** - Allocating a contamination percentage from the lease for a non-injection field back to the lease(s) for the injection fields
- **Downhole commingled well completions** - Setting up cross references to well completions that are commingled downhole in the same well
- **Downtime summary** - Recording periods of downtime for a well completion
- **Reproduced materials** - Identifying the percentage of reproduced material that exists in a well completion
- **Supply source** - Defining an alternative method to be used by volume allocation when determining the source of volume to be allocated to an upstream well completion
- **Transporter Cross Reference** - Setting up a cross reference to the transporter for a well completion.
- **Volumes** - Capturing volumetric information at a well completion level for either daily or month-end volumes

4.2.2.1   Creating a Well Completion

Use

Use this to create a well completion record.

The well completion ID transaction establishes a record in the system, representing a physical well completion formation or a zone that has been penetrated by the drilling of a well, and is producing in commercial quantities into the wellbore.

In order to be able to create a well completion, you first will have had to create a well, to which the well completion will be assigned (see: Creating a Well ID [page 93]).

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Well Completion* ❯ *Well Completion ID* ❯ *Create* ❯ .
2. The *Create Well Completion: Initial Screen* is displayed.
3. Enter the relevant well and well completion and choose ENTER.
   The *Create Well Completion: Overview Screen* appears.
4. In the second field on the well completion row (the field immediately to the right of the *Well Completion* field), enter a description for the well completion. Enter other data, as required.
5. Select the *Location* tab, and enter the relevant data. The data that you enter here provides details on the state and country that the well completion is located in. You can also enter precise longitude and latitude data on the well completion.
6. Select the *Related Entities* tab, and enter the relevant data. Related entities can provide information on: the field and reservoir that the well completion is linked to, as well as information on the company code and company that the well completion is linked to.
7. Select the *Engineering Information* tab, and enter the relevant data. The engineering information includes: the purpose of the well – from a financial point of view, the program (project and phase of the well completion), the base pressure, and informaton on the depth and elevation of the well completion.
8. If the well is a lease line well, select the *Lease Line Well* indicator.A lease line well is a well that is located on a lease line, adjoining more than one lease, and the operators agree to share the revenue on a percentage basis.
9. Enter any other relevant data.
10. Save the well completion.

Using a Reference for a Well Completion ID

If a well completion ID record already exists with data similar to that of the new well completion ID you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the data for the existing well completion ID in the reference section of the initial screen for the new well completion ID.

4.2.2.2 Creating Well Completion Dated Characteristics

Use

Use this to create a well completion dated record.

This transaction defines details about a well completion that are effective within a specified date range. This is used for situations in which you want to create a well completion ID specific to a set date range.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Well Completion* ❯ *Well Compl. Dated* ❯ *Create* ❯ .

The *Create Well Completion Dated: Initial Screen* is displayed.

2. Enter the well completion, and effective date range, and choose *Enter* .
   The *Create Well Completion Dated <well completion number> Effective <date>: Overview* screen is displayed.

3. Enter data as required.

4. If the status of the well completion is "producing", enter data in the *Producing Method* field, then set the appropriate production cycle indicator.

5. Save the well completion dated characteristics.

Using a Reference for Well Completion Dated Characteristics

If a well completion dated characteristics record already exists with data similar to that of the new well completion dated characteristics you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing well completion dated characteristics in the reference section of the initial screen for the new well completion dated characteristics.

4.2.2.3   Creating a Well Completion Supply Source

Use

Use this to create a well completion supply source.

This transaction establishes a record in SAP that lists well completions to be used as alternative fuel supply sources in certain situations. The record also lists specific leases, represented by joint ventures, that may access the alternative supply sources.

During volume allocations, alternative well completions may need to be used as supply sources when a well that is part of a lease does not:

Produce enough gas to supply its own gas lift gas

Produce enough return to lease fuel injection gas

In these situations, the PRA application uses the well completions listed in this record as alternative sources for the venture identified in this record.

The order in which the alternative well completions are listed is important, because SAP uses the alternative well completions according to the order in which they are listed.

Well completion supply source details are used for processing prior period, volume allocation transactions.

Prerequisites

The standard method for the volume allocation cycle that supplies volume to an upstream well completion needs to be overridden.

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Well Completion* → *WC Supply Source* → *Create*

The *Create Supply Source: Initial Screen* is displayed.

Enter data as required and choose *Enter* .

The *Create Supply Source: Overview Screen* is displayed.

In the *Sequence* field, enter the number identifying the sequence in which the system is to use the alternative well completions. Then enter other data as required.

Save the well completion supply source.

Using a Reference for a Well Completion Supply Source

If a well completion supply source record already exists with data similar to that of the new well completion supply source you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the data for the existing well completion supply source in the reference section of the initial screen for the new well completion supply source.

4.2.2.4   Creating a Well Completion Reproduced Material

Use

Use this to create a well completion reproduced material record.

A reproduced material is a product injected into a well completion formation for the purpose of simulating production.

This transaction involves specifying the percentage of the reproduced product that naturally exists in the well completion formation.

The percentage determines what portion of the extracted product is a result of first-time production. The percentage is also important because reproduced product that has been injected, and is not a result of first-time production, should be paid only once.

Procedure

At the SAP Easy Access screen, choose *Logistics à Production and Revenue Accounting à Production*

Table 22:

Function	Follow-on menu
Create reproduced materials for a well completion	→ *Well Completion* → *WC/MP Reproduced Materials* → *Create*
Create reproduced materials for a measurement point	→ *Measurement Point* → *WC/MP Reproduced Materials* → *Create* Choose *Measurement Point* .

The *Create <well completion or measurement point> Reproduced Materials: Initial Screen* appears.

Enter the following data:

Well Completion

i

Reproduced material data can be entered only for well completions that are downhole commingled parents. Reproduced material data in a parent record applies to all children records.

Effective From

Then choose *Enter* .

The *Create <well completion or measurement point> Reproduced Materials: Overview Screen* appears.

Enter the reproduced material and formation percentage.

Save the reproduced materials record.

Using a Reference for Reproduced Materials

If a reproduced materials record already exists with data similar to that of the new reproduced materials you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing reproduced materials in the reference section of the initial screen for the new reproduced materials.

4.2.2.5   Creating a Well Completion Theoretical Override

Use

Use this to create a well completion theoretical override.

This transaction defines an override of the delivery network theoretical method at a well completion or measurement point. This transaction causes the estimated production value, calculated by the volume allocation cycle, to be overridden with the value specified in this transaction.

This is used to create master data for situations in which you do not want to use the estimated theoretical production value calculated by the volume allocation cycle based upon the delivery network theoretical calculation method.

Prerequisites

The production value calculated by the volume allocation cycle needs to be overridden.

Procedure

At theSAPEasy Access screen, choose Logistics→Production and Revenue Accounting→Production.

Function Follow-on menu

Create reproduced materials for a well completion Well Completion→ WC/MP Theo Override→ Create.

Create reproduced materials for a measurement pointMeasurement Point → WC/MP Theo Override → Create

Choose Measurement Point.

At the *Create <WC / MP> Theoretical Override: Initial Screen* , enter data as required and choose *Enter* . The *Create WC Theoretical Override: Overview* screen is displayed.

You can also specify a *Delivery Network Number* on the *Well Completion/Measurement Point Theoretical Override* screen.

On that screen verify the effective to date, and enter the *Theoretical Override*

Save the theoretical override record.

Using a Reference for a Theoretical Override

If a theoretical override record already exists with data similar to that of the new theoretical override you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing theoretical override in the reference section of the initial screen for the new theoretical override.

4.2.2.6   Creating a WC Lease-Wide Gas/Oil Ratio (GOR)

Use

Use this to create a well completion gas oil ratio (GOR) record.

The lease wide GOR transaction defines a ratio of gas production to oil production used in fluid-only well tests. The GOR is expressed in MCF of gas per barrel of oil.

The ratio can be defined at one of three levels:

All well completions on a specified property

All well completions within a field on a specified property

All well completions within a reservoir located on a field for a specified property

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Well Completion* → *Lease Wide GOR* → *Create*

The *Create Lease-wide GOR: Initial Screen* appears.

Enter data as required (company code, venture, and reservoir), and choose *Enter* .

The *Create Lease-wide GOR: Overview screen* appears.

Enter the gas oil ratio (GOR) percent.

Save the lease wide GOR.

Using a Reference for a Lease Wide Gas to Oil Ratio

If a lease wide gas to oil ratio record already exists with data similar to that of the new lease wide gas to oil ratio you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the data for the existing lease wide gas to oil ratio in the reference section of the initial screen for the new lease wide gas to oil ratio.

4.2.2.7 Creating a Well Completion - Downhole Commingled Record

Use

Use this to create a well completion downhole commingled record.

Commingling in the oil and gas context means: producing oil and gas from two or more reservoirs at different depths.

This transaction links a well completion with all well completions that are commingled downhole in the same well. The term child refers to the well completions commingled downhole, while the term parent refers to the well completion to which all the child well completions are linked.

This transaction identifies the percentage of child well completions that are commingled, with respect to the parent well completion.

You can use this transaction to allocate material to well completions producing out of the same tubing stream.

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Well Completion* → *WC Downhole Commingled* → *Create*

The *Create Well Completion Downhole Commingled: Initial Screen* appears.

Enter the following data:

Well Completion

ℹ

The well completion entered here represents the parent.

Effective From

Major Product

Choose *Enter* .

The *Create Well Completion Downhole Commingled: Overview* screen appears.

Enter the following data:

Effective To

Well Completion

ℹ

Each well completion entered in this table represents a child that is part of the commingled well completion.

ℹ

The commingled percentage is the percentage that each child well completion contributes to the total production of a product through a single tubing stream, with respect to other well completions that are commingled.

Continue to enter data for each child well completion as required.

Save the downhole commingled well completion.

Using a Reference for a Well Completion Downhole Commingled Record

If a well completion downhole commingled record already exists with data similar to that of the new well completion downhole commingled record you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing well completion downhole commingled record in the reference section of the initial screen for the new well completion downhole commingled record.

4.2.2.8   Well Completion Hierarchy

Definition

The well completion hierarchy represents a group of well completions at a hierarchical level.The hierarchical level can consist of one well completion group, or multiple well completion groups.

Use

A well completion hierarchy can be set up as an organizational level for multiple users.Or, a single user can set up a well completion hierarchy for individual use, as required.

See also:

4.2.2.8.1   Creating a Well Completion Hierarchy

Use

This transaction links multiple well completions together into a group. Multiple sets of well completion groups can be established as hierarchy levels under one well completion hierarchy.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Well Completion* ❯ *Well Completion Hierarchy* ❯ *Create* ▌.
   The *Create Well Completion Hierarchy: Initial Screen* appears.
2. Enter data as required and choose *Hierarchy* .
   The *Create Well Completion Hierarchy: Structure* screen appears.
3. The following options are available at this screen:
   Adding a Level to the Well Completion Hierarchy
   To add a level to the well completion hierarchy, click the cursor on the well completion group and choose *Lower Level* .Then, in the first field for the hierarchy level, enter an identification number, and in the second field enter a description.
   Adding Well Completions to the Hierarchy
   To add well completions to the hierarchy, click the cursor on the required level and choose *Well Completion* .Then, in the first field for the well completion, enter the well completion number.Choose *Enter* to display a description of the measurement point.
   Creating Additional Levels for the Well Completion Hierarchy

To create additional hierarchy levels for the well completion hierarchy, select a level and either (1) choose *Same Level* to create a new level at the same level as the one that is selected, or (2) choose *Lower Level* to create a new level one level lower than the one that is selected.

Viewing the Hierarchy Details

After creating levels for a well completion hierarchy, choose *Expand All* to view a list of each well completion in a level.

Viewing the Well Completion Group Hierarchy Levels Only

After using *Expand All* to view well completion group details, choose *Collapse All* to return the view to only the well completion levels.

Selecting Items

To select an item, place the cursor on the appropriate row and choose *Select* .

Deselecting Items

To deselect selected items, choose *Deselect All* .

Deleting Well Completion Groups

To delete the well completion group, select it and choose *Delete* .

Determining Well Completion Hierarchy Use

To retrieve a listing of where the well completion hierarchy is used in SAP, place the cursor on the well completion hierarchy name and choose *Where-Used List for Group* .

Exit the well completion hierarchy.

Using a Reference for a Well Completion Hierarchy

If a well completion hierarchy record already exists with data similar to that of the new well completion hierarchy you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing well completion hierarchy in the reference section of the initial screen for the new well completion hierarchy.

4.2.3 Measurement Point

Definition

A measurement point defines a place or point where product is measured, used, or sold. A measurement point may represent a physical device in the field, or a theoretical point required for the volume allocation process.

A measurement point is represented by a measurement point ID in the system.

There are various measurement point types in PRA. For a full description of each measurement point type, and how it is used in PRA, see: Measurement Point Types [page 104]).

Structure

A measurement point ID, along with measurement point dated characteristics, serve as the basis for capturing data about a measurement point.

Some data for measurement points may need to be captured on a conditional basis, that is, only in certain situations.The following conditional data related to measurement points can be captured in the system:

Fuel Usage - Defining the specifications for both hourly rate-based and liquid-based fuel consumption devices

Heating value cross reference - Setting up a cross reference between two measurement points, or between a well completion and a measurement point, when the heating value cannot be determined at volume entry time

Meter Specifications - Recording volume at liquid displacement meters

Transporter cross reference - Setting up a cross reference to the transporter for a measurement point

4.2.3.1 Measurement Point Types / Valid Volume Types

Definition

The measurement point type is used to designate what type of equipment or allocation point is being represented by a measurement point. Specific measurement point types have unique restrictions and processing rules in PRA.

The following table lists the standard PRA measurement point types and the valid volume types for each measurement point type (for more information on each volume type, see: Volume Categories and Volume Types [page 136]).

Use

The following measurement point types can be used in PRA:

Table 23:

Measurement point type (MP type code):	Use / comments:	Valid volume type(s) for this meaurement point type:

Tank (01)	Normally, the ending inventory or sales will be recorded here. Whenever a sales volume is recorded, a transporter must also be recorded. When recording a tank volume, the volume determination transaction will require tank specifications and tank strappings to be set up.	03 Sales 04 inventory 21 Sales 2 25 Waste/slop oil sales 26 skim oil sales 28 scrubber oil sales L1 load oil sales
LACT meter (02) – (lease automatic custody transfer point meter)	This MP usually records metered liquid sales volumes. Whenever a sales volume is recorded, a transporter must be recorded with it. Meter specifications will need to be set up for the MP if the volume is to be calculated from meter readings.	03Sales 1 21 sales 2
Sales meter (03)	Normally, the 'Sales-1' volume type will recorded here. Whenever a sales volume is recorded, a transporter must also be recorded. The volume determination transaction will require that meter specifications be set up for this measurement point.	03 sales 1 21 sales 2 25 slop oil sales 26 skim oil sales 28 scrubber oil sales FU fuel usage in a fuel system
Deduct meter (04)	Normally, this meter will have a VT80 (allocation volume) associated with it. This volume will act as a DEDUCT volume during the allocation process - meaning that it will keep the volume "whole", and will NOT absorb any swing in the allocation of dispositions.	80 allocation volume 01 measured production

Compressor (07)	This measurement point can have any fuel use volume type entered on it (VTs 11-15, R1-R5). The volume at this MP may be 1) entered directly through the gas volume entry screen in PRA, 2) calculated from hourly or throughput rates using fuel usage specifications, or 3) uploaded to PRA from a field data collection device.	11 fuel use downstream 12 lease use 2 13 lease use 3 14 lease use 4 15 lease use 5 24 plant fuel 38 lease use off lease R1 RLF received 1 R2 RLF received 2 R3 RLF received 3 R4 RLF received 4 R5 RLF received 5 FU fuel usage in a fuel system
Heater/Treater (08)	This measurement point can have any fuel use volume type entered on it (VTs 11-15, R1-R5). The volume at this MP may be: 1) entered directly through the gas volume entry transaction in PRA, 2) calculated from hourly or throughput rates using fuel usage specifications, or 3) uploaded to PRA from a field data collection device.	11 fuel use downstream 12 lease use 2 13 lease use 3 14 lease use 4 15 lease use 5 38 lease use off lease R1 RLF received 1 R2 RLF received 2 R3 RLF received 3 R4 RLF received 4 R5 RLF received 5 FU fuel usage in a fuel system

Dehydrator (09)	This measurement point can have any fuel use volume type entered on it (VTs 11-15, R1-R5). The volume at this MP may be: 1) entered directly through the gas volume entry screen in PRA, 2) calculated from hourly or throughput rates using fuel usage specifications, or 3) uploaded to PRA from a field data collection device.	11 fuel use downstream 12 lease use 2 13 lease use 3 14 lease use 4 15 lease use 5 24 plant fuel 38 lease use off lease R1 RLF received 1 R2 RLF received 2 R3 RLF received 3 R4 RLF received 4 R5 RLF received 5 FU fuel usage in a fuel system
Lease fuel upstream (10)	Normally, this MP will record volume type 10 - lease upstream of PM. This volume/MP type is specifically for lease use dispositions between the well completion and deduct/allocation meters downstream . The volume at this MP may be: 1) entered directly through the gas volume entry transaction, 2) calculated from hourly or throughput fuel usage rates, or 3) uploaded from a field data collection device.	10 lease use before PM – on lease

Lease fuel downstream	This measurement point can have any fuel use volume type entered on it (VTs 11-15, R1-R5). The volume at this MP may be: 1) entered directly through the gas volume entry transaction in PRA, 2) calculated from hourly or throughput rates using fuel usage specifications, or 3) uploaded to PRA from a field data collection device.	11 fuel use downstream 12 lease use 2 13 lease use 3 14 lease use 4 15 lease use 5 38 lease use off lease R1 RLF received 1 R2 RLF received 2 R3 RLF received 3 R4 RLF received 4 R5 RLF received 5 FU fuel usage in a fuel system
Theoretical production meter (12)	This meter will never have an entered volume associated with it. It is strictly used as a repository of summed theoreticals up to a "leg" in a delivery network to properly adjust theoretical volumes in volume allocation.	(no volumes entered at this MP)
Water chain (14)	This is a "pseudo-meter" used as a point to determine the amount of water contributed by producing oil and gas completions in a water chain network.	WC water chain
Check meter (16)	This traps VT07 check meter volumes.	07 check meter
Allocation meter (17)	Normally, this meter will have a VT80 allocation volume associated with it. This volume will NOT act like the DEDUCT volume during the allocation process. It will absorb swings in the allocation of dispositions.	80 allocation meter

Separator (18)	This measurement point can have any fuel use volume type entered on it (VTs 11-15, R1-R5). The volume at this MP may be: 1) entered directly through the gas volume entry transaction in PRA, 2) calculated from hourly or throughput rates, using fuel usage specifications, or 3) uploaded to PRA from a field data collection device.	10lease use before PM – on lease 11 fuel use downstream 12 lease use 2 13 lease use 3 14 lease use 4 15 lease use 5 38 lease use off lease R1 RLF received 1 R2 RLF received 2 R3 RLF received 3 R4 RLF received 4 R5 RLF received 5 FU fuel usage in a fuel system
VRU meter (19)	Vapor recovery unit measurement type, used within a gas plant processing to represent a vapor recovery unit, and capture vapor recovery dispositions.	(N/A)
Fuel use meter (20)	This measurement point can have any fuel use volume type entered on it (VTs 11-15, R1-R5). The volume at this MP may be: 1) entered directly through the gas volume entry transaction in PRA, 2) calculated from hourly or throughput rates using fuel usage specifications, or 3) uploaded to PRA from a field data collection device.	11 fuel use downstream 12 lease use 2 13 lease use 3 14 lease use 4 15 lease use 5 24 plant fuel 38 lease use off lease R1 RLF received 1 R2 RLF received 2 R3 RLF received 3 R4 RLF received 4 R5 RLF received 5 FU fuel usage in a fuel system

Vent / flare (22)	Normally, this captures VT30 Field Vent/Flare - On Lease. The volume at this MP may be: 1) entered directly through the gas volume entry transaction, 2) calculated from hourly or throughput fuel usage rates, or 3) uploaded to a field data collection device.	30 field vent / flare – on lease 31 field vent / flare – on lease 45 plant vent / flare
Tank battery (35)	VT04 closing inventory liquids can be captured at the tank battery. At this MP, the inventory can be captured without having to set up tank specs or meter factors. Any network that contains a tank (MP Type 01) must contain a tank battery node upstream of the tanks.	04 closing inventory
Purchased fuel (40)	Allows a Purchase Volume (VT 40) to be recorded either using the gas or liquid volume entry transactions in PRA.	40 purchased lease fuel
NGL meter (41)	Natural gas liquid meter.	(NA)
Terminal	This is used as an oil transfer point, normally to a pipeline. It is not considered a meter. PRA allows it to be used "like a tank." The exception here is that when recording tank volumes , the system will NOT require tank specifications. It can be used to capture inventory, sales, etc.	03 sales 21 sales 2 04 inventory
Injection / disposal meter (52)	Normally, this meter will capture volume type 18 (formation injection) for water products, or volume types WI (water injected) and WD (water disposed) in a water chain network.	18 formation injection – on lease WD water disposal WI water injected
Supply meter (53)	This MP can capture volume type WS, water supplied, in a water chain delivery network.	WS water supplied

Gas liftmeter receipt point (54)	This MP can capture volume type 50, gas lift received. The volume at this MP will be summed to the gas lift supply point in a gas lift network during volume/plant allocation. The total gas lift receipts will be allocated from the supply point in volume allocation; the receipt volumes may be used as a proration basis for an entered gas lift supply in plant allocations.	50 gas lift gas received
Gas lift supply point (55)	All gas lift receipt volumes in a gas lift network are summed and posted at this MP during volume allocation as volume type 50. The allocation of gas lift will proceed from the supply point with either the summed receipt volumes, or an entered gas lift supply volume in plant allocations.	50 gas lift gas received 64 gas lift gas supplied
Injection meter receipt point (56)	This MP will capture volume type 68, gas injection received. The volume at this MP will be summed to the injection meter supply point for gas injection during volume allocation. The total injection receipts will be allocated form the supply point.	68 injection received
Return lease fuel receipt point (57)	This MP will capture any RLF receipt volume type (74, R1 - R5). The volume at this MP will be summed to the RLF supply point during volume allocation. The total RLF receipts will be allocated from the supply point in volume allocation; the receipt volumes may be used as a proration basis for an entered RLF supply in plant allocations.	74 return lease fuel received R1 RLF received 1 R2 RLF received 2 R3 RLF received 3 R4 RLF received 4 R5 RLF received 5 FU fuel usage in a fuel system
Gas plant measurement point (58)	Used within gas plant processing to represent a gas plant facility.	(NA)
Return lease fuel supply point (59)	All RLF receipt volumes in a RLF network are summed and posted at this MP during volume allocation as volume type 50. This is how all RLF gets included in proration of total production to all well completions.	50 gas lift received 73 return lease fuel supplied 74 return lease fuel received
Plant fuel (60)	MP type used to capture plant fuel.	24 plant fuel

RLF consolidation point (62)	Used to simplify network configurations involving return lease fuel. Once defined multiple RLF receipt points can be consolidated and connected to RLF supply point via the RLF consolidation point.	(NA)
Gas injection supply point (65)	All gas injection volumes are summed and posted at this MP during volume allocation as type 68. The allocation of gas injection will proceed form the supply point.	67 gas injection supplied 68 gas injection received
Produced fuel point (72)	This MP can capture the produced fuel volume type, FP. This mp type is used exclusively in a fuel system delivery network. It represents the total produced volume of gas to be used in proration to final dispositions in a fuel system.	FP fuel produced in a fuel system
Produced water (73)	This MP captures the produced water volume type (PW).	PW produced water
Well-level		04 closing inventory – liquids L2 load / transfer oil received
System created		36 Hydrocarbon extraction loss 43 meter differential 91 calculated production 99 total sales L2 load transfer oil received L3 load transfer oil inventory L4 load transfer oil recovered

ℹ

This is not an exhaustive list, rather, it contains the standard PRA measurement point types.

4.2.3.2   Creating a Measurement Point ID

Use

Use this to create a measurement point ID.

This transaction creates a record for a measurement point.

An ID record may be set up for a measurement point that represents a physical device in the field, or for a measurement point that represents a theoretical point required for the volume allocation process.

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Measurement Point* → *Measurement Point ID* → *Create*

The *Create Measurement Point: Initial Screen* appears.

Enter the following data:

Measurement Point

 i

If the number range group for the measurement point is internal, leave the *Measurement Point* field blank. The system then automatically assigns a number for the measurement point.

MP Group

MP Type

Choose *Enter* .

The *Create Measurement Point: Overview* screen appears.

In the second field of the *Measurement Point* row, enter a description. Then enter additional data as required.

Save the measurement point.

Using a Reference for a Measurement Point ID

If a measurement point ID record already exists with data similar to that of the new measurement point ID you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing measurement point ID in the reference section of the initial screen for the new measurement point ID.

4.2.3.3   Creating an MP Dated Characteristics Record

Use

Use this to create an MP dated characteristics record.

This transaction defines details about a measurement point that are effective within a specified date range.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Measurement Point* ❯ *Measurement Point Dated* ❯ *Create* ▐.
   The *Create Measurement Point Dated: Initial Screen* is displayed.
2. Enter the relevant measure point and effective date, and choose *Enter* .
   The *Create Measurement Point Dated <measurement point number>: Overview* screen appears.
3. Enter the multiple stream type and set the appropriate indicators.Then enter other data as required.
4. If required, set the gas plant indicators.
5. Save the measurement point dated characteristics.

Using a Reference for a Measurement Point Dated Characteristics

If a measurement point dated characteristics record already exists with data similar to that of the new measurement point dated characteristics you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing measurement point dated characteristics in the reference section of the initial screen for the new measurement point dated characteristics.

4.2.3.4   Creating Measurement Point Meter Specifications

Use

Use this to create MP meter specifications.

This transaction defines the specifications for liquid displacement meters.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Measurement Point* ❯ *MP Meter Specs* ❯ *Create* ▐.
   The *Create Measurement Point Meter Specification: Initial Screen* is displayed.
2. Enter the relevant data.Then choose *Enter* .
   The *Create Measurement Point Meter Specifications <measurement point number> Effective <date>: Overview* screen is displayed.
3. Enter data as required.Then set the indicators for *Temperature Compensation* and *Meter On/Off Validation Readings* , as required.
4. Save the measurement point meter specifications.

Using a Reference for a Measurement Point Meter Specification

If a measurement point meter specification record already exists with data similar to that of the new measurement point meter specification you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the data for the existing measurement point meter specification in the reference section of the initial screen for the new measurement point meter specification.

4.2.3.5   Creating Measurement Point Tank Specifications

Use

Use this to create an MP tank specification record.

This transaction captures specification and strapping information for tanks. The tank specifications define the volume capacity information for a tank at a high level, while the strappings define the detailed volume information for a tank at a gauge level (the strappings refer to the lines along a tank that are used to measure the level of product in a tank).

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Measurement Point* ❯ *MP Tank Specs* ❯ .
   The *Maintain Storage Object Characteristics* screen is displayed.
2. In the *Object ID* field, enter the measurement point number for the tank, then select *Measurement Point* .Choose *Enter* .
   The *Change Meas. point object: SILO: Detail Screen* is displayed.
3. In the *Storage object type,* enter **E&P tank** .
4. In the *Maximum capacity* field, enter the maximum number of barrels that the tank holds.
5. Select *Cal.history* to activate the tank strapping.
6. If the tank is sold, or is no longer in use, select *Entry is blocked* .
7. Choose *Save* .
   The initial *Maintain Storage Object Characteristics* screen is displayed.
8. Verify that the correct measurement point number for the tank is displayed in the *Object ID* field, and that *Measurement Point* is selected.Choose *Enter* .
9. Choose *LVCC* (Linear Volume Conversion Constants).

   > **i Note**
   >
   > LVCC is an abbreviation for Linear Volume Conversion Constants.By choosing LVCC, you proceed to the *Change lin/vol conversion (strapping constants)* screen, which is where strapping data is entered.

10. If you need to change the units of measure for any of the readings, choose ▶ *Edit* ❯ *Set UoMs.* ❯ .At the *Set Units of measure* dialog box, enter data as required, and choose *Enter* .
11. To enter volume below the gauge plate, enter the volume in the first row of the *Volume* column.
12. If you do not need to enter volume below the gauge plate, enter volume as required, starting with the second row.

13. Choose *Consistency check* .
    A dialog box with the message *Should missing entries be calculated?* is displayed .
14. Choose *Yes* .
15. In the *Select Calculation mode* dialog box, choose *Calculate volumes* .
16. Choose *Activate* .
17. At the *Set activation start date time* dialog box, enter data as required to establish the date that the strapping becomes effective.
18. Save the strapping information.

4.2.3.6 Creating Measurement Point Fuel Usage Specifications

Use

This transaction defines the specifications for both hourly rate-based and liquid-based fuel consumption devices.

The hourly rate-based devices record consumption in the following formats:

Barrels per hour

MCF per hour

MMBTU per hour

The liquid-based devices record consumption using an MCF per barrel format, for barrels containing a specific liquid product.

Measurement point fuel usage details are used for prior period processing of fuel usage volumes, as well as volume allocation transactions.

Prerequisites

The measurement point is a fuel consumption device that measures fuel use either in hours, or barrels of liquid, as outlined above.

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Measurement Point* → *MP Fuel Usage Specs* → *Create*

The *Create Measurement Point Fuel Usage: Initial Screen* appears.

Enter data as required and choose *Enter* .

The *Create Measurement Point Fuel Usage <measurement point number>: Overview* screen appears.

Enter data for the rate.

Save the measurement point fuel usage record.

Using a Reference for a Measurement Point Fuel Usage

If a measurement point fuel usage record already exists with data similar to that of the new measurement point fuel usage you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for of the existing measurement point fuel usage in the reference section of the initial screen for the new measurement point fuel usage.

4.2.3.7 Creating an MP / WC Transporter Cross Reference

Use

Use this to create a link between a measurement point or a well completion and a transporter.

A transporter is a third party who picks up and delivers product to a purchaser. The relationship between transporter and purchaser is defined in a contract (see: Creating or Maintaining a MP / WC Transporter Contract Cross Ref [page 221]). Contracts are only valid for sales meter measurement points.

Here, you link a transporter with a specific measurement point, which means that the transporter can be used to transport volumes from that measurement point in subsequent PRA Production transactions.

Prerequisites

- Sales volumes are captured directly at the measurement point or well completion.
- When assigning a contract to a measurement point, the contract must exist in SAP Core Sales and Distribution (SD).Also, the contract must be linked to a marketing representative.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production* ...

Table 24:

To:	Choose:
Create a transporter cross reference for a measurement point	▶ ... ❯ *Measurement Point* ❯ *MP/WC Transporter XRef* ❯ *Create.* ◀

To:	Choose:
Create a transporter cross reference for a well completion	▶ ... ❭ *Well Completion* ❭ *MP/WC Transporter XREF* ❭ *Create* ❭ Choose *Well Completion* .

The *Create <WC or MP> to Transporter Cross Reference: Initial Screen* appears.

2. Enter the relevant measurement point and the relevant transporter that you want to assign, as well as the relevant effective from date, and then choose *Enter* .
3. The *Create Well Completion or Measurement Point to Transporter Cross Reference: Overview* screen appears.
4. To assign contracts to a measurement point, enter the contract number and corresponding information.

> ℹ **Note**
>
> Contract assignments are valid for each measurement point, based on the date range established in this transaction.

5. Save the transporter cross reference.

Using a Reference for a Transporter Cross Reference

If a transporter cross reference record already exists with data similar to that of the new transporter cross reference you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing transporter cross reference in the reference section of the initial screen for the new transporter cross reference.

4.2.3.8 Creating an MP / WC Default Heating Value Point

Use

Use this to create a default heating value (BTU value) for a well completion or measurement point, which can be used in situations in which PRA volume allocation cannot determine a heating value for a WC or MP.

This transaction creates a cross reference (link) between two measurement points, or between a well completion and a measurement point, when the heating value (that is, the BTU factor) for a measurement point or a well completion cannot be determined during volume entry. The "heating" value for a measurement point or well completion, in British Thermal Units (BTU), is a value that expresses the energy content of product flowing through the well completion or measurement point.

In those situations in which a heating value cannot be determined for a well completion or measurement point, PRA volume allocation processes the metered volumes of the default measurement point or default WC that you specifiy in this transaction, in order to obtain a heating value.

Procedure

1. At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Production* .

   Table 25:

Function	Follow-on menu
Create a heating value cross reference for a measurement point	▮▶ *Measurement Point* ❯ *MP/WC Default HV Point* ❯ *Create* ❯
Create a heating value cross reference for a well completion	▮▶ *Well Completion* ❯ *MP/WC Default HV Point* ❯ *Create* ❯ Choose *Well Completion* .

   The *Create a <Measurement Point or Well Completion> Heating Value X-Ref: Initial Screen* is displayed.

2. Enter data as required, then choose *Enter* .
   The *Create a <Measurement Point or Well Completion> Heating Value <well completion or measurement point number> Effective <date>* screen is displayed.
3. Enter the default measurement point, or default well completion.
4. Save the heating value default (cross reference).

Using a Reference for a Heating Value Cross Reference

If a heating value cross reference record already exists with data similar to that of the new heating value cross reference you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing heating value cross reference in the reference section of the initial screen for the new heating value cross reference.

4.2.3.9   Measurement Point Hierarchy

Definition

The measurement point hierarchy represents a group of measurement points at a hierarchical level.The hierarchical level can consist of one well completion group or multiple well completion groups.

Use

A measurement point hierarchy can be set up as organizational data for multiple users.Or, a single user can set up a measurement point hierarchy for individual use, as required.

See also:

Creating a Measurement Point Hierarchy [page 120]

4.2.3.9.1 Creating a Measurement Point Hierarchy

Use

This transaction links multiple measurement points together into a hierarchy.Multiple sets of measurement point groups can be established as hierarchy levels under one measurement point hierarchy.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Measurement Point* ❯ *Measurement Point Hierarchy* ❯ *Create* ◀ .
   The *Create Measurement Point Hierarchy: Initial Screen* is displayed.
2. Enter a name for the measurement point hierarchy group.(You can use an alphanumeric name).Then choose *Hierarchy* .
   The *Create Measurement point group: Structure* screen appears.
3. The options available on this screen are listed below.
   Adding a Level to the Measurement Point Hierarchy
   To add a level to the measurement point hierarchy, select the measurement point group and then choose *Lower Level* .Then, in the first field for the hierarchy level, enter an identification number, and in the second field enter a description.
   Adding Measurement Points to the Hierarchy
   To add measurement points to the hierarchy, select the required level and then choose *Measurement Point* .Then, in the first field for the measurement point, enter the measurement point number.After you choose *Enter* , the second field will display a description of the measurement point.
   Creating Additional Levels for the Measurement Point Hierarchy
   To create additional hierarchy levels for the measurement point hierarchy, select the level and either (1) choose *Same Level* to create a new level at the same level as the one that is selected, or (2) select *Lower Level* to create a new level one level lower than the one that is selected.
   Viewing the Hierarchy Details
   After creating levels for a measurement point hierarchy, choose *Expand All* to view a list of each measurement point in a level.
   Viewing the Measurement Point Group Levels Only
   After using *Expand All* to view measurement point group details, choose *Collapse All* to return the view to only the measurement point levels.
   Selecting Items
   To select an item, select the appropriate row and then choose *Select* .
   Deselecting Items
   To deselect selected items, choose *Deselect All* .
   Deleting the Measurement Point Group
   To delete the measurement point group, select it and choose *Delete* .
   Viewing a Single Measurement Point Record
   To access a measurement point record, click the measurement point and choose *Display Measurement Point* .
   Determine Measurement Point Hierarchy Use
   To retrieve a listing detailing where the measurement point hierarchy is used in the system, select the measurement point group name and choose *Where-Used List for Group* .

4. Exit the measurement point hierarchy.

Using a Reference for a Measurement Point Hierarchy

If a measurement point hierarchy record already exists with data similar to that of the new measurement point hierarchy you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing measurement point hierarchy in the reference section of the initial screen for the new measurement point hierarchy.

4.2.3.10 Creating a Measurement Point Supply Source

Use this to create a measurement point supply source.

During volume allocations, alternate measurement points may need to be used as supply sources when a measurement point that is part of a lease does not:

Produce enough gas to supply its own gas lift gas

Produce enough return to lease fuel injection gas

In those situations, SAP PRA uses the measurement points listed in this record as alternative sources for the joint venture identified in this record.

i

The order in which the alternate measurement points are listed is important, because the system uses the alternate measurement points according to the order in which they are listed.

Measurement point supply source details are used for processing prior period, volume allocation transactions.

Prerequisites

The standard method for the volume allocation cycle that supplies volume to an upstream measurement point needs to be overridden.

Procedure

At the SAP Easy Access menu, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Measurement Point* → *MP Supply Source* → *Create*

The *Create Supply Source: Initial Screen* is displayed.

Enter the relevant data, and then choose *Enter* .

The *Create Supply Source: Overview Screen* is displayed.

In the *Sequence* field, enter the number(s) identifying the sequence in which you would like the system to use the alternative measurement points. Then make any other relevant entries.

Save the measurement point supply source.

Using a Reference for a Measurement Point Supply Source

If a measurement point supply source record already exists with data similar to that of the new measurement point supply source that you would like to create, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the data for the existing measurement point supply source in the reference section of the initial screen for the new measurement point supply source.

4.2.4 Delivery Network

Definition

The delivery network models the flow of product from well completions through any consumption or metering measurement points, and on to the final sales or custody transfer point.A delivery network is represented by a delivery network ID in the system.

In PRA, there are three types of delivery network:

Table 26:

Network	Standard network in PRA for transporting oil and gas and other volumes.
Fuel system	A fuel system is a network of purchased and produced gas volumes, lease use devices, meters and other final disposition points where produced and purchased fuel gas is dispersed (through meters or directly) to lease use devices (such as compressors, heaters, or flare) and other disposition points (such as sales).The results of a fuel system allocation will be used as the gas lease use volumes by the lease use devices in the producing delivery network.
Gas plant	A gas plant is a plant that extracts liquefiable hydrocarbons (or sulphur) from natural gas.

Structure

The delivery network ID, combined with the delivery network dated characteristics and delivery network downstream nodes, serve as the basis for capturing information about a delivery network.

Delivery network dated characteristics establish the way in which a network will be processed throughout the Production, Contractual Allocation, and Valuation application areas.Delivery network downstream nodes connect either well completions or measurement points to one primary measurement point, thereby establishing the structure of the delivery network.

See also:

Creating a Delivery Network ID [page 123]

4.2.4.1 Creating a Delivery Network

Use

Use this to create a delivery network ID.

This transaction establishes a delivery network structure. The delivery network models the flow of product from well completions through any consumption or metering measurement points, and on to the final sales or custody transfer point.

Procedure

At the SAP Easy Access menu, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Delivery Network* → *Delivery Network* → *Create*

The *Create Delivery Network: Initial Screen* is displayed.

Enter the following data:

Delivery Network

DN Num Grp

ℹ️

If the delivery network number range group is internal, leave the *Delivery Network* field blank. SAP will then automatically assign a number to the delivery network.

DN Type

Choose *Enter* .

The *Create Delivery Network: Overview* screen appears.

In the second field on the Delivery Network row, enter a description for the delivery network. Enter additional data, as required.

Save the delivery network.

Using a Reference for a Delivery Network Record

If a delivery network ID record already exists with data similar to that of the new delivery network ID you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing delivery network ID in the reference section of the initial screen for the new delivery network.

4.2.4.2   Creating Delivery Network Dated Characteristics

Use

Use this to define the details of a delivery network, and to set up the way in which a network is processed throughout the Production, Contractual Allocation, and Valuation components of PRA.

Data can be entered in this transaction to specify whether a network should be processed in Contractual Allocation once the network has been closed successfully in Production. Likewise, data can be entered to specify whether a network should be processed in Valuation once the network has been closed successfully in the Contractual Allocation component.

Procedure

1. At the SAP Easy Access screen, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Delivery Network* ❯ *Delivery Network Dated* ❯ *Create* ▐.
2. The *Create Delivery Network Dated: Initial Screen* is displayed.
3. Enter the delivery network ID and verify the effective from date.Then choose *Enter* .
   The *Create Delivery Network Dated <delivery network number> <date> Effective: Overview* screen appears.
4. On the *Production* tab, enter the measurement group, and set the indicators, as required.Then choose *Contract Allocation* .
5. Enter the following data:
   Process frequency
   Allocation method
   Tolerance percentage
6. Set the indicators as required.Then choose the *Valuation* tab.

   > **i Note**
   >
   > For the Gas Allocation Basis, select *Volume* to indicate that the gas volumes will be allocated based on volume (MCF), or select *Energy* to indicate that the gas volumes will be based on energy (MMBTU).

7. Enter the process frequency, then set the indicators as required.
8. Save the delivery network dated record.

Using a Reference for a Delivery Network Dated Characteristics

If a delivery network dated characteristics record already exists with data similar to that of the new delivery network dated characteristics you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing delivery network dated characteristics in the reference section of the initial screen for the new delivery network dated characteristics.

4.2.4.3   Delivery Network Measurement Group

Use

A delivery network measurement group helps in the collection of information, when volumes are captured. The way in which volumes are captured varies -- for example, gas volumes can be captured at many different temperatures and pressures, and the delivery network measurement group provides a means of placing volumes in the same frame of reference.

The delivery network measurement group specifies both a standard unit of measure group for volumes within a major product group, such as oil or natural gas, as well as conditions that relate to the standard unit of measure group, such as a specific pressure base for MCF gas.

Further, the delivery network measurement group specifies which industry standard conversion routine should be used.The conversion routines determine how volume conversions are calculated.

See also:

Creating a Delivery Network Measurement Group [page 125]

4.2.4.3.1 Creating a Delivery Network Measurement Group

Procedure

You use this to create a delivery network measurement group.

1. At the SAP Easy Access screen, choose ▌ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Delivery Network* ❯ *Measurement Group* ❯ *Create* ▌. The *Create Measurement Group: Overview screen* is displayed.
2. Enter a name for the measurement group (you can use an alphanumeric name). Then choose *Enter* . The *Create Measurement Group: Overview Screen* is displayed.
3. In the second field specify the *Material* for this material group.
   The specification of material is however optional .
4. In the third field on the *Measurement (UoM) Group* row, enter a *Description* of the measurement group.Then enter the unit of measure group, which sets criteria such as the pressure base for gas, as well as the *Conversion Group* , which defines the conversion routines that determine how volume conversions are calculated.
5. Save the measurement group.

Using a Reference for a Delivery Network Measurement Group

If a measurement group record already exists with data similar to that of the new measurement group you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing measurement group in the reference section of the initial screen for the new measurement group.

Example

This transaction could be used to capture compression temperatures.

4.2.4.4 Delivery Network Downstream Node

The delivery network downstream node is the measurement point to which upstream measurement points and/or well completions are linked.

The downstream node represents the measurement point that is farthest downstream.

See also:

Creating a Delivery Network Downstream Node [page 126]

4.2.4.4.1 Creating a Delivery Network Downstream Node

Use

This transaction links measurement points and/or well completions to one primary measurement point, representing a delivery network downstream node.

The connection links the "upstream" measurement points and/or well completions to the downstream node.

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Delivery Network* → *DN Downstream Node* → *Create*

The *Create Delivery Network Downstream Node: Initial Screen* is displayed.

Enter the following data:

Delivery Network

Effective From

From/Upstream MP

Well Completion

i

To connect a measurement point to the primary downstream measurement point, enter data in the *From/ Upstream MP* field. Or, to connect a well completion to the primary downstream measurement point, enter data in the well completion fields.

To/DownstreamMP

Choose *Enter* .

The *Create Delivery Network Downstream Node: Overview* screen.

Verify the date in the *Effective To* field.

Save the delivery network downstream node.

4.2.4.5 Delivery Network Hierarchy

Definition

The delivery network hierarchy represents a group of delivery networks at a hierarchical level. The hierarchical level can consist of one delivery network group or multiple delivery network groups.

Use

A delivery network hierarchy can be set up as organizational data for multiple users. Or, a single user can set up a delivery network group for individual use as required.

See also:

Creating a Delivery Network Hierarchy [page 127]

4.2.4.5.1 Creating a Delivery Network Hierarchy

Use

This transaction links multiple delivery networks together into a group.

Multiple sets of delivery network groups can be established as hierarchy levels under one delivery network group.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Delivery Network Hierarchy* ❯ *Create* ❱ .
   The *Create Delivery Network Hierarchy: Initial Screen* is displayed.
2. In the *Delivery network group* field, enter a name for the delivery network group.(You can use an alphanumeric name.)Then choose *Hierarchy* .
   The *Create Delivery Network Hierarchy: Structure* screen is displayed.
3. The options available on this screen are listed below.
   Adding a Level to the Delivery Network Hierarchy

To add a level to the delivery network hierarchy, select the delivery network hierarchy and then choose *Lower Level* .Then, in the first field for the hierarchy level, enter an identification number, and in the second field enter a description.

Adding Delivery Networks to the Hierarchy

To add delivery networks to the hierarchy, select the required level and choose *Delivery Network* .Then, in the first field for the delivery network, enter the delivery network number.After you choose *Enter* , the second field will display a description of the delivery network.

Creating Additional Levels for the Delivery Network Hierarchy

To create additional hierarchy levels for the delivery network hierarchy, click a level to select it and either (a) choose *Same Level* to create a new level at the same level as the one that is selected, or (b) choose *Lower Level* to create a new level one level lower than the one that is selected.

Viewing Hierarchy Details

After creating levels for a delivery network group, choose *Expand All* to view a list of each delivery network in a level.

Viewing the Delivery Network Group Levels Only

After using *Expand All* to view delivery network details, choose *Collapse All* to return the view to only the delivery network levels.

Selecting Items

To select an item, click the appropriate row and choose *Select* .

Deselecting Items

To deselect selected items, choose *Deselect All* .

Deleting the Delivery Network Group

To delete the delivery network group, choose *Delete* .

Viewing a Single Delivery Network Record

To access a delivery network record, place the cursor on a delivery network number and choose *Display Delivery Network* .

Determining Delivery Network Hierarchy Use

To retrieve a listing detailing where a level of a delivery network hierarchy is used in SAP, place the cursor on the appropriate hierarchy level and choose *Where Used List for Group* .

4. Exit the delivery network group.

Using a Reference for a Delivery Network Group

If a delivery network group record already exists with data similar to that of the new delivery network group you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the ID of the existing delivery network group in the reference section of the initial screen for the new delivery network group.

4.3   Volume Allocation

Purpose

A network is a series of nodes that are linked for the purpose of allocating a product back to the well completion level, ultimately, to provide PRA Revenue with the data it needs. A network hierarchy is built on a series of different levels. The concept of level is very important, as PRA uses levels in applying allocation formulas and network validity edits.

Volume allocation is carried out by the PRA system for each product code / volume type. You select volume jobs to allocate from the allocation selection screen (see: Allocating a Delivery Network [page 192]). You use this screen to start the volume allocation job.

Before a network can be allocated, you have to first verified that the network can be allocated. Theoreticals are used to estimate production from: well tests, metered volumes, or the allocation base.

Allocation rules define how volume allocation operates. Allocation rules are defined at well completion, measurement point, and delivery network levels within a delivery network. Once the allocation rules are established, volume allocation executes the steps required to carry out allocation.

There are three volume allocation rules. These rules are defined at: well completion level, measurement point leve, and delivery network level:

Table 27:

Theoretical calculation method	Defined at well completion level	The theoretical calculation method (TCM) dictates how the volume allocation process will determine a well completion's estimated or theoretical production for a given period. The TCM is established for each major product produced out of a well completion.
Delivery network allocation profile	Defined at delivery network level	The DN allocation profile directs the volume allocation process in the allocation of all product volumes within a delivery system. The DN allocation profile lists the products and volume types that will be allocated to well completions within a delivery network.
MP allocation profile	Defined at measurement point level	The MP allocation profile directs the volume allocation process on what type of volume to allocate from a measurement point. The MP allocation profile also indicates the manner in which volumes for a product and volume type are derived at the measurement point.

Three reports can be generated as a result of the allocation process:

Table 28:

The Error Report (VAB3505)
The Volumetric Source Report (VAB3105)
The Well Completion Dispositions Report (VAB3205)

In addition to the standard reports generated out of an allocation, two trace reports can be generated:

- Trace Report 1 – Theoreticals
- Trace Report 2 – Allocations

i

After volume allocation has been run, it is a good idea to view the error, volumetric source, and well completion disposition reports in order to verify the data.

Trial vs. Final Allocations :

Volume allocation can be run in either trial mode, or final mode. An explanation of the differences follows:

Table 29:

Trial allocation run	Trial allocations can be requested at any time during the production month. Well completion dispositions will **not** be posted to the WC volumes table. The network will not be closed. Trial allocations allow you to carry out a test run of the allocation process, and to verify, using allocation reports, that actual results match expected results. This allows you to see and correct errors, before final allocation.
Final allocation run	In final allocation, well completion dispositions are posted to the WC Volumes table. The network is closed.

Prerequisites

Establishing Allocation Rules

Allocation rules cover the following:

1. If volume is to be captured at a measurement point, complete a delivery network allocation profile, and a measurement point allocation profile.
2. If volume is to be captured at a well completion, complete a delivery network allocation profile.
3. Complete a theoretical calculation method for each well completion, as required.
4.
   > **i Note**
   >
   > Theoretical calculation methods are required for well completions, unless no test data or metered volume is available for deriving theoretical volumes. When no test data or metered volume is available, the allocation base is defined.

5. If a formula is required, enter formula rules.

Process Flow

Once the allocation rules are established, volume allocation then:

1. Determines theoretical volumes, usually from well test and downtime data (beginning theoreticals)
2. Determines inputs, which are the sum of theoreticals and estimates

3. Determines outputs, which are the sum of actuals
4. Determines the percentage difference between inputs and outputs
5. Determines any applicable tolerance(s)
6. Adjusts inputs (when the difference is within tolerance) to match outputs
7. Allocates volumes
8. Reduces theoreticals
9. An explanation of these processes follows:
10.

Table 30:

1. **Step 1 – Determination of Theoreticals** 2. Beginning theoretical = Production x hours up / (test duration time / 60)
1. **Step 2 – Determine inputs, which are the sum of theoreticals and estimates** 2. Inputs = Sum of beginning theoreticals
1. **Step 3 – Determine outputs, which are the sum of actuals** 2. Outputs = Sales + (ending inventory – beginning inventory)
1. **Step 4 – Determine the percentage difference between inputs and outputs** 2. Outputs = [(outputs – inputs) / inputs] x 100
Step 5 – Determine tolerances
1. **Step 6 - Adjust inputs (when the difference is within tolerance) to match outputs** 2. Adjusted inputs = (total outputs – adj. inputs) x node theo./(total inputs – processed theo.)
1. **Step 7 – Allocate volumes** 2. Allocated volume = (total volume – allocated volume) x node adj. input /(total adj. inputs – processed node adj. inputs)
1. **Step 8 – Reduce theoreticals**

11. **Results of allocation** :
12. An allocation has the following results on other PRA components:
13. PRA-Production:
14. o Crude oil is allocated (back to participating well completions)
15. o Processed gas is allocated
16. o Unprocessed gas is allocated
17. PRA-Contractual Allocation (CA)
18. o Gas volumes are allocated to contract level, based on well production
19. o Oil is not processed, due to lack of contract diversity
20. PRA-Valuation
21. o Values product
22. o Updates tax tables
23. o Derives marketing costs

4.3.1 Volume Allocation - Example

We begin with a network made up of 5 well completions, and two measurement points.
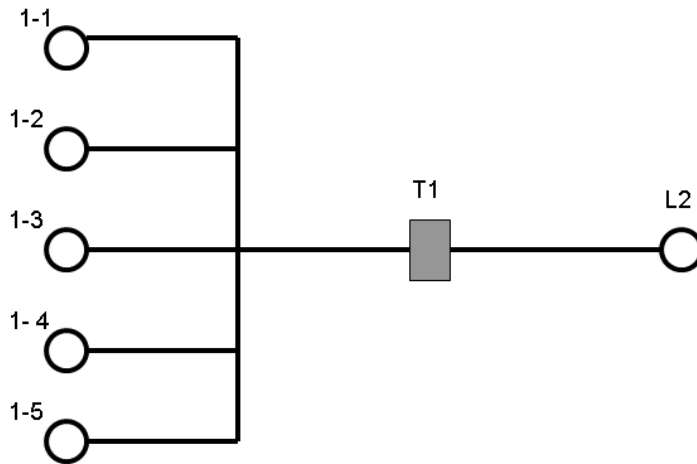
1-1 through 1-5 are well completions. T1 is a tank. L2 is a LACT meter (sales point).

Well completions 1-1 and 1-4 are down (not producing).

Beginning theoreticals (weighted calculation):

1-1 – 0 (down)

1-2 – well completion has a test of 30 bbls/day.

1-3 – well completion has a test of 10 bbls/day.

1-4 – well completion has a test of 70 bbls/day.

1-5 – 0 (down)

Inputs: The inputs are the sum of the beginning theoreticals.

We set up theoretical calculation methods for each well completion.

We set up a delivery network allocation profile for the network. The DN allocation profile is:

- Oil / inventory

- oil / sales

Volume readings:

- 3,000 bbls sold at L2 (LACT meter).

- 300 bbls stored in the tank (T1)

Table 31:

Theoretical calculation method (TCM)	WC estimated production, per major product code.
MP allocation profile	Defines what kind of volume to allocate for a specific measurement point.
DN allocation profile	Directs the volume allocation process in the allocation of all product volumes within a delivery network. It lists the products and volume types (see Volume Categories and Volume Types [page 136]), and the order of allocation of those products and volume types.

Steps (for a full description of the volume allocation process, please see: Volume Allocation [page 128]):

1. Determine Theoretical volumes
2. Determine Inputs
3. Determine outputs
4. Determine % difference between inputs and outputs
5. Determine tolerance
6. Adjust inputs
7. Allocate volumes
8. Reduce theoreticals

Table 32:

Step 1. Determine Theoretical volumes Well completions 1-1 and 1-4 are down; therefore, the beginning theoretical for each is 0. For WC 1-2: TCM is the latest test, showing production of 30 bbls/day. Beg. Theo. = Production x Hours Up / (Test Duration time / 60) = 30 x 744 / (1440/60) = 930 For WC 1-3: TCM is the latest test, showing production of 10 bbls/day Beg. Theo. = 10 x 744 / (1440/60) = 310 For WC 1-5 TCM is the latest Test, showing production of 70 bbls/day = 70 x 744 / (1440/60) = 2170
Step 2. Determine theoreticals Inputs = Sum of beg. theos. = 930 +310 +2170 = 3,410 bbls
Step 3. Determine outputs Outputs = sales + (ending inventory – beg. inventory) = 3000 + (300 – 0) = 3300 bbls
Step 4. Formula for determining the % difference between inputs / outputs Outputs = [(outputs – inputs) / inputs] x 100 = [(3300 – 3410) / 3410] x 100 = 3.23 %

Step 6. Adjust inputs to outputs

Adjusted Inputs = (total outputs - adj inputs) x node theo/(total inputs - processed theo)

adj input @ 1-1 = (3300 - 0) x 930 /(3410 - 0) = 900

adj input @ 1-3 = (3300 - 900) x 310 / (3410 - 930) = 300

adj input @ 1-5 = (3300 - 900 - 300) x 2170 / (3410 - 930 - 310) = 2100

Total adj. Inputs = 900 + 300 + 2100 = 3300

Step 7 – Allocate inventory volumes

Allocated volume = (total vol. - allocated vol.) x

node adj input/(total adj inputs - processed node adj. inputs)

Allocate 300 bbl of Oil/inventory:

alloc. Vol @ 1-1 = (3300 - 0) x 900 /(3300 - 0) = 81.82

alloc. vol @ 1-3 = (3300 - 81.82) x 300 / (3300 - 900) = 27.27

alloc. vol @ 1-5 = (3300 - 81.82- 27.27) x 2100 / (3300 - 900 - 300) = 190.91

Adj wc inputs:

@ 1-1 = 900 - 81.82 = 818.18

@ 1-3 = 300 - 272.73 = 272.73

@ 1-5 = 2100 - 1909.09 = 1909.09

Total adj inputs = 818.18 + 272.73 + 1909.09 = 3000

Step 8 – Allocate Sales Volume

Allocated volume = (total vol. - allocated vol.) x

node adj input/(total adj inputs - processed node adj. inputs)

Allocate 300 bbl of Oil/Sales:

alloc. Vol @ 1-1 = (3000 - 0) x 818.18 /(3000 - 0) = 818.17

alloc. vol @ 1-3 = (3000 - 818.17) x 272.73 / (3000 - 900) = 272.73

alloc. vol @ 1-5 = (3000 - 818.17 - 272.73) x

1909.09 / (3000 - 818.18 - 272.73) = 1909.10

Adj wc inputs:

@ 1-1 = 818.18 - 818.17 = .01

@ 1-3 = 272.73 - 272.73 = 0

@ 1-5 = 1909.09 - 1909.10 = (-.01)

Total adj inputs = .01 + 0 + (-.01) = 0

4.3.2 Volume Categories and Volume Types

Definition

Volume types are defined for production, and are linked with volume categories. Volume types are used in PRA allocation processes.

Use

The following are the volume categories used in PRA:

Table 33:

Volume category	Volume category description
Actual (A)	Defines volume types that are calculated by the system. The alternative is manually-maintained volume types.
Fuel (F)	Defines product dispositions (volume types) that are considered fuel consumption volumes. These can be calculated by the system based on operating hours and consumption / firing rates of the device, or by providing the volumes.
Inventory (I)	Defines volume types that are considered product storage/inventory volumes. These VTs potentially represent both opening and closing inventory volumes. When recorded at a measurement point level, these VTs will be considered "closing" inventory.
Lease (L)	Defines dispositions (volume types) that are part of an exchange between well completions on the same lease. These will be calculated by the system when exchanges for gas lift, formation injection, etc. are required. In an exchange, PRA (Production) will create two transactions: the "exchange from" side is a "lease" VT category volume and the "exchange to" side is a "non-sales" VT category volume.
Non-sales (N)	Defines product dispositions (volume types) that are considered all product dispositions other than sales or fuel/lease use. This volume type (VT) is also used in exchanges between wells on the same lease on the "exchanged to" side.
Other (O)	Defines volume types that are considered non-final product disposition volume types (plant total PVR is an example of "other"). This VT is NOT considered to be part of "calculated production, " but its volume needs to be captured. This VT has little affect on PRA processing.
Production (P)	Defines volume types that are considered to be measurement of product production. These VTs are not part of "calculated production, " but are used in the allocation process (as allocation basis) and for determination of meter differentials.

Receipts (R)	Defines volume types that are considered to have been received from an outside source - from another well on the same lease, from a well on another lease, from a plant, facility, or a third party. This VT does not include the portion of a product disposition produced by the well.
Sales (S)	Defines product dispositions (volume types) that are considered to have been sold. Note that **calculated production** is determined at a well level, based on the volume type categories: CALCULATED PRODUCTION = Fuel + Inventory + Non Sales + Sales - Lease -Receipts

The following volume types can be used in PRA:

Each volume type is associated with a specific volume category, which is listed as part of the volume type descriptions. The number ID before each volume type refers to the volume type code ID. "System-generated" refers to whether or not the volume type is generated as part of the system processing, or, if not, that it is manually entered (by a user).

Table 34:

00 - Directed Volume VOLUME CATEGORY: Other PRA USES - Production: Yes SYSTEM GENERATED: Yes Revenue: No PRODUCT SPECIFIC: No Plants: Yes
01 - Measured Production This is a measured volume that represents the amount of flow of product through a particular stream. This volume is usually a 'real' (as opposed to theoretical) measured volume that is associated with a meter. In PRA, this volume can be entered on allocation or deduct meter MP types. This volume type can also be used on an allocation or deduct meter, if the volume is to be calculated from stream downtime and well tests, if used in multiple stream allocations. VOLUME CATEGORY: Sales PRA USES - Production: Yes SYSTEM GENERATED: No Revenue: Yes (OA, VL, RD) PRODUCT SPECIFIC: Gas Plants: Yes PRODUCTION: Volume used as the "metered" volume, if downstream from a well completion whose theoretical calculation method is "metered" volumes. Also used to control proration of volumes at the measurement point level.

02 - Adjusted Plant Production

This is the volume that is calculated from metered plant inlet (83), less plant loss (48), vent/flared (45), plant fuel (24), unaccounted for in transportation (96), residue sold (57) and adjusted for meter differential (43). This volume type is used in plant allocations.

VOLUME CATEGORY: Production RA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas Plants: Yes

03 - Sales 1

This is the volume that is considered sold to third parties and/or from leases to plants or to other leases.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue:

PRODUCT SPECIFIC: No (CA, VL, RD, JE):

Yes

PRODUCTION: Observed conditions MUST be recorded with the volume. Defaults are not used on VD screens. A transporter must be recorded with a sales volume. If there is one purchaser related to this particular sales point and transporter, then PRA production will also set the purchaser.

04 - Closing Inventory-Liquids

Stored liquid product volumes including plant products, oil, and condensate. This volume indicates the end of the month inventory.

VOLUME CATEGORY: Inventory PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (1xx, 3xx, 4xx, 5xx)

PRODUCTION: Can be determined using gauge readings, meter readings, or by simply entering a "measured" volume on the measurement point volumes screen. It is normally recorded at either a tank measurement point or a tank battery measurement point. The tank battery CAN be used in the instance where there are multiple tanks and a single inventory volume is to be recorded. Closing inventory for one month (allocated to wells) is rolled forward as beginning inventory for the subsequent month (at the well level).

05 – Retrograde Sales

VOLUME CATEGORY: Production

06 - Stored Gas

Volume of gas stored.

VOLUME CATEGORY: Inventory PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (2xx, 6xx) Plants: Yes

PRODUCTION: Used as a gas product final disposition (not in a fuel system).

PLANTS: Stored gas can be associated with a plant.

07 - Check Meter Volume

Volume measured (metered) to verify sales meter readings or other measured production (VT 01) amounts. It is NOT used to adjust the allocation to wells.

VOLUME CATEGORY: Production PRA USES: Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: No

PRODUCTION: Allocated back to a well and can be used as a theoretical volume for dependency allocations.

08 - Plant Other

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: No

09 - Lease Fuel - Exchanged To

When a well completion uses more lease use volume than what it produced during a month, the first action in PRA is to transfer product from other well completions on the same lease to the extent that the other well completions have the product available. This volume type identifies the volume transferred to the well completions that is short from another/other well completions on the same lease to make up the shortage. See VT 19 for the receipt side.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in volume allocations and in allocated results. PRA will automatically determine and record at the well completion-level on both sides of the exchange: on the well completion receiving the exchange (VT 19 - exchange from) and on the well completions contributing to the exchange (VT 09 - exchange to).

10 - Lease Fuel Before PM - On Lease

Lease use gas (fuel) used on the same lease that produced the gas. The gas is used prior to being measured by a "production meter" (PM) (i.e., used upstream of a "production meter" and prior to being measured).

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue:

PRODUCT SPECIFIC: Gas CA, RD, JE: No

VL: Yes

PRODUCTION: This is an estimated or metered volume used as fuel on any fuel consumption device that is upstream of an allocation or deduct meter that is capturing "measured production" (VT 01).

REVENUE: Volume is valued.

11 - Lease Fuel - Compression

Lease use product used on the same lease that produced the product. VT 11 will be the normal "lease use on lease" disposition used, unless the requirements for VT 10 are met, or unless VTs 12 through 15 are needed for allocation purposes.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: 2xx CA, RD, JE: No

VL: Yes

PRODUCTION: This is an estimated or metered volume used as lease-use on the lease that produced the product. Often, this volume will be calculated (and this holds for any fuel consumption device) in PRA in combination with a monthly "hours up" or throughput volume transaction specified in PRA.

REVENUE: Volume is valued.

12 - Lease Fuel - Dehydration

Lease use product used on the same lease that produced the product. VT 12 will be used mainly if two or more "lease use on same lease" volume types are used, and each is allocated to a different well through the use of the allocation profiles. However, if VT 12 is used instead of VT 11, it will be treated just like VT 11.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Yes (2xx) CA, RD, JE: No

VL: Yes

PRODUCTION: This is an estimated or metered volume used as lease use on the lease that produced the product. Often, this volume will be calculated (and this holds for any fuel consumption device) in PRA in combination with a monthly "hours up" or throughput volume transaction specified in PRA.

REVENUE: Volume is valued.

13 - Lease Fuel - Steam

Lease use product used on the same lease that produced the product. VT 13 will be used mainly if two or more "lease use on same lease" volume types are used, and each is allocated to a different well through the use of the allocation profiles. However, if VT 13 is used instead of VT 11, it will be treated just like VT 11.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Yes (2xx) CA, RD, JE: No

VL: Yes

PRODUCTION: This is an estimated or metered volume used as lease use on the lease that produced the product. Often, this volume will be calculated (and this holds for any Fuel Consumption Device) in PRA in combination with a monthly "hours up" or throughput volume transaction specified in PRA.

REVENUE: Volume is valued.

14 - Lease Fuel - Co-Gen Steam

Lease use product used on the same lease that produced the product. VT 14 will be used mainly if two or more "lease use on same lease" volume types are used, and each is allocated to a different well through use of the allocation profiles. However, if VT 14 is used instead of VT 11, it will treated just like VT 11.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Yes (2xx) CA, RD, JE: No

VL: Yes

PRODUCTION: This is an estimated or metered volume used as lease use on the lease that produced the product. Often, this volume will be calculated (and this holds for any fuel Consumption Device) in PRA in combination with a monthly "hours up" or throughput volume transaction specified in PRA.

REVENUE: Volume is valued.

15 - Lease Fuel - Co-Gen Electric

Lease use product used on the same lease that produced the product. VT 15 will be used mainly if two or more "lease use on same lease" volume types are used and each is allocated to a different well through the use of the allocation profiles. However, if VT 15 is used instead of VT 11, it will treated just like VT 11.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Yes (2xx) CA, RD, JE: No

VL: Yes

PRODUCTION: This is an estimated or metered volume used as lease use on the lease that produced the product. Often, this volume will be calculated (and this holds for any Fuel Consumption Device) in PRA in combination with a monthly "hours up" or throughput volume transaction specified in PRA.

REVENUE: Volume is valued.

16 - Reproduced G/L Gas

Volume of gas lift gas injected and then reproduced. This is not a product disposition VT. This VT is determined at well completion level and based on gas lift volumes from various sources. This VT represents the total amount of gas lift gas recycled and reproduced for a particular well completion.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Yes (2xx)

PRODUCTION: System-generated VT based as a sum of gas lift VTs at the well completion level:

Reproduced G/L Gas (VT16) = GLG Own Well Compl (VT 51) + GLG Exchange From(VT 53) + GLG Prchd From Off Lse (VT 55).

17 - Formation Production When Gas Lift

Volume of gas produced in excess of gas lift gas reproduced, determined at well completion level.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Yes (2xx)

PRODUCTION: System-generated VT based on the difference between reproduced gas lift gas (VT 16) and calculated production (VT 91), both at the well completion level.

Formation Production When Gas Lift (VT 17) = Gas Lift Gas Reproduced (VT 16)(-) minus Calculated Production (VT 91)

If the difference is negative (more calculated production), then the difference is considered formation production when gas lift (VT 17). If the difference is positive (more reproduced gas lift gas (VT 16), then the difference is considered gas lift gas loss (VT 60).

18 - **Formation Inject- On Lse**

Volume of product injected in the same formation and on the same lease where the product was produced.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: No

PRODUCTION: This is an estimated or metered volume used as formation injection on the lease that produced the product.

19 - **Lease Use** - **Exch From**

When a well completion uses more lease use product than what it produced during a month, the first action in PRA is to transfer product from other well completions on the same lease to the extent that the other well completions have the product available. This volume type identifies the volume received by the well completion that is short from other well completion(s) on the same lease to make up the shortage. See VT 9 for the Exchanged-to side.

VOLUME CATEGORY: Lease PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Yes (2xx)

PRODUCTION: Used in volume allocations and in allocated results. PRA will automatically determine and record at the well completion level both sides of the exchange: on the well completion receiving the exchange (VT 19 - exchange from) and on the well completion(s) contributing to the exchange (VT 09 - exchange to).

21 - **Sales** - **2**

Exactly the same as Sales - 1 (VT 03).

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: Yes

PRODUCT SPECIFIC: No (CA, VL, RD, JE): Yes

PRODUCTION: Use of the sales - 2 can facilitate the control of the allocation process by allowing special sales to be allocated separate from regular sales (VT 03). This is accomplished through the specifications in the Delivery Network Allocation Profile transaction in PRA.

24 - **Plant Fuel**

Gas used as fuel in a plant.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in volume determination, plant volume allocation, and allocation results.

25 - Slop Oil Sales

Sales of reclaimed or "slop" oil. This type of oil is defined to be "waste" oil, whose quality has been affected during extraction, processing, or storage. It also could be oil that was spilled. This can be either oil or condensate.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Oil, cond. (CA, VL.RD, JE):

Yes

PRODUCTION: This volume type is handled like any other sales volume.

26 - Skim Oil Sales

Sales of oil skimmed from the surface of a pit or tank into which both oil and water have been placed. Normally, this will reflect the oil accumulated with the water disposal system. This can be either oil or condensate.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Yrd (1xx (Oil), 3xx (Cond)(CA, VL, RD, JE):

Yes

PRODUCTION: This is handled like any other sales volume type. Can be allocated with a water volume as a dependency, if water volumes have been previously allocated to those well completions.

27 - Tank Cleaning

Also referred to as water draw-off. PRA treats it as a disposition of production. It is a reduction in stocks when tanks are cleaned or "bled-off" to remove excess or all BS&W (basic sediment and water) from an oil storage tank. This can be oil or condensate.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (1xx (Oil), 3xx (Cond)

PRODUCTION: This volume should be entered as a negative volume, resulting in a reduction of calculated production.

28 - Scrubber Oil Sales

Sales of oil from a scrubber which is a vessel, in which liquids are removed from a mixture of gas and liquids. Not a part of any processing plant operations. Can be either oil or condensate.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Oil, Cond. (CA, VL, RD, JE):

Yes

PRODUCTION: This volume type handled like any other sales volume.

29 - By-passed Gas Supplied

Volume of gas that is sold out of the tailgate of the plant without being processed or consumed in the plant.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in volume determination, plant volume allocation, and allocation results.

30 - Vent/Flare - On Lease

Gas vented or flared on the lease where it was produced (either directly or returned and then vented or flared) without being used in operations such as gas lift etc. This VT is NOT considered "lost."

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (2xx, 6xx)

PRODUCTION: This is an estimated or metered volume that was either vented or flared on the lease.

NOTE: Though this is NOT a fuel consumption volume, it CAN be estimated using fuel specs and be calculated as if it were a fuel usage volume in PRA.

31 - Vent/Flare - Off Lease

Gas vented or flared off the lease where it was produced without being used in operations such as gas lift etc. This VT is NOT considered "lost."

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas, CO2

PRODUCTION: This is an estimated or metered volume that was either vented or flared off the lease where it was produced.

NOTE: This VT is NOT a fuel consumption volume and CANNOT be calculated as if it were a fuel usage volume in PRA.

32 - By-Passed Gas Received

Volume of gas received that is sold out of the tailgate of the plant without being processed or consumed in the plant.

VOLUME CATEGORY: Receipt PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in volume determination, plant volume allocation and allocation results.

36 - Hydrocarbon Extraction Loss (Texas)

Reduction/loss in the volume of gas through the processing/separation of the condensate from the wet gas stream in production facilities. This VT applies only to selected wells in Texas.

VOLUME CATEGORY: Non-salesPREMAS USES - Production: Yes

SYSTEM GENERATED: Yes / No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: If the well meets the following criteria, then the system will create this VT and calculate the volume to go with it. This VT is calculated and maintained at the well completion if: 1) it is an onshore Texas gas well, 2) it is producing - UNLESS - An override is used on the W/C Dated Characteristics screen in PRA to indicate that it should NOT be calculated. The extraction loss factor used by default is 1.1. However, the factor can be specified for a well completion on the W/C Dated Characteristics screen. It is calculated as:

Hydrocarbon Extraction Loss = Calculated Production * Extraction Factor.

(VT 36) (VT 91).

37 - Casualty Loss

Volume of product lost, stolen, or otherwise unaccounted for. NOTE: VT 96 is used for "unaccounted for" in transportation.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: No

PRODUCTION: This VT can be set up and recorded for any product. There is no specific reference in Production Volume Allocation.

38 - Lease Use - Off Lease

Lease use product used on another lease than the lease that produced the product. See VT 39 for purchase side.

VOLUME CATEGORY: Sale PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Yes (2xx) CA, RD, JE:

VL: Yes

PRODUCTION: This VT is determined by PRA at the well completion level. PRA will automatically record both sides of this sale & purchase; on the well purchasing the volume (VT 39), and on the well selling the volume (VT 38). Handled like a sales, but is included in VT 93 - total off lease use.

REVENUE: Volume is valued.

39 - Lease Fuel - Purchased From

Product purchased from off-lease for lease use. See VT 38 for sale side.

VOLUME CATEGORY: Receipt PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Yes (2xx)

PRODUCTION: This VT is determined by PRA at the well completion level. PRA will automatically record both sides of this sale and purchase; on the well purchasing the volume (VT 39), and on the well selling the volume (VT 38).

40 - Purchase Fuel (Included in Lease Use)

Product purchased from off lease for on lease use.

VOLUME CATEGORY: Receipt PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Yes (2xx) (CA, VL, RD, JE): Yes

PRODUCTION: This is an estimated or metered volume purchased from another lease or from a third party for lease, used as opposed to being generated (see VT 39 above).

41 – Calculated Acid Gas Extr. Loss

VOLUME CATEGORY: Non-Sales

Gas plant disposition which represents the sum of H2S and C02 components of gas plant inlet volumes.

42 – Plant Compression Fuel

VOLUME CATEGORY: Fuel

43 - Meter Differential

The volume differential between "measured" and "calculated" production.

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: No

PRODUCTION: This VT is a calculated volume that represents the difference between calculated production (VT 91) and measured production (VT 01) (see the specific formula below). A meter differential will only be calculated and maintained at the well completion level, if this VT is specified in the Network Allocation Profile.

Meter Differential (VT 43) = Measured Production (VT = 01) - Calculated Production (VT = 91) + Lease Use Before PM-On Lse (VT = 10).

44 - **Hydrocarbon Extraction Loss**

Reduction in the volume of wet gas processed in a gas plant from the extraction of natural gas liquids (NGLs). Does not include volume of wet gas lost from such things as plant fuel (VT 24), plant vent/flared (VT 45), unaccounted for (VT 96), etc.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in gas plant allocations.

45 - **Plant Vent/Flared**

Gas vented or flared in a plant. This VT is NOT considered "lost."

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas, CO2

PRODUCTION: Used in gas plant allocations.

48 - **Plant Gain/Loss**

VOLUME CATEGORY: Actual

Plant wet gas volume received (meter plant inlet (VT 83)), less adjusted plant production (02).

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in gas plant allocations.

50 - **GLG Received**

Volume of gas received for gas lift. This volume is an offset for other places in the delivery network that are the supply points for this gas lift gas. It includes gas from any and all sources received at the reception point.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This VT is recorded with the volume received at the GL measurement point (MP type 54). When allocated to wells, this VT will change to reflect the sources of the GL gas (own well completion, exchanged from on-lease, purchase from off-lease, etc). This disposition will not be seen at the well completion level.

51 - **GLG Own Well Compl**

Volume of gas supplied by a well completion to itself for gas lift.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This VT is system-generated at the well completion level. Note: PRA will always go to the well completion receiving GL gas to get the GL supplied, before trying to resolve the supply through on-lease exchanges and off-lease purchases.

52 - **GLG Exchange To**

Volume of gas supplied by a well completion to another well completion on the same lease for gas lift purposes. See VT 53 for exchange from volume.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This VT is system-generated at the well completion level, resulting from the allocation of gas lift gas, when more GL gas was injected than a well produced. The volume recorded will be the amount that the supplying well completion has available, when GL gas is allocated. PRA will automatically record both sides of the exchange: on the well completion receiving the exchange (VT 53) and on the well completions contributing to the exchange (VT 52). The volume is the difference between the amount the well completion produced and the amount it had injected for gas lift purposes.

53 - **GLG Exchange From**

Volume of gas received by a well completion from other well completion(s) on the same lease, for gas lift purposes.

VOLUME CATEGORY: Lease PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This VT is system-generated at the well completion level, resulting from the allocation of gas lift gas, when more GL gas was injected than a well produced. PRA will automatically record both sides of the exchange: on the well completion receiving the exchange (VT 53) and on the well completion(s) contributing to the exchange (VT 52). The volume is the difference between the amount the well completion produced and the amount it had injected for gas lift purposes.

54 - Gas Lift Sold To Off-lease

Gas sold by a well (lease) to supplement the gas lift requirements of another well on a different lease.

VOLUME CATEGORY: Sale PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Gas CA, RD, JE: Yes

VL: Yes

PRODUCTION: This VT is system-generated at the well completion level, resulting from the allocation of gas lift gas, when more GL gas was injected than a well produced, or was available from other wells on the same lease. PRA generates both sides of the sale: on the well completion receiving the gas lift gas (VT 55), and on the well completion(s) contributing to the gas lift gas (VT 54). The volume is the difference between the amount the well completion produced plus what other wells on the same lease contributed, and the amount injected for gas lift purposes. This VT is included in the calculation of total off-lease use (VT 93).

55 - Gas Lift Purchased From Off-lease

Gas received by a well (lease) to supplement the well's gas lift requirements. The gas is produced from well(s) on a different lease.

VOLUME CATEGORY: Receipt PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This VT is system-generated at the well completion level, resulting from the allocation of gas lift gas, when more GL gas was injected than a well produced or was available from other wells on the same lease. PRA generates both sides of the sale: on the well completion receiving the gas lift gas (VT 55) and on the well completion(s) contributing the gas lift gas (VT 54). The volume is the difference between the amount the well completion produced plus what other wells on the same lease contributed, and the amount injected for gas lift purposes.

56 - Residue Available for Sale

Volume of processed gas remaining, after sales and after residue returned to producing leases.

VOLUME CATEGORY: Production PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in gas plant allocations.

57 - Act Residue Delivered

Volume of processed gas measured at sales meter, plus measured residue returned to the producing lease.

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: Yes

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in gas plant allocations.

58 - **Excess Residue**

Volume of processed gas available for sale or return that is greater than the theoretical residue available.

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in gas plant allocations.

60 - **Gas Lift Gas Loss**

Gas lift gas deemed to have been lost in the formation/well bore. This situation occurs when more gas lift gas is measured as received at a well, than the amount of gas lift gas recovered.

VOLUME CATEGORY: Actual (Other) PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This VT is system-generated. The volume is the difference between calculated production and the total of gas lift gas received by a well.

Gas Lift Loss (VT 60) = Gas Lift Gas Reproduced (VT 16) - Calculated Production (VT 91)

When calculated production, is less than gas received, a loss is recorded against VT 60 at the well. When calculated production is more than GL gas received, a gain needs to be recorded (VT 17) at the well.

61 – Plant CO2 Production

VOLUME CATEGORY: Actual

62 – Plant Nitrogen Production

VOLUME CATEGORY: Actual

63 – Measured Acid Gas Extr. Loss

VOLUME CATEGORY: Non-sales

64 - **GLG Supplied**

Measured volume of gas supplied for gas lift.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This VT is normally recorded on the gas lift supply measurement point (MP Type 55). When allocated to wells, the VT is changed to reflect the source VTs of the supply (Own W/C, exchanged from on-lease, sold to off-lease, etc.). This VT will not be seen at the well level.

65 – Plant CO2 Injection

VOLUME CATEGORY: Non-sales

66 - **NGL Production**

Volume of natural gas liquids (NGLs) recovered from an extraction process against a wet gas product stream in a plant or facility.

VOLUME CATEGORY: Production PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: Yes

PRODUCT SPECIFIC: NGL

PRODUCTION: Used in gas plant allocations.

67 - **Formation Inj Supplied**

Measured volume of product supplied for formation injection purposes.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (2xx, 5xx, 6xx)

PRODUCTION: When PRA allocates volumes to wells, this VT will be changed to reflect the source VTs of the supply (exchanged to on-lease, sold to off-lease, etc.). This VT will not be seen at the well completion level.

68 - **Formation Inj Received**

Measured volume of product supplied for formation injection purposes.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (2xx, 5xx, 6xx)

PRODUCTION: When PRA allocates volumes to wells, this VT will be changed to reflect the source VTs of the supply (exchanged from on-lease, purchased from off-lease, etc.). This VT will not be seen at the well completion level.

69 - **Formation Inj Exchanged To**

Volume of product exchanged from a well completion on a lease to another well on the same lease, for formation injection purposes.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Yes (2xx, 5xx, 6xx)

PRODUCTION: When PRA allocates volumes to wells, PRA will automatically record both sides of the exchange: on the well receiving the exchange (VT 70 exchange from) and on the well contributing to the exchange (VT 69 exchange to).

70 - Formation Inj Exchanged From

Volume of product exchanged to a well completion on a lease from another well on the same lease, for formation injection purposes.

VOLUME CATEGORY: Lease PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Yes (2xx, 5xx, 6xx)

PRODUCTION: When PRA allocates volumes to wells, PRA will automatically record both sides of the exchange: on the well receiving the exchange (VT 70 exchange from) and on the well contributing to the exchange (VT 69 exchange to).

71 - Formation Inj – Off-Lse.

Volume of product sold off lease to another lease, for formation injection purposes.

VOLUME CATEGORY: Lease PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Yes (2xx, 5xx, 6xx) CA, RD, JE: Yes

VL: Yes

PRODUCTION: PRA will automatically record both sides of the sale: on the well receiving the product (purchased VT 72) and the well contributing the product (VT 71). This VT is included in the calculation of total calculated off-lease use (VT 93).

72 - Formation Inj - Purchase From

Volume of product purchased from another lease, for formation injection purposes.

VOLUME CATEGORY: Receipt PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Yes (2xx, 5xx, 6xx)

PRODUCTION: PRA will automatically record both sides of the sale: on the well receiving the product (purchased VT 72) and the well contributing the product (VT 71).

73 - Returned lease fuel (RLF) Supplied

Volume of gas returned to a producing lease to 'fire' fuel use devices.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This and other re-circulated 'supply volume types' are entered in the Delivery Network Allocation Profile transaction as 'non-allocated volume types (sequence number 000). It is entered on the MP Allocation Profile at the RLF supply point. It will trigger volume allocation to sum all RLF receipt volumes to the supply point so that all RLF volumes are included in the proration of total production to well completions.

74 - RLF Received

Volume of residue gas received from a plant by the producing lease, to fuel lease use devices.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used for recording measured or calculated RLF received volumes at RLF receipt points. Other volume types may also be used (R1, R2, R3, R4, R5).

75 - RLF Exchange To

Volume of gas returned to the producing lease for lease use purposes limited to the volume of gas exchanged from a well completion on a lease to another well on the same lease.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: Yes

PRODUCT SPECIFIC: Gas

PRODUCTION: When PRA allocates gas volumes to wells, and the amount of gas returned allocated to a well completion exceeds the volume available for that well, PRA will automatically record both sides of the exchange: on the well receiving the exchange (VT 76 exchange from) and on the well contributing to the exchange (VT 75 exchange to).

76 - RLF Exchanged From

Volume of residue gas received from a plant by the producing lease for lease use purposes limited to the volume of residue exchanged to a well completion on a lease from other well(s) on the same lease.

VOLUME CATEGORY: Lease PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: When PRA allocates gas volumes to wells, and the amount of gas returned allocated to a well completion exceeds the volume available for that well, PRA will automatically record both sides of the exchange: on the well receiving the exchange (VT 76 exchange from) and on the well contributing to the exchange (VT 75 exchange to).

77 - RLF Sold To

Volume of gas sold by the producing lease to another lease, for lease use purposes.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Gas CA, RD, JE: Yes

VL: Yes

PRODUCTION: When PRA does an allocation of volumes to wells, PRA will automatically record both sides of the sale: on the well purchasing the residue (VT 78) and on the well selling the residue (VT 77). Also, VT 77 is included in total calculated lease use-off lease (VT 93).

78 - RLF Purch From

Volume of gas purchased by a lease from a producing lease, for lease use purposes on the purchasing lease.

VOLUME CATEGORY: Receipt PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: When PRA does a plant allocation of volumes to wells, PRA will automatically record both sides of the sale: on the well purchasing the residue (VT 78) and on the well selling the residue (VT 77).

79 - RLF Own Well Compl

Volume of residue returned to the well completion that produced the wet gas for lease use purposes.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Gas CA, RD, JE: No

VL: Yes

PRODUCTION: This volume type is system-generated at well completion level. Note: PRA will always first look to the well completion receiving RLF to get residue supplied, before trying to resolve the supply through on-lease exchanges and off-lease purchases. This VT is included in the calculation of VT 92 - Total Calc Lse Use-On Lse.

80 - Allocation Volume

The volume determined at some real or imaginary (logical) measurement point, in order to control the allocation of dispositions in production.

VOLUME CATEGORY: Production PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: No

PRODUCTION: This VT is to be recorded at an allocation or deduct meter. It is used to control the allocation process and in some cases, for regulatory reporting. If the theoretical calculation method (TCM) for the well is MV (metered volumes), then either this volume type, or VT 01 may be used at the meter immediately downstream of the well completion. Any number of VT 80 volumes can be found downstream from a well completion. This volume will be used to control the pro-rating of volumes at the measurement point level. It can only be recorded on an allocation meter (MP type 17) or a deduct meter (MP Type 04).

83 - Meter Plant Inlet

Volume of wet gas measured as received for processing by a gas plant.

VOLUME CATEGORY: Production PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (2xx)

PRODUCTION: Used in gas plant allocations.

85 - **Total Injection**

Total volume of a product injected into the formation (not GL injected) from any and all sources.

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (2xx, 5xx, 6xx)

87 - **STK Adjustment in Calculated Production**

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: No

88 - **STK Adjustment not in Calculated Production**

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: No

90 - **Outside Operated Production**

Production determined at a well level for an outside operated well. In most cases, this will be pseudo wells, not actual wells.

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: No

PRODUCTION: This volume can be recorded directly at the well level. This volume can also be recorded at the MP level, but unless there are multiple wells, there is little business reason for recording at the MP level.

91 - **Calculated Production**

Production determined at a well level. It is equivalent to closing stock, plus actual product dispositions, less opening stock, less acquisitions.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: No (CA, VL, RD, JE): Yes

PRODUCTION: This is a system-calculated volume. This volume is considered to be the pro-rated "allocated" production of the well for that product. It is calculated by adding and subtracting allocated volumes, based on the volume categories of their VTs:

CALCULATED PRODUCTION = Fuel + Inventory + Non Sales + Sales - Lease - Receipts

This is the VT that PRA uses to report to regulatory agencies, in order to indicate production.

92 - **Total Calc Lse Use - On Lse**

Volume determined at a well level, is the sum of the following lease-use volume dispositions:

VT 92 = VT 10: Lease Use Before PM - On Lse + VT 11: Lease Use -1- On Lse

+ VT 12: Lease Use -2- On Lse + VT 13: Lease Use -3- On Lse

+ VT 14: Lease Use -4- On Lse + VT 15: Lease Use -5- On Lse

+ VT 79: Return Lease fuel own well completion

+ VT R1: Return Lease fuel 1 + VT R2: Return Lease fuel 2

+ VT R3: Return Lease fuel 3 + VT R4: Return Lease fuel 4

+ VT R5: Return Lease fuel 5

VOLUME CATEGORY: Actual PRA USES - Production: No

SYSTEM GENERATED: Yes Revenue: Yes

PRODUCT SPECIFIC: No

PRODUCTION: This VT is a system-calculated volume.

93 - **Total Calc Lse Use - Off Lse**

Volume determined at a well level, is the sum of the following lease use volume dispositions:

VT 93 = VT 38: Lease Use - Offlse + VT 54: GLG Sold to Off-lease

+ VT 71: Gas Inj Sold + VT 77: RLF Sold to

VOLUME CATEGORY: Actual PRA USES - Production: No

SYSTEM GENERATED: Yes Revenue: Yes

PRODUCT SPECIFIC: No

PRODUCTION: This VT is a system-calculated volume.

94 - **Summed NGL Products**

Calculated total volume of plant products (all NGLs) for a gas plant -and/or- for a lease.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: Yes

PRODUCT SPECIFIC: NGL

PRODUCTION: Used in gas plant allocations.

95 - Theoretical Residue

Theoretical volume of residue remaining for each well completion -and/or- for a gas plant after subtracting plant shrinkage, plant fuel, and plant vent/flare from adjusted plant inlet measured volumes.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: Used in gas plant allocations.

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96 – Unaccounted for

VOLUME CATEGORY: Actual

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99 - Total Sales

Sum of allocated sales dispositions at a well completion level.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: No

PRODUCTION: This VT is a system-calculated volume, determined by adding all the volumes with a category of sales for a particular product.

A1 – Purchased Fuel   - Compression

A2 – Purchased Fuel - Dehydration

A3 – Purchased Fuel - Steam

A4 – Purchased Fuel – CO-Gen Steam

A5 – Purchased Fuel – CO – Gen Electric

A6 – Purchased Fuel - undistributed

CI - Cumulative Injection (Wyoming)

Cumulative injection volume is at the well completion level for Wyoming wells only. This CI volume is the cumulative injection volume over the life of the well.

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (2xx, (5xx, 6xx)

PRODUCTION: VT is entered into PRA volume entry screens at the well completion level. It is not allocated and its only use is to report its volumes on regulatory reports for Wyoming (WYOMING-Form 2).

CM - **Commercial Disposal Facility (Co)**

Water production volumes disposed at a commercial disposal facility (commercial means that the operator of the facility is paid for disposing water and other oil field products). The volume may contain a mixture of water and oil waste product, but it is identified as water.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (5xx)

PRODUCTION: VT is entered into PRA volume entry screens at the well completion level. It is not allocated and its only use is to report its volumes on regulatory reports for Colorado Form 7.

CP – CO2 Purchased From Offset WC

CR – Condensate Reduction

VOLUME CATEGORY: Non-Sales

CS – CO2 Sold to Off-lease

CT - **Central Disposal Facility (Co)**

Water production volumes disposed at a facility used for disposal of water. The facility is operated by one or more oil and gas operators in conjunction with a field operator's agreement, approved by the commission. The volume may contain a mixture of water and oil waste product, but it is identified and considered as water.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (5xx)

PRODUCTION: VT is entered into PRA volume entry screens at the well completion level. It is not allocated and its only use is to report its volumes on regulatory reports for Colorado Form 7.

F1 – Plant Fuel – Recovery

VOLUME CATEGORY: Fuel

F2 – Plant Fuel – Distillation

VOLUME CATEGORY: Fuel

F3 – Plant Fuel – Fractionation

VOLUME CATEGORY: Fuel

FC – Plant Fuel – Credit

VOLUME CATEGORY: Other

FG – Formation Gas

FP - Fuel Produced in a Fuel System

Total volume of gas to be used to either return to lease for fuel use, flare, or other final dispositions in a fuel system delivery network.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used exclusively in fuel system delivery networks at produced fuel measurement points (type 72). This volume is allocated from produced fuel points through allocation/deduct meters to final dispositions in the fuel system. It can be entered on the normal gas volume entry screen in PRA or uploaded in the fuel system through a field data collection device interface.

FR - Fuel Purchased in a Fuel System

Volume of gas brought into the fuel system through an outside source, but is then commingled with produced fuel to use on leases as fuel, flare, or other dispositions.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used exclusively in fuel system delivery networks at purchased fuel measurement points (type 40). This volume is allocated from purchased fuel points through allocation/deduct meters to final dispositions in the fuel system. It is usually entered on the normal gas volume entry screen in PRA. Although in a fuel system, this volume type is considered a 'disposition in the allocation, when the volume is transferred to the producing network after fuel system allocation, it would be considered a receipt.

FU - Fuel Usage in a Fuel System

Estimated volume of gas usage at final dispositions in a fuel system.

VOLUME CATEGORY: Production PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used exclusively in fuel system delivery networks. They can be entered for various measurement point types, but these MPs must be final dispositions (furthest upstream nodes) in the fuel system. Volume can be entered on-line as a 'measured volume' on the gas volume entry screen in PRA, or calculated using fuel use/throughput specs and transactional hourly /throughput rates either on-line or in the volume allocation batch processes. The volume is used as the 'theoretical volume' at final dispositions for proration of allocated produced or purchased fuel.

GC – GCNM Extraneous Gas

VOLUME CATEGORY: Production

IJ – Monthly Injection Volume

VOLUME CATEGORY: Non-Sales

IT – Intermitter

VOLUME CATEGORY: Non-Sales

LF – Total On-Lease Fuel – Rep. Well

L1 - **Load/Transfer Oil Sales**

Volume of oil sold for the purpose of load oil or for tank to tank transfer.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Yes (1xx, 3xx) CA: No

VL, RD, JE: Yes

PRODUCTION: This VT is handled like other sales VTs in PRA. A difference is in the recording of these volumes. When an L1 volume is recorded, the destination is also recorded. In the case of load oil, the destination well completion is indicated. In tank to tank transfers, the destination tank (measurement point) is indicated.

L2 - **Load/Transfer Oil Received**

Volume of oil received as a result of a transfer for load oil or for a tank to tank transfer, or for a purchase from a third party.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Yes (1xx, 3xx) CA - No

VL, RD, JE: Yes

PRODUCTION: Volume of oil received at a tank (tank to tank transfer) or at a well completion (load oil). If a VT L1 is recorded, a VT L2 is automatically created / maintained by the system or a volume for a VT L2 can be manually entered for volumes purchased from a third party.

L3 - **Load/Transfer Oil Inventory**

Volume of oil on hand resulting from a load oil movement or from a tank to tank transfer. It can represent part of the volume on hand with traditional inventory volumes (closing inventory - liquids VT 04).

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Yes (1xx, 3xx)

PRODUCTION: Inventory of load/transfer oil on hand will only be present at a well completion level. This inventory will be increased or be created automatically with L2 volumes and will be reduced automatically by L4 and L5 volumes. The reduction of L3 inventory is restricted by the rule that load/transfer oil inventory cannot be disposed until it has been received. Therefore, no L4 or L5 volume can reduce L3 volume if the L1 or manually entered L2 run ticket date occurs after the L4 or L5 run ticket date.

L4 - Load/Transfer Oil Recovered

Sales volume of oil deemed to have been recovered against load oil or tank to tank transfer inventories VTs L3. This is considered a "sales" disposition. PRA always attributes sales to be a recovery of load/ transferred oil received/inventory prior to deeming it to be part of production. The rule stating that load/transferred oil inventory cannot be disposed until it has been received, restricts L4 volume from reducing L3 volume, if the L1 or manually entered L2 run ticket date creating the L3 inventory occurs after the L4 run ticket date.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Yes (1xx, 3xx) CA, RD: No

VL, JE: Yes

PRODUCTION: Volume of load oil subsequently recovered, present only at a well completion level. VT L4 is system generated. The run ticket volume will contain a VT 03 sales - 1 or VT 21 sales - 2. Volume allocation will determine, if all or just part of the VT 03 or VT 21 should be VT L4.

L5 - Transfer 100% Oil

Transfer of oil deemed to have been recovered against load oil or tank to tank transfer inventories VTs L3. L5 is a transfer just like VT L1, but PRA will attribute L5 to be a recovery of load/transferred oil received/inventory prior to deeming it to be part of production. The rule stating that load/transferred oil inventory cannot be disposed until it has been received, restricts L5 volume from reducing L3 volume, if the L1 or manually entered L2 run ticket date creating the L3 inventory occurs after the L5 run ticket date.

VOLUME CATEGORY: Actual PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Yes (1xx, 3xx) CA, RD: No

VL, JE: Yes

PRODUCTION: Volume of load oil subsequently recovered, present only at a well completion level. VT L5 is system generated. The run ticket volume will contain a VT L1 Load/Transfer Oil Sales. Volume allocation will determine, if all or just part of the VT L1 should be VT L5.

REVENUE: If this L5 oil is 100% company-owned oil and therefore no taxes or royalties will be paid on it.

NU – Non-unit Extraneous Gas

VOLUME CATEGORY: Production

OB - Overboard (OGOR)

Water production volumes disposed OVERBOARD off an offshore production platform.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (5xx)

PRODUCTION: VT is loaded into PRA through FDE or VD screens at the Well completion level. It is not allocated and its only use is to report its volumes on OGOR regulatory reports.

OS – Onshore/Offshore (OGOR)

VOLUME CATEGORY: Production

PA - Prchd GL Used As Sales

This gas volume was purchased and used in a gas lift system after it was reproduced, this VT indicates it was sold to a third party, to a plant, or to another lease.

VOLUME CATEGORY: Receipts PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Gas (CA, VL, RD, JE): Yes

PRODUCTION: PRA should generate the volume for this VT based on delivery network configuration (determines whether GL system is rotative or non-rotative) and the fact the GL well did not supply all of its own GLG. This VT is handled like any other sales VT.

PC - Prchd GL Used As Lease Use - On Lse

This gas volume was purchased and used in a gas lift system and then this VT indicates it was used on the same lease that produced the product.

VOLUME CATEGORY: Receipts PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Yes (2xx) CA, RD, JE, VL:

Yes

PRODUCTION: PRA should generate the volume for this VT based on delivery network configuration (determines whether GL system is rotative or non-rotative) and the fact the GL well did not supply all of its own GLG. This VT is handled like any other fuel VT.

REVENUE: Volume is valued.

PD – Purchased Lease Fuel - Dehydration

PE – Purchased Lease Fuel - Steam

PF – Purchased Lease Fuel – Co Gen Steam

PG – Purchased Lease Fuel – Co Gen Electric

PH – RLF – Purchased for Lease Fuel

PI – Inj. Purchased from Plant

VOLUME CATEGORY: Receipts

PJ – Exch. from Sales

PK – Exch. from for Lease Fuel

PL – Exch. from for Lease Fuel – Compression

VOLUME CATEGORY: Receipts

PM – Exchange from Lease fuel - dehydration

PN – Exchange from for Return Lease Fuel

PO – Exch from for Lease Fuel - Steam

PP – Exch from for lease fuel – CO Gen.

PQ – Exch. from for Lease fuel – CO Gen. Elec.

PR – RLF purchased from Plant

VOLUME CATEGORY: Receipts

PS - Prchd GL Used As Gas Lift Gas Loss

This gas volume was purchased and used in a gas lift system and this VT indicates the difference between the measured volume injected for gas lift exceeding the measured gas lift volume produced during a month of operations, limited to the portion that was purchased gas.

VOLUME CATEGORY: Receipts PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Gas (CA, VL, RD, JE): Yes

PRODUCTION: This VT is system generated. First, the difference between calculated production and the total of gas lift gas received by a well is calculated as follows:

Gas Lift Loss (VT 60) = Gas Lift Gas Reproduced (VT 16) - Calculated Production (VT 91)

When calculated production is less than gas received, a loss is calculated for VT 60 at the well. Next, the calculated VT 60 attributed to VT 55 GLG purchased from off-lease will be recorded to VT PS at the well. This recording will reduce the actual volume recorded to VT 60.

PT – Purchased Vent / Flare

VOLUME CATEGORY: Receipts

PU – Purchased Gas for Lease Use

VOLUME CATEGORY: Other

PV – Exch from for Vent/Flare

VOLUME CATEGORY: Receipts

PW - Produced Water

Volume type to record a total water production volume at a measurement point.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (5xx (Water))

PRODUCTION: This volume type is used to capture a produced water volume at a MP so that the volume can be allocated upstream to well completions.

P1 – Returned Plant Fuel 1

VOLUME CATEGORY: Fuel

P2 – Returned Plant Fuel 2

VOLUME CATEGORY: Fuel

P3 – Purchased Returned Plant Fuel 1

VOLUME CATEGORY: Other

P4 – Purchased Returned Plant Fuel 2

VOLUME CATEGORY: Other

RA - Rprd Extraneous Gas Sales

This gas volume was purchased and injected into a formation. This VT indicates it was sold to a third party, to a plant or to other leases. Note that this is not all reproduced injected gas that is sold, but only the volume that was purchased and injected.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Gas CA, VL, JE: Yes

RD: No

PRODUCTION: A percentage of extraneous gas will be entered in PRA, either at the well or measurement point level. This percentage will be used to calculate the amount of sales volumes (VT 03 and 21) allocated to well completions, as VT RA.

RG - Reproduced Gas

Special volume type to record reproduced CO_2.

VOLUME CATEGORY: Other PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used to record reproduced CO_2 gas in volume allocation. It does not count against calculated production.

RR – Residue Received (Chained Nwk.)

VOLUME CATEGORY: Fuel

RS – Residue Supplied (Chained Nwk.)

VOLUME CATEGORY: Fuel

R1 - RLF Received 1

Volume of gas returned to lease for fuel / flare disposition.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: Yes

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used exclusively in return lease fuel allocations. The volumes are entered at measurement points designated as RLF usage points. These volumes will be the returned lease fuel receipt volumes that are summed to the RLF supply point during proration of total production to well completions (VAB3050/PAB3050). They are established along with the other RLF received volume types (R2-R5, 74) in that they allow for allocation of RLF in the same delivery network on different dependencies. The volume can be entered as a measured volume on the gas volume entry screen in PRA, calculated from hourly/throughput rates, uploaded, or be calculated from allocated fuel usage volumes in a fuel system delivery network.

R2 - RLF Received 2

Volume of gas returned to lease for fuel/flare disposition.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: Yes

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used exclusively in return lease fuel allocations. The volumes are entered at measurement points designated as RLF usage points. These volumes will be the returned lease fuel receipt volumes that are summed to the RLF supply point during proration of total production to well completions (VAB3050/PAB3050). They are established along with the other RLF received volume types (R1, R3-R5, 74) in that they allow for allocation of RLF in the same delivery network on different dependencies. The volume can be entered as a measured volume in the gas volume entry transaction in PRA, calculated from hourly/throughput rates, uploaded, or be calculated from allocated fuel usage volumes in a fuel system delivery network.

R3 - RLF Received 3

Volume of gas returned to lease for fuel/flare disposition.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used exclusively in return lease fuel allocations. The volumes are entered at measurement points designated as RLF usage points. These volumes will be the returned lease fuel receipt volumes that are summed to the RLF supply point during proration of total production to well completions (VAB3050/PAB3050). They are established along with the other RLF received volume types (R1, R2, R4, R5, 74), in that they allow for allocation of RLF in the same delivery network on different dependencies. The volume can be entered as a measured volume on the gas volume entry screen in PRA, calculated from hourly/throughput rates, uploaded, or be calculated from allocated fuel usage volumes in a fuel system delivery network.

R4 - RLF Received 4

Volume of gas returned to lease for fuel/flare disposition.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used exclusively in return lease fuel allocations. The volumes are entered at measurement points designated as RLF usage points. These volumes will be the returned lease fuel receipt volumes that are summed to the RLF supply point during proration of total production to well completions (VAB3050/PAB3050). They are established along with the other RLF received volume types (R1-R3, R5, 74) in that they allow for allocation of RLF in the same delivery network on different dependencies. The volume can be entered as a measured volume on the gas volume entry screen in PRA, calculated from hourly/throughput rates, uploaded, or be calculated from allocated fuel usage volumes in a fuel system delivery network.

R5 - RLF Received 5

Volume of gas returned to lease for fuel/flare disposition.

VOLUME CATEGORY: Fuel PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Gas

PRODUCTION: This volume type is used exclusively in return lease fuel allocations. The volumes are entered at measurement points designated as RLF usage points. These volumes will be the returned lease fuel receipt volumes that are summed to the RLF supply point during proration of total production to well completions (VAB3050/PAB3050). They are established along with the other RLF received volume types (R1-R4, 74) in that they allow for allocation of RLF in the same delivery network on different dependencies. The volume can be entered as a measured volume on the gas volume entry screen in PRA, calculated from hourly/throughput rates, uploaded, or be calculated from allocated fuel usage volumes in a fuel system delivery network.

SA - Sold GL Used As Sales

This gas volume was sold and used in a gas lift system. This VT indicates after it was used for gas lift, it was sold to a third party, to a plant, or to other leases. This VT is recorded against the well that produced the gas, not the well that received the gas, and used it in its gas lift operations.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Gas (CA, VL, RD, JE): Yes

PRODUCTION: PRA should generate the volume for this VT based on delivery network configuration (determines whether GL system is rotative or non-rotative) and the fact the GL well did not supply all of its own GLG. This VT is handled like any other sales VT.

SB – Sale for Lease Fuel

SC - Sold GL Used As Lease Use - On Lse

This gas volume was sold and used in a gas lift system. This VT indicates after it was used for gas lift, the gas was then used as lease use gas on the same well that used the gas for gas lift. This VT is recorded against the well that produced the gas, and not the well that received the gas and used it in its gas lift operations.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue -

PRODUCT SPECIFIC: Yes (2xx) CA, RD, JE: No

VL: Yes

PRODUCTION: PRA should generate the volume for this VT based on delivery network configuration (determines whether a GL system is rotative or non-rotative) and the fact the GL well did not supply all of its own GLG. This VT is handled like any other fuel VT and is included in VT 93 - total calculated lease use - off lease.

REVENUE: Volume is valued.

SD – Sale for Lease Fuel -   Dehydration

SE – Sale for Lease Fuel – Steam

SF – Sale for Lease Fuel – CO-Gen Steam

SG – Sale for Lease Fuel – CO-Gen Electric

SH – Sale for Return lease Fuel

SI – Sale for Lease Fuel – Compression

VOLUME CATEGORY: Sales

SJ – Exch To For Sales

SK – Exch To For Lease Fuel

SL – Exch. To For Lease Fuel – Compression VOLUME CATEGORY: Sales
SM - Exch. To For Lease Fuel – Dehydration
SN - Exch. To For Return Lease Fuel
SO – Exch. To For Lease Fuel – Steam
SQ - Exch. To For Lease Fuel – CO-Gen Electric
SS - Sold GL Used As Gas Lift Gas Loss This gas volume was sold and used in a gas lift system. This VT indicates the difference between the measured volume supplied for gas lift and the calculated production (VT 91) during a month of operations, limited to the volume supplied (VT 54). This VT is recorded against the well that produced the gas, not the well that received the gas. VOLUME CATEGORY: Sales PRA USES - Production: Yes SYSTEM GENERATED: Yes Revenue - PRODUCT SPECIFIC: Gas CA, VL, RD, JE: No PRODUCTION: This VT is system-generated. First, the difference between calculated production and the total of gas lift gas received by a well is calculated as follows: Gas Lift Loss (VT60) = Gas Lift Gas Reproduced (VT16) - Calculated Production (VT 91) When calculated production is less than gas received, a loss is calculated for VT 60 at the well. Next the calculated VT 60 attributed to VT 55 GLG purchased from off-lease will be recorded to VT PS at the well. The offset or VT 54 GLG sold to off-lease will be used to determine the volume recorded to VT SS for the well supplying the gas.
ST – Sale for Vent / Flare VOLUME CATEGORY: Sales
SV – Sale To for Vent / Flare VOLUME CATEGORY: Sales
T1 – Uncorrected Run Volume VOLUME CATEGORY: Production
T2 – Uncorrected Production Volume VOLUME CATEGORY: Production

T3 - Irrigation Gas Sales

Volume of gas sold to a farmer for the purpose of running irrigation equipment in the fields. It receives special tax breaks.

VOLUME CATEGORY: Sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue -

PRODUCT SPECIFIC: Yes (2xx) CA: No

VL, RD, JE: Yes

PRODUCTION: Handled like any other sales VT in PRA production. There are special reporting requirements in tax reports, and special handling in PRA revenue.

T4 – Theoretical Exchanged to On-Lease

VOLUME CATEGORY: Other

T5 – Theoretical Exchanged to Off-Lease

VOLUME CATEGORY: Other

TC – Theoretical Condensate

VOLUME CATEGORY: Other

TO – Trucked Off

VOLUME CATEGORY:Non-Sales

VR – Measured VRU Production

VOLUME CATEGORY: Production

WC -Water Chain

Water production from oil and gas producing wells in a water chain delivery network.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Water

PRODUCTION: This volume type is generated at a water chain measurement point in a water chain network. The equation it uses is: WC = (WI+WD) - WS; where WI is water injected, WD is water disposed, and WS is water supplied. The resulting volume is allocated to contributing oil and gas producing wells.

WD - Water Disposed into a Formation

Water disposed in a water chain delivery network.

VOLUME CATEGORY: Receipt PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Water

PRODUCTION: This volume type is used to denote water injected into disposal wells in a water chain network. Volume is either designated at the well completion or entered at the appropriate measurement point.

WI -Water Injected

Water injected into an injection/cyclic well.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Water

PRODUCTION: This volume type is used to denote water injected into injection wells. Volume is either designated at the well completion, or entered at the appropriate measurement point.

WP - Water Pit

Water production volumes disposed in a retaining pit.

VOLUME CATEGORY: Non-sales PRA USES - Production: Yes

SYSTEM GENERATED: No Revenue: No

PRODUCT SPECIFIC: Yes (5xx)

PRODUCTION: VT is loaded into PRA through the VD screens at the well completion level. It is not allocated, but it can be used to report its volumes on OGOR regulatory reports or for other water production dispositions (if water disposed in a pit).

WS -Supplied Water

Water from supply or service wells in a water chain delivery network.

VOLUME CATEGORY: Non-Sales PRA USES - Production: Yes

SYSTEM GENERATED: Yes Revenue: No

PRODUCT SPECIFIC: Water

PRODUCTION: This volume type is used to denote water produced from supply or service wells in a water chain network. Volume is either designated at the well completion, or entered at the appropriate measurement point.

XS – Excess Scrubber Oil

VOLUME CATEGORY: Production

1C – Compression Fuel – 1st Stage

2C – Compression Fuel – 2nd Stage

4.3.3 Creating a Delivery Network Allocation Profile

Use

This transaction defines the allocation rules for a particular delivery network. The allocation rules established in this transaction directly affect how the volume allocation cycle processes allocations for the delivery network specified in this transaction.

Allocation rules include details about:

The product to be allocated (note that you allocate one product per network, as a rule).

The volume type to be allocated (see: Volume Categories and Volume Types [page 136]).

The order in which the products and volume types are to be allocated

Prerequisites

When determining how to structure the order in which the products and volume types are to be allocated, allocate the dispositions as they occur from the most upstream node (wells) to the most downstream node (generally, a sales point).

Procedure

From the SAP Easy Access menu, choose *Production and Revenue Accounting* → *Production* → *Allocation Rules* → *DN Allocation Profile* → *Create*

The *Create DN Allocation Profile: Initial Screen* is displayed.

Enter the *delivery network* and the relevant *Effective from* date, and define the allocation frequency. Then choose *Enter* .

The *Create Delivery Network Allocation Profile <delivery network number> Effective <date>: Overview* screen is displayed.

Enter the following data:

Sequence

ⓘ

The number entered in the *Sequence* field designates the sequence in which materials will be allocated.

Material

Volume Type (for details on each volume category and volume type, see: Volume Categories and Volume Types [page 136]).

ℹ️

If you want a full product allocation, then leave the *Volume Type* field blank.

Set the following indicators as required:

Table 35:

If you want to:	Then:
Have auto flow turned on. Auto flow is on for a given volume type and product code combination handled by the network.	Select *Auto Flow* Note: If *Auto Flow* is not selected, then thevolume type must be defined using the Measurement Point Allocation Profile transaction for every volume type and product code combination that applies to a particular upstream measurement point.
Add all the daily allocated volumes of a well completion's specified product and volume type, and then use as the month-end product and volume type for all well completions in the delivery network.	Select *Sum Dly*
Specify that volumes will be allocated in the gas plant volume allocation.	Select *Allocate Mat/VT*

Enter the following data:

Dependent material

ℹ️

Dependent materials must have a smaller sequence number than the primary material. The dependent material is allocated only after product on which it is dependent has been allocated.

Dependent volume type

ℹ️

The dependent volume type is allocated only after the volume type on which it is dependent has been allocated.

Calculated volume type

ℹ️

The calculated volume type is the volume type associated with the calculation of production at all well completions with the delivery network.

Save the delivery network allocation profile.

Using a Reference for a Delivery Network Allocation Profile

If a delivery network allocation profile record already exists with data similar to that of the new delivery network allocation profile you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing delivery network allocation profile in the reference section of the initial screen for the new delivery network allocation profile.

4.3.4 Creating a Measurement Point Allocation Profile

Use

This transaction defines allocation rules for a given measurement point within a delivery network.

The allocation rules determine:

- The products and volume types of all volumes to be captured at the measurement point
- The method used to capture the volume

Procedure

At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Allocation Rules* ❯ *MP Allocation Profile* ❯ *Create.* ❱

The *Create Measurement Point Allocation Profile: Initial Screen* is displayed.

1. Enter data as required and select the allocation frequency.Then choose *Enter* .
   The *Create Measurement Point Allocation Profile: Overview Screen* is displayed.
2. Verify the Effective To date, and enter data as required.
3. Save the measurement point allocation profile.

Using a Reference for a Measurement Point Allocation Profile

If a measurement point allocation profile record already exists with data similar to that of the new measurement point allocation profile you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the data for the existing measurement point allocation profile in the reference section of the initial screen for the new measurement point allocation profile.

4.3.5 Creating a WC / DN Theoretical Calculation Method

Use

The Well Completion / Delivery Network Theoretical Calculation Method transaction establishes the method by which the volume allocation cycle determines the theoretical, or estimated, production at a well completion. The method is based on the combination of a major product and allocation frequency. The theoretical production, therefore, may vary according to:

The product being allocated

The allocation frequency, either monthly or daily

A theoretical calculation method at the well completion level overrides any theoretical calculation method at the corresponding delivery network level.

You can also specify an End Date to this theoretical calculation method specified at the well completition (WC) level.

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Allocation Rules* → *DN/WC Theo Calc Meth* → *Create*

The *Create <Delivery Network or Well Completion> Theoretical Calculation Method: Initial Screen* is displayed.

Enter data as required and choose *Enter* to continue.

The *Create <Delivery Network or Well Completion> Theoretical Calculation Methods: Overview Screen* is displayed.

At the *Create <WC or DN> Theoretical Calculation Method: Overview* screen, enter data as required.

Save the theoretical calculation method.

Using a Reference for a Theoretical Calculation Method

If a theoretical calculation method record already exists with data similar to that of the new theoretical calculation method you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing theoretical calculation method in the reference section of the initial screen for the new theoretical calculation method.

4.3.6 Creating Formula Rules

Use

This transaction establishes a formula that is used for the calculation of product disposition at the specified measurement points.

A formula can include constants and measurement points.When measurement points are included in a formula, the volume at the measurement point is retrieved and used in the formula calculation.

Procedure

1. At the SAP Easy Access menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Allocation Rules* ❯ *Formula Maintenance* ❯ *Create* ❯.
   The *Create Formula Rules: Initial Screen* appears.
2. Enter a name for the formula to be created(you can use an alphanumeric name). Then enter the following data:
   Effective from
   Choose *Enter* .
   The *Create Formula Rules - Formula <formula name>: Overview* screen is displayed.
3. In the second field of the *Formula* row, enter a description for the formula.Then enter other data as required.
4. Save the formula.

Using a Reference for Formula Rules

If a formula maintenance record already exists with data similar to that of the new formula(s) you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing formula maintenance record in the reference section of the initial screen for the new formula(s).

4.3.7 Using Component Typification

Use

Component typification determines the level of measurement to be used in chemical analysis (see: Creating a Chemical Analysis Record [page 181]), and is used only for the component allocations of gas plants (NGLs). One required entry for chemical analysis for gas plants (which lets you see what components are going into a gas plant at a more detailed level than is usually the case), is the component typification. The typification sets a threshold limit for analysis, for example, C5+, C6+, C7+, etc. This sets the level for the chemical analysis – you are in effect telling the system, beyond that specified level, I am not interested in the component breakdown.

Component typification allows a chemical analysis of a liquid or gas stream to be characterized to a specific typification level. It identifies the compound percentages within each of the heavier components of a gas or

liquid stream. Those percentages are obtained from extended component analysis performed on the gas or liquid stream. They are maintained in a typification table in PRA. The typification table permits the storage and maintenance of multiple component typifications. Each component typification is identified with a typification ID. The typification ID is a required entry for each chemical analysis established in PRA.

When determining the ratios for C6 and heavier components, the system uses those percentages associated with the typification ID chosen for the chemical analysis, along with data from TP-17 to calculate a weighted average value for the compound.

i

This is analogous to a well test, but here, it is used with a gas plant, and is used to determine the threshold for what you will view, in terms of components.

Procedure

1. At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Production → Allocation Rules → Component Typification → Create* .
   The *Create Component Typification: Initial Screen* is displayed.
2. In the *Typification* field, enter a value that you would like to use as the typification value. The value can be any increment in the range from C5+ to C10+. Also enter an effective date.
3. Choose *Enter* .
4. The *Create Component Typification: Overview* screen is displayed. On this screen, you can enter values that were received from a laboratory on the components for the relevant gas plant.
5. Save your record.

4.3.8 Creating Plant Allocation Methods

Use

Plant allocation methods are used to specify how residue and NGL (natural gas liquid) dispositions are allocated back to the furthest upstream nodes in a gas plant network (wells or measurement points). Use this to create plant allocation methods of that type.

i

Plant allocation methods for a given delivery network can be set up using casinghead, straddle, processing agreement, processing agreement with take in kind, NGL purchase, or wet gas purchase type contracts.

Plant allocation methods (PAMs) are established at a contract/product code combination level. PAMs attached to a given contract/product code combination are related in turn to specific measurement points through the contract/measurement point cross-references. The plant allocation application connects all PAMs tied to a measurement point upstream to all well completions or measurement points supporting the product code. At a furthest upstream node, one and only one plant allocation method must exist for each residue and NGL plant disposition that is to be allocated. For each major product code that is to be allocated to a furthest upstream

node, a valuation cross reference must also exist either at the furthest upstream node or downstream of the furthest node.

There are six standard plant allocation methods :

Table 36:

CMPMOL% - Component Mole Percent	CMPMOL% can be used for residue or NGLs, and it is only valid for allocating dispositions on the component level.When CMPMOL% is specified, adjusted theoretical volumes are created at the furthest upstream nodes for each component in the network.Each furthest upstream node's adjusted theoretical serves as a 'cap' for the amount of the specific component that can be allocated to that node.
COMPGPM – Component GPM	COMPGPM should only be used for NGLs, and it is only valid for allocating dispositions on the component level.When COMPGPM is specified, each NGL component disposition is allocated based on the gallons per MCF of the corresponding gas disposition that was specified as the dependent product code/volume type.The user must specify a dependency when allocating on COMPGPM, and must also be aware that there is no GPM for Methane (C_1).
C1C2TRA – Methane/ethane reduction	C1C2TRA should only be used for residue, and it is valid for allocating dispositions at either the product or component level.When C1C2TRA is specified, each residue disposition is allocated based on a theoretical volume at each furthest upstream node.That theoretical volume is calculated as the sum of the methane and ethane (C1 and C2) of the plant inlet volume, minus the MCF equivalent of the methane and ethane in the NGL production volumes.
SUB1TRA – Subtraction method	SUB1TRA should only be used for residue, and it is valid for allocating dispositions on the component or product level.When SUB1TRA is used to allocate component residue dispositions, the results will be the same as if CMPMOL% was used.When SUB1TRA is specified, each furthest upstream node's adjusted theoretical serves as the 'cap' for the amount of the specific component that can be allocated to that node.When no dependency is specified for allocating a given product code/volume type, the dispositions for the specific product code/volume type are allocated based on the remaining theoretical volume at each furthest upstream node.When a dependency is specified for a product code/volume type, each disposition for the specific product code/volume type is allocated based on the corresponding allocated disposition of the dependent product code/volume type.

TOTLMCF – Total MCF	TOTLMCF can be used for both NGLs and residue, and it is valid for allocating dispositions at either the product or component level.When TOTLMCF is specified, each plant disposition is allocated based on the total allocated MCF of the dependent product code/volume type.
TOTMOLE – Total Moles	TOTMOLE may be used for residue and NGLs, and it is only valid for allocating dispositions at the component level.TOTMOLE cannot be used if any other plant allocation methods are being used in the network.When TOTMOLE is specified, adjusted theoretical mole volumes are created at the furthest upstream nodes for each component in the network.Each furthest upstream node's adjusted theoretical serves as a 'cap' for the amount of the specific component that can be allocated to that node.Adjusted theoreticals for TOTMOLE include any liquid volumes that are entering the plant, whereas all other adjustment methods only include gas volumes entering the plant.

If you want to use a method other than these six standard methods, you can create your own plant allocation method. The user-defined plant allocation methods consist of the designation of the user of mole percentage, volume percentage, or gpm in the determination of a product or component theoretical.

These methods can be used for residue or NGLs (natural gas liquids), and are valid for allocating dispositions at the component or product level.

Prerequisites

The contract has to be a valid gas plant contract (being one of the following: processing agreement with TIK rights, straddle third party agreement, or casinghead purchase)

Procedure

1. At the SAP Easy Access Menu, Choose *Logistics → Production and Revenue Accounting → Production → Allocation Rules → Plant Allocation Method → Create* .
   The *Create Plant Allocation Methods: Initial Screen* is displayed.
2. Enter a contract and an effective from date.
3. Choose *Enter* .
   The Overview screen is now displayed.
4. Enter the material(s) and select an allocation method for each material.
5. Select SAVE.

4.4 Production Daily Transactions

Purpose

Daily transactions processing in Production is used to create records for:

- Chemical analysis – allowing you to create records that detail the chemical analysis of the product flowing through a measurement point.
- Well completion downtime summary – which details why a well is "down"
- Well test record – a record detailing the results of a well test
- Well completion volumes
- Measurement point volumes
- Well completion / measurement point observed readings

4.4.1 Creating a Chemical Analysis Record

Use

Use this to create a chemical analysis record for specific measurement points within a gas plant delivery network.

Chemical analysis (also referred to as "component chromatography") describes the process of analyzing the makeup of a liquid or gas stream, primarily as input into component allocations. It is used to break a product down into more detailed components, and is primarily used in support of product pricing.

From a gas network, a gas sample can be taken, and sent to a lab for analysis. This is known as "chemical analysis" in PRA. The first step before that analysis takes place is, the water is condensed out of the gas (in a natural, unprocessed state, water molecules are attached to the gas molecules, and have to be first removed). Then, chemical analysis takes place, resulting in a "water-free" chemical analysis. The system uses industry-standard calculations to calculate "water-free" production volumes. Those production volumes are only used in the calculation of a theoretical used as a basis of allocation.

Much of the gas produced from a reservoir contains water molecules that are attached to the gas molecules. The volume of water in this gas is directly related to the flowing pressure and flowing temperature of the gas. If this gas is measured prior to processing through a glycol unit, dehydrator or gas plant, the measured volume includes these water vapors. When a gas sample is taken for analysis purposes, the water is condensed out of the sample before the component chromatography (chemical) analysis is performed. Thus, the gas analysis is "water free" and the measured gas volume is "water saturated". If we apply the "water saturated" production volume to a "water free" chemical analysis to determine a "theoretical", this theoretical would be overstated due to the water vapors. The system allows for the designation of a delivery network to be allocated on a water-saturated basis or on a water-free basis. When the delivery network is specified as saturated the plant allocation cycle will use the "water-saturated" production volumes to determine the theoreticals.

When the delivery network is specified as "dry", the plant allocation cycle will calculate a "water- free" production volume for all "water-saturated" gas volumes that exists at measurement points specified as saturated. The system uses industry standard calculations to calculate "water-free" production volumes. The

flowing pressure (PSIA), flowing temperature of the gas, and data from the water properties at saturation pressure table are factors included in these calculations. Once "water-free" production volumes are calculated, Plant Allocations will use them to determine node theoreticals. It is important to understand that this "water free" production volume is only used in the calculation of a theoretical used as a basis of allocation. This should not be confused with the "saturated" and "dry" values of the BTU Type designated on the Measurement Point volumes.

- Chemical analysis data is captured at the measurement point level.

- A single analysis measurement can be assigned to multiple measurement points.

- Chemical analysis allows for the detailed description of the components of a gas or liquid product.

Once the data is captured, the chemical analysis information can be used to govern how product-level volumes are split into component volumes.

MOL % or Volume %

Table 37:

For a liquid analysis – you must specify whether the calculated chemical analysis will be carried out in MOL % or volume %.
For gas analysis – only MOL % can be used.

Gas and liquid chemical analyses are contrasted by the type of data and ratios required for each on the subsequent component and properties screen.

Table 38:

For gas chemical analysis – the MOL % and GPM (gallons per MCF) data is maintained for each component.
For liquid chemical analysis – the MOL %, VOL % and weight % are maintained for each component.

The system also supports the capture of additional gas chemical analysis properties such as the saturated and dry data for gross heating value, specific gravity, and molecular weight. For the liquid chemical analysis properties, the gross heating value of the liquid (as a gas) is maintained in the same manner as it is for gas. Other data for the liquid properties include specific gravity, molecular weight, API gravity, the ratio of cubic feet of gas per 1 gallon of liquid, pounds per gallon, true vapor pressure, and gasoline data. This chemical analysis information is defined to be only effective over a specified date range, allowing the characteristics to change, while still retaining a view at any date in time.

This allows data to be saved on what is flowing through a measurement point – at a very specific level of chemical breakdown analysis. This supports pricing. Component typification determines the level of measurement to be used in chemical analysis (see: Using Component Typification [page 177]).

A full gas plant is a plant that extracts liquefiable hydrocarbons or sulfur from natural gas. The Production and Revenue application components of PRA help upstream companies manage the complex allocation of physical and contractual volumes to plants and lease owners based on user-defined methods for both residue and natural gas liquids (NGLs).

The system also provides chemical analysis functionality to enable component allocation and multiple pricing capabilities. The complex allocation of physical volumes, such as wet gas measured volumes, and contractual

volumes, such as NGL and/or residue sales volumes to plant and lease owners can occur at the full product stream and/or product component stream levels.

In order for allocations to occur at a product component stream level, lab chemical analyses are carried out at various measurement points throughout a gas plant delivery system, and they are entered in the system.

The lab chemical analyses fall under two types:

- Gas analysis

- Liquid analysis

Gas analyses are set up at those measurement points where gas volumes are found, and liquid analyses are set up at those measurement points where NGL (natural gas liquid) volumes are found. In each case, the chemical analysis represents the chemical breakdown of the product flowing through those measurement points.

Chemical analysis compatibility

Table 39:

To ensure that compatible analyses exist throughout a gas plant delivery system, a user-defined chemical analysis compatibility is assigned to gas plant delivery systems. Chemical analyses can be summarized into several levels, most notably C6+, C7+, and C10.

ℹ

If a gas delivery system is assigned a compatibility of C6+, the system will not permit the entry of a C7+ analysis at a measurement point within that gas plant delivery system.

Prerequisites

Only those measurement points that have multiple chemical analysis assigned for the processing period can have chemical analysis generated. In addition, a measurement point must also have chemical analysis set, before this process can be carried out for a measurement point. You can reference an already-existing measurement point in order to use its characteristics for this process.

Procedure

1. From the SAP Easy Access Menu, choose *Logistics Production and Revenue Accounting à Production à Daily Transactions Chemical Analysis Create* .

The *Create Chemical Analysis: Initial Screen* is displayed.

2. Select a measurement point and effective dates for the analysis. You can also select a referencing measurement point. Select a typification level (which is a product type and sets the general range of what you want to analyze). Choose either *gas* or *liquid* as the analysis type (gases are measured in mole, liquid is measured in volume, generally).

3. Choose *Enter* .

The *Create Chemical Analysis: Overview* screen is displayed.

Within the *Chemical Analysis Details* screen tab, enter the relevant chemical analysis details (the laboratory where the analysis was carried out, sample pressure, sample temperature, etc.).

On the *Components* screen tab, enter the relevant component percentages.

On the *Properties* screen tab, enter the relevant data.

Choose SAVE.

Result

A chemical analysis record is created for the measurement point.

4.4.2 Creating a Well Completion Downtime Summary

Use

This transaction captures data that records the period of downtime for a well completion (the downtime is the period in which the well completion is not producing).Downtime for a well completion may be recorded for a specific number of hours, or indefinitely.The reason for downtime must be specified.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Daily Transactions* ❯ *WC Downtime* ❯ *Create* ▐.
   The *Create WC Downtime Summary: Initial Screen* is displayed.
2. Determine which of the following options to choose.

Table 40:

If you would like to:	Then:
Enter downtime for a specific number of hours.	Choose *Hour-Hour* , enter data as required and choose *Enter* .
Enter downtime for an indefinite period.	Enter data as required and choose *Enter* .

The *Create Well Completion Downtime <Hour/Hour or Summary>: Overview* screen is displayed.

3. Specify an ending condition for the well completion.

Table 41:

If you would like to:	Then:
Specify that at the end of the day, identified as the effective from date, downtime was no longer a condition at the well completion.	Choose *Up*
Specify that at the end of the day, identified as the effective from date, downtime was still continuing at the well completion.	Choose *Down* .Then enter the number of hours of downtime on the effective from date.

> ℹ **Note**
>
> Choosing *Down* records downtime for the well completion as continuous through the effective to date.

4. Enter the downtime reason.
5. Save the downtime record.

Using a Reference for a Well Completion Downtime Summary

If a well completion downtime record already exists with data similar to that of the new well completion downtime record you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing well completion downtime record in the reference section of the initial screen for the new well completion downtime record.

4.4.3 Creating a Well Test Record

Use

Use this to enter well test details for a well completion or a well completion stream.

The well test helps to determine the estimated volume of various products hydrocarbon and other materiasl within the well completion during the given testing period. You can use this, for example, in situations in which you do not know what a specific well contains, and you want to know precisely what is in the well or formation. For example, it might be that you think a well is producing mostly oil, but in reality, the well formation contains large amounts of salt water (brine). You can run a well test on the well formation, to determine the specific contents of the well.

This also provides you with a better financial picture of what your well is producing, which is critical in terms of production financial data.

You can test the following:

- Oil, gas, and water content in barrels
- Heating value
- Flow line pressure

You can test per well completion.

In addition to recording volume information, this transaction is also used to record information such as ratios, temperatures, and pressures.

You can customize this to:

Add fields needed to capture well test data

Alter calculations that compute the ratios

Well test data is used for processing prior period volume allocations.

Procedure

At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Production* → *Daily Transactions* → *Well Test* → *Create*

The *Create Well Test: Initial Screen* appears.

Enter the following data:

Well Completion

ℹ

Well test data can be entered only for well completions that are downhole commingled parents. Well test data in a parent record applies to all associated children records.

Test Date

ℹ

The combination of the test date and time must be unique. If there are multiple tests for a single date, the theoretical processes for volume allocation use the latest test for a given date.

Multi Strm Type

ℹ

The batch process determines the multiple stream type.

Test Type

Choose *Enter* .

The *Create Well Test: Overview* screen is displayed.

At the *Production Volumes* tab, enter the values of the well test as required, and choose *Edits / Calculations* to refresh the screen with the values. Then choose the *Ratios* tab.

Review the ratios, and then choose the *Well Test Parameters* tab.

Enter the values of the well test parameters.

To review details about the well completion, such as well class or producing method, choose *Well Completion Details* .

Save the well test.

Using a Reference for a Well Test

If a well test record already exists with data similar to that of the new well test you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing well test in the reference section of the initial screen for the new well test.

4.4.4 Creating Well Completion Volumes

Use

Use this transaction to capture volumetric information at a well completion level for either daily or month end volumes.

Procedure

1. At the SAP Easy Access menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Daily Transactions* ❯ *WC Volumes* ❯ *Create* ▌.
   The *Create Well Completion Volumes: Initial Screen* is displayed.
2. Enter data as required.Then select the allocation frequency and choose *Enter* .
   The *Create Well Completion Volumes: Detail Screen* is displayed.
3. Enter data as required for the reading(s).Then if you need to access header information choose *Header* , or to calculate standard volumes, choose *Edits/Calculations* .
4. Save the well completion volumes.

Using a Reference for Well Completion Volumes

If a well completion volumes record already exists with data similar to that of the new well completion volumes record you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the number of the existing well completion volumes record in the reference section of the initial screen for the new well completion volumes record.

4.4.5 Creating Measurement Point Volumes

Use

This transaction captures volumetric information at a measurement point level for either daily or month-end volumes.The measurement point volumes are allocated to all well completions that are upstream of the measurement point in a given delivery network structure.All measurement point volumes, regardless of product, are entered in this transaction.

Each type of volume (that is, Liquid, Gas, and NGL) captured at observed conditions is then converted to standard volumes at user-defined standard conditions.Based on the optional specifications that have been created for a measurement point (such as Fuel Specification, Tank Specification, Meter Specification), this transaction can also allow the entry of field readings to compute an observed volume.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Daily Transactions* ❯ *MP Volumes* ❯ *Create* ❯ .
   The *Create Measurement Point Volumes: Initial Screen* is displayed.
2. Enter data as required, then choose *Enter* .
   The *Create Measurement Point Volumes Detail Screen* is displayed.
3. Select the allocation frequency and choose *Enter* .
4. Enter the value of the reading.
5. If you need to access header information, choose *Header*.

   > **ⓘ Note**
   >
   > Header information can be useful when retrieving the measurement point volume record at a later date, because the header information contains the document number.

6. If you would like to review the calculations before saving, choose *Edits/Calculations* .
7. Save the measurement point volumes.

Using a Reference for a Measurement Point Volumes

If a measurement point volume record already exists with data similar to that of the new measurement point volume you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the document number of the existing measurement point volume in the reference section of the initial screen for the new measurement point volume.

4.4.6 Using Mass Data Entry to Enter MP Volumes

Use

Use this to enter measurement point observed readings "en masse".

You may have measurement point volumes on an Excel spreadsheet – representing MP readings that were taken in the field, which you want to enter quickly into the system. You can use this transaction to do that.

This allows you to enter MP field reading data en masse, rather than entering each one separately. It is designed to save time and effort in data entry.

You enter observed readings from the field. The system retrieves the relevant measurement points, volume types, and measurement types for the measurement points.

i

The functionality is the same as the functionality in the create measurement point volumes transaction (see:Creating Measurement Point Volumes).

Prerequisites

Master data for measurement points has to exist in PRA Production

Procedure

From the SAP Easy Access menu, choose *Logistics à Production and Revenue Accounting à Production à Daily Transactions à MP Volumes MDE*

The *Mass Data Entry – MP Volumes* screen is displayed.

Note that the measurement group that you enter will determine the measurement points that the system retrieves. When measurement points are set up as master data records in PRA, each one is linked to a measurement group. Thus, when you enter a measurement group and date range here, the system will retrieve every measurement point in that range, for that measurement point. Measurement groups that begin MD_* are specific to mass data entry. The system goes to the Measurement System and looks for MD_* measurement types.

In the *MP Group* field, enter the relevant measurement group. Enter the date range, and the allocation frequency (monthly or daily).

Choose *Enter* .

The *Mass Data Entry – Mass Volumes* screen is displayed. On that screen, there are several screen tabs:

Gas Fuel Rate

Generic Gas

Generic Liquid

Generic Water

Depending on what type of volumes data you want to maintain, choose one of the screen tabs. In the ALV list on the screen tab, all the measurement points for that MP group and date range will be displayed.

You can now enter your data. You can "cut and paste" data from an Excel sheet into the screen in the ERP system, for example.

Save your data.

4.4.7 Creating Well Completion Measurements Dialog

Use

Use this to create well completion (WC) and measurement point (MP) observed reading records, which can then be used in subsequent processes in PRA, such as well tests. It is linked to the PRA generic measurement tool (the "Measurement System").

You enter observed readings here for either a well completion or a measurement point, and store those readings. The Measurement System [page 199] takes the data entered at a well completion, measurement point, or other PRA entity, at observed conditions, and creates "generic" (standardized) records out of them.

Procedure

From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production → Daily Transactions → MP/WC Generic Meas. → Create* .

Start from (choose) either *Well Completion* or *Measurement Point* (which is the "measurement class" from the perspective of the Measurement System).

Based on that, you can now enter the measurement type. The measurement class that you chose in step 1. determines the measurement type that you can select here. Enter the entity ID (WC or MP ID) and a date and time for the data. Also enter the Measurement Type (for example, for well completion daily pressures, choose WC_DPS from the drop-down list).

Select ENTER. The system displays the overview screen, where you can enter your observed data for the entity (WC or MP), measurement type, and date that you chose.

Select SAVE.

The system saves the "generic" (standardized) data to the database. That record can be used in subsequent PRA processes, such as well tests.

Example

For example, you would like to create a record for "generic" (standardized) well completion daily pressures. Starting from the " *Create WC Measurements Dialog: Initial Screen* ", you select Well Completion. You now enter the well completion (well ID plus well completion number), the date, and the relevant measurement type. The measurement type will be determined by the measurement class that you entered, which is simply the "application" - in this case, well completion. In this case, the measurement type is "WC_DPS" - for "WC Daily Pressures". You now select "ENTER".

The " *Create WC Measurements Dialog: Overview* " screen is displayed. On that screen, you enter the reading data (strokes, choke size for the well completion, etc.) and SAVE the record.

There is now a "generic" well completion pressure record for that well completion and date and time.

4.4.8 Creating Well Completion Daily Pressures

Use

Use this to create daily pressure records for well completions.

Daily pressures are captured for informational purposes - for tracking the performance of a well completion, as input for determining theoreticals, using PQ curves and choke size adjustments. The information is also used in regulatory reporting. WC daily pressure readings can be used, for example, to track the change in pressure at a well completion over time.

Procedure

From the SAP Start Menu, choose *Logistics → Production and Revenue Accounting → Production → Daily Transactions → Well Completion Daily Pressures* .

The *WC Daily Pressures: Initial Screen* is displayed.

1. Enter the well completion for which you would like to create daily pressures information.
   In the *Parameters* screen section, enter the date range that applies for the record.
   Select *Create* .

The *WC Daily Pressures: Create* screen is displayed.

- Enter the relevant values for the daily pressures on the screen (the flow tubing pressure and the choke size are required entries; all other fields are optional).

- Save the information.

Result

Daily well pressures are created for the selected date range and well completion

4.5   Allocate and Report

Purpose

The allocation process involves determining how volumes should be calculated back to well completions.
Reports are available to retrieve data about well completion oil and gas volumes.

Process Flow

1. When you make a change that results in a display of a dialog box that lists the prior period notification(s) to be generated if you proceed, determine whether to proceed with the change.
2. Process the prior period notifications as required in order to carry out the adjustment(s).
1. Retrieve data about well completion oil and gas volumes as required to evaluate the effect of the prior period notification(s).

4.5.1 Allocating a Delivery Network

Use

Use this to allocate a delivery network.

This transaction:

- Controls the allocation or validation of delivery networks or delivery network groups
- Provides information about the status of delivery networks
- Generates reports from the allocation and validation process

Procedure

1. From the SAP Easy Access screen, choose the menu path ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Allocate & Report* ❯ *Allocation Selection* ❭.
The *Allocation Selection* screen is displayed.

2. Either click *D. Network* to work with an individual delivery network or multiple delivery networks, or click *DN Group* to work with a group of networks previously set up in the system.
A green check appears on the pushbutton you select.

3. Enter data as required.

4. Enter the application area code to specify in which application area (Production, Contractual Allocation, or Valuation) the allocation should be processed.Verify the other parameters and the allocation frequency.Choose *Execute* .

5. Review the list of delivery networks.The first section lists the delivery networks that are available to be selected for allocation processing.The second section lists any delivery networks that are currently being processed.

6. Note that the *Results* column indicates the allocation results of a delivery network for the application area specified on the first screen, while the *Close Ind.* column indicates the status of the delivery network for the application area specified on the first screen.

7. Select the delivery network(s) to be allocated and choose *Allocate network* .
The *Allocate Network* dialog box appears with the list of delivery networks to be allocated.

8. At the *Allocate Network* dialog box, set the following indicators as required.

Table 42:

If you would like to:	Then:
Make successful allocation results at the measurement point and well completion level available for subsequent processing, and you would like to set the delivery net-work's processing status for the application area to **Closed**	Select *Final Allocation* .
Generate reports from the WC Theoretical Calculation Method, and Volume Allocation functions	Select *Trace* .
Generate a report identifying the source and destination of a volume	Select *Volume Source* .
Generate a report identifying the allocated results for the well completions	Select *WC Disposition* .

9. Choose *Execute* to allocate the selected delivery network(s).

10. To display the details of an allocated network, see: Displaying Allocation Details [page 193] .

4.5.1.1 Displaying Allocation Details

Use

Use this to display the details of a network that has been allocated in Allocating a Delivery Network [page 192] .

You can use this to view network allocation details on the following:

- Processing results and status

- The job log and the system steps involved in allocation
- The spool list
- Review error messages

Procedure

1. To review details about an allocation, proceed as follows:
2. 1. Follow the procedure as detailed in Allocating a Delivery Network [page 192] , up to the point at which a network is allocated.
3. 2. From the list of allocated networks, double-click a network that you would like to view details on. The *<Delivery Network Number> Network Oil* dialog box appears.
4. At the *<Delivery Network Number> Network Oil* dialog box, choose one of the following, based on what you would like to display:

Table 43:

If you would like to:	Do the following:
Review the processing results and status	Choose *Display Process status*
Review the steps the system performed to carry out the jobs, and the amount of time required for each step	Choose *Display Job Log*
Review a list of reports generated for the delivery network	Choose *Display Spool List*
Review warning or error messages	Choose *Display Message Log* .
To view the network in hierarchical structure (which wells and measurement points the network contains)	Choose *Network Structure*

ℹ

You can also carry out selection for gas plant and fuel system as of PRA Phase II. Gas plant is different than the usual type of unit in the network in PRA, in that gas can have two components: natural gas and NGL (natural gas liquid), and you can break gas down intoT components such as ethane, pentane, etc. Fuel system is a special case in which gas is not sold, but is used in production processes – to get oil out of the ground in the production process. One party uses gas from another party to do that, and the gas is not sold.

4.5.2 Carrying Out a Delivery Network Status Query

Use

Use this to run a report that queries the status of a specified delivery network.

When you run this report for a specified network ID, the system produces a list with status entries for that network, which provide information on:

- The production date
- The production frequency (either monthly or daily)
- The product that is produced
- Allocation results (successful, unsuccessful)
- Status (processing, completed, or available)
- Open / close – whether the delivery network is open or closed
- The application area of PRA that uses the network (Production, Contractual Allocation)

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production → Allocate & Report → Display Allocation Status* .

The *Display DN Status* screen is displayed.

- Enter the delivery network that you are interested in.
  Select *Execute* .

The *Status for DN ...* screen is displayed. It lists the delivery network status entries for the delivery network.

4.5.3 Volumetric Prior Period Notifications

Use

Use this transaction to:

View a list prior of period notifications that have already been generated.

Determine which prior period notifications on the list should be submitted for reallocation.

Either delete prior period notifications or submit prior period notifications for reallocation as required.

A change to any master or transactional data that may affect a previously closed allocation is logged as a prior period notification. During the successful reallocation of a network, any prior period notification for the network being processed is deleted automatically.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Production → Allocate & Report → Prior Period Notifications*

The *Volumetric Prior Period Notification* screen is displayed.

Enter data as required and choose *Execute* .

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To enter a delivery network group instead of a delivery network, choose *DN Group* .

To view one of the prior period notifications listed, set the indicator for the prior period notification to be viewed and choose *Display* .

The system displays the changed data that generated the prior period notification under the New Value column. Likewise, the system displays the data in its condition before the change in the Old Value column.

To submit networks for reallocation, set the indicator for each network to be submitted for reallocation and choose *Reallocate Network(s)* .

If you decide that you do not want to reallocate a prior period notification, you can delete it. To delete a prior period notification, set the indicator for the prior period notification to be deleted and choose *Delete* .

 i

Deleted prior period notifications can still be retrieved at a later date by using the *Historical* radio button on the first screen. In addition to deleted prior period notifications, the *Historical* radio button retrieves any prior period notifications that VA incorporated.

Exit the prior period notification list.

4.5.4 Prior Period Notification

Use

Use this procedure to determine the impact of prior period notifications, and to decide whether to proceed with a change that generates prior period notification(s).

Procedure

1. At the *Prior Period Notification* dialog box, review the prior period notifications that will be generated if you proceed with the change.
2. If you decide to proceed with the change, choose *Enter* .
3. If you do not want to proceed with the change, cancel the function to return to the screen where you changed the data.

4.5.5 Carrying Out Statistical Key Figure (SKF) Jobs

Use

Use this to run an Statistical Key Figure (SKF) job.

You can use the SKF job to do the following:

- Extract production well completion (WC) volumes for pre-configured material/volume type combinations and production day information
- Post the summed up results to the SAP-CO (Controlling) Module as statistical key figure (SKF) volumes
- Display the results of the postings

The volumes are summed up per cost center and for a specific period of time (a number of months prior to the current accounting period). You can choose either volumes or energy as the basis for summing. You can use the screen to define the posting period (the accounting period and the WC volume statistical key) for the process.

Within the *Job Submission* screen tab, you can choose which function/program you would like to run:

- *Well completion volumes*
- *Drilling days*
- *Well counts*
- All

If you want to produce a list of records for the selection that you chose, select the *Reporting* screen tab, and then select the option that you would like to see the records for (well completion volumes, drilling days, well counts, or all). For example, you could select *Job Submission* and then one of the options to run the function in the background, and then select *Reporting* to view the results of the run for that same option.

Procedure

From the SAP Start Menu, choose ▎▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production* ❯ *Allocate & Report* ❯ *SKF Submission* ◗ .

The *SKF Job Submission: Overview* screen appears.

1. On the *Job Submission* screen tab, select one of the following SKF jobs for processing:
   Well completion volumes
   Drilling days
   Well counts
   All selections

Select the posting date (note: the posting day has to be the final day of the month, as the posting period is month-end).

4. Select *Execute* .

The program now uses the posting date and the selection that was chosen to post the summed results from the well completion volumes (depending on the selection made) to the SAP-CO Module.

4.5.5.1   Displaying SKF Job Results

Use

Use this to display the results of SKF jobs, which were processed in Carrying Out Statistical Key Figure (SKF) Jobs [page 197] .

Prerequisites

You have to have run SKF jobs in Carrying Out Statistical Key Figure (SKF) Jobs [page 197] .

Procedure

From the SAP Easy Access Screen, choose *Logistics → Production and Revenue Accounting → Production → Allocate and Report → SKF Submission* .

The *SKF Job Submission: Overview* screen appears.

1. On the *SKF Job Submission Overview* screen, select the *Reporting* screen tab.
2. Select one of the following SKF report types:
   - *Well completion volumes*
   - *Drilling days*
   - *Well counts*
   - *All*

1. Select the *Document Date* (the posting date, effective from and effective to dates)
2. Select *Execute* .

The system now displays a screen with a list of spool numbers, date, time, status, page number, and title. You can display any of the spool requests from the list and view the individual contents.

5 Measurement System

Purpose

It is important in the oil and gas industry to be able to take readings such as measurement point volumes at observed conditions, and convert those to reading data and measurement documents in standardized units.

It is particularly important due to the vast quantities of product involved in the oil and gas industry. It is also important to be able to flexibly configure the calculations and units that are used to do that to reflect company specifics or country specifics.

The PRA Measurement System provides the functionality to do that. It is used to convert measurements (which consist of one or more readings) at observed conditions to measurements at standardized conditions, and to create documents for the measurements, which are centrally saved to a database. The Measurement System also contains reports for viewing those measurement records.

Various types of PRA business objects are defined as a Measurement Class [page 201] (for example, there is a well completion measurement class and a measurement point measurement class). Each measurement class is assigned to one or more measurement types. A Measurement Type [page 201] defines a consistentset of readings that are to be taken together. When a PRA object (such as a well completion) is created, it is assigned one or more measurement types, which allows measurements to be recorded for that object.

The main part of the Measurement System consists of calculation functions and routines which run "behind the scenes" in the ERP system, and which, while being provided as standard SAP functions, can be customized to reflect the individual requirements of your company. The Measurement System uses many national and international standards. Measurement readings can be entered either online or in batch mode.

Although a "generic" measurement transaction is provided, an include screen is included in business-object specific transactions for well, well completion and measurement point, allowing you to directly access the Measurement System from those screens in order to enter data. This allows data specific to the business object to be recorded separately, while still recording measurement data in a generic way on a single database.

Features:

The Measurement System supports the following:

- A measurement document that is created and resides on the database for each measurement that is taken, and which consists of one or more measurement readings (observed readings, standardized by the Measurement System).
- Each measurement document is assigned a number. The number is assigned by the system, based on number ranges (which can be customized).
- Number ranges are assigned to measurement types (that can be customized in the system)
- When PRA business objects (such as wells, well completions, and measurement points) are created, the system creates a dialog for you to enter a measurement type for the business object; the business object is assigned one or more measurement types, which allows measurements to be recorded for the object.

- Measurement types define a consistent set of readings for a business object (and can be customized). The measurement type is a central element of the Measurement System
- Measurement classes are also a central element of the Measurement System (they can be customized). Measurement classes define the type of business object for which measurements are recorded, for example, one measurement class for well completion, one measurement class for measurement point, etc.
- Measurement types are assigned to business objects, and measurement types are also assigned to measurement classes. A measurement type defines a consistent set of readings that are to be taken together. The asssignment of a measurement type to a measurement class defines the types of measurement that can be recorded for business objects in the class (that assignment is customizable).
- Calculations ("calculation functions") are assigned to measurement types. The calculations themselves come standard in SAP PRA, but can also be customized. SAP provides standard calculation functions (such as the Quantity Conversion Interface) for all measurement types.
- Reading types are assigned to readings, and define the format and attributes (and validation) for readings. Different types of measurement reading are defined as reading types and assigned to a characteristic record from the SAP classification system in order to provide information about the characteristics of the reading (such as maximum & minimum values, unit of measure, and data type). One or more reading types are assigned to each measurement type to define a default set of readings to be taken for the measurement type. When a measurement is recorded for a particular object, it must belong to a particular measurement type. Thus the system prompts you to enter a value for each of the reading types assigned to the measurement type. When a reading type is assigned to a measurement type, it may be active or inactive, optional or mandatory. Those attributes may be changed for a particular business object.
- Unit of measure groups are customized and define the standard measurement units. In PRA, they are assigned to a delivery network

See also:

5.1   PRA Business Object

Definition

A business object is a master record within the Measurement System, and is defined as part of the measurement class within Customizing. Examples of business objects are wells, well completions, and measurement points.

Use

Once the measurement object is maintained, it is saved with the business object so that when viewed, the measurement object is part of the business object.

5.2   Measurement Class

Definition

A classification of the business objects for which measurements are taken. Each business object for which separate naming and numbering is required is assigned to a separate measurement class.

Some examples of those measurement classes that currently exist are chemical analysis and well completion volumes. Each measurement class has measurement types assigned to it. Those will be the only valid measurements for that business object. The measurement types can be activated and deactivated to the measurement class as the need arises.

The measurement class is one of the three main customizing objects in the Measurement System (along with measurement type and reading type).

Use

The measurement class is used to group measurement types by application. Measurement classes are assigned to one or more measurement types. That assignment defines the types of measurement that can be recorded for business objects in the class.

5.3   Measurement Type

Definition

A consistent set of readings that are taken together for a specific PRA business object (for example, a well completion or measurement point) in a Measurement Class [page 201] . Each measurement class is assigned a set of valid measurement types. The measurement type includes rules for the input of measurements, including expected frequency, user authorization, and a link to SAP validation.

The measurement type stores readings and their specific characteristics. Characteristis include: reading type, reading group, status, position, derived or observed conditions, and display control.

The measurement type is one of the three main customizing objects in the Measurement System (the other two are: measurement type and reading type) and is the most important object in the Measurement System).

ℹ

Each measurement category is assigned a set of valid measurement types. The measurement type includes rules for the input of measurements, including expected frequency, user authorization, and a link to the SAP Validation sub-module.

⚠

If a measurement type is not assigned for an PRA business object, no readings can be made for that object.

Use

The measurement type is used, for example when taking measurement point readings, and converting them into standard values.

See also:

Using the Measurement System to Convert MP Volumes [page 210]

In order for the Measurement System to be able to display readings, the reading must first be entered in the measurement type.

Each Measurement Class [page 201] is assigned one or more measurement types. A measurement type defines a consistent set of readings that are to be taken together. When a PRA object (such as a well completion or a measurement point) is created, it is assigned one or more measurement types, which allows measurements to be recorded for the object. Some measurement types are identified as mandatory for a specific measurement class. Any business object created within a measurement class must be assigned to all mandatory measurement types.

Different types of measurement readings are defined as reading types and assigned to a characteristic record from the SAP classification system to provide information about the characteristics of the reading (such as max & min values, unit of measure, data type).

One or more Reading Type [page 203] s are assigned to each measurement type to define a default set of readings to be taken for the measurement type. When a measurement is recorded for a particular object, it must belong to a particular measurement type. Thus, you are prompted by the system to enter a value for each of the reading types assigned to the measurement type. When a reading type is assigned to a measurement type, it may be active or inactive, optional or mandatory. Those attributes may be changed for a particular business object.

In PRA, several applications call the Measurement System. In each case, the calling application determines the measurement type (collection or readings types) to be used.

The following are examples of measurement types :

Table 44:

Measurement type	Measurement type description
MV_TKINV	Tank inventory
MV_TKVOL	Tank volume
WC_DPS	WC daily pressures
WC_WTGI	Gas injection well tests
WC_WTPS	Submersible pump well tests

WCDVLGAS	Well completion volumes - gas
WCDVLGNGL	WC volumes naturla gas liquids

5.4 Reading Type

Definition

The definition of a particular type of reading. The definition includes formatting information, validation, and edit checks.

The reading type is one of the main customizing objects in the Measurement System (the other two are the measurement class and the measurement type).

The reading type defines the following for a reading:

- Format
- Unit of measure
- Dimension
- Output format

Reading types can be:

- Active
- Inactive
- Optional
- Mandatory

Use

Reading types have to exist before the Measurement System can display and store data. Each reading in a measurement type uses a reading type to define its characteristics.

Customizing tables include a cross-reference between Measurement Type [page 201] and reading type; from that cross-reference, the readings that are to be taken for a specific measurement type are derived. That cross reference is known as the measurement reading.

5.5 Measurement Type Reading

Definition

A list of the reading types available for a measurement type. Some reading types will be active and others inactive – the list of reading types that are active for a measurement type represents the default set of readings

that will be made for a business object that is assigned to the measurement type. This default set of readings may be modified for a particular business object by activating or deactivating reading types. Information held for the measurement type reading includes validation and edit checks, tolerances, and optionality. In addition, reading types may be identified as "system required", in which case they cannot be deactivated for a particular business object.

Information held for the measurement type readings include validation and edit checks, tolerances, and optionality. In addition, readings may be identified as "system required", in which case, they cannot be deactivated for a particular business object.

5.6 Measurement Object

Definition

Any object within the system, for which Measurement System readings can be taken.

Since a business object may use a measurement type any number of times for different purposes, the measurement object is identified with its own internal number (the use of all active reading types within the measurement type is assumed, but if required, these may be activated or deactivated for a particular measurement object).

Use

Business objects using the measurement system are required to maintain a cross-reference between the business object and the measurement object. A measurement object is created for any business object for which measurements are to be recorded using the Measurement System.

The measurement object acts as a collection of measurement types for a particular business object, and each measurement type represents a consistent set of readings that are to be taken for the business object. Any number of measurement types may be assigned any number of times to a measurement object, provided the measurement type is assigned to the same measurement class as the business object.

The measurement object is identified using a unique internal number that is derived independently of the business object.

5.7 Measurement Reading

Definition

A measurement consists of one or more readings, which are individual data for transactions such as measurement point volumes. The measurement reading is derived from a cross-reference of measurement

type and reading type. Each reading is assigned to a measurement and a measurement category to allow cross-referencing between the measurement and the readings.

The configuration tables include a cross-reference between Measurement Type and Reading Type that defines the readings that are to be taken for a particular Measurement Type. This cross-reference is known as a Measurement Reading.

Use

The measurement reading defines the rules governing the input of readings for a particular measurement. Some readings are optional, others mandatory. Some readings are input directly, others derived from initial readings. Readings may be derived using a function with a standardized interface that is specified in the measurement reading table. In this case, the original readings that form the basis of the derivation are defined in a sub-table, the measurement reading derivation rules table.

5.8 Creating Customizing Settings for the Measurement System

Use

Use this to create customizing settings for the Measurement System.

You can customize the following in the Measurement System:

- Reading Type [page 203] - set up in order to define the attributes for the reading
- Measurement Class [page 201] - defined for business objects (well completion, measurement point, etc.)
- Measurement Type [page 201] - defined for business objects, and are assigned to measurement classes
- **Number ranges** - defined for internal number assignment of numbers to measurement documents on the database, and assigned to measurement types
- **Unit of measure groups**
- **Calculations** - defined and assigned to measurement types
- **Measurement sources**

Measurement classes define classes of measurement that correspond to particular classes of business object such as well completion volumes and measurement point volumes.

Measurement types are assigned to measurement classes in the measurement type assignment table. There, a measurement type may be mandatory for a measurement class, in other words, when a measurement is made for a business object in the measurement class, at least one measurement of that type must be taken.

Reading types define the characteristics of a particular type of reading, including a description of the reading. The characteristics of a reading type are represented by a characteristic record that is defined in the SAP Classification System.

The customizing tables include a cross-reference between the Measurement Type and Reading Type that defines the readings that are to be taken for a particular measurement type. That cross-reference is known as a measurement reading.

The measurement reading defines the rules governing the input of readings for a particular measurement. Some readings are optional, others mandatory. Some readings are input directly, others derived from the initial readings. Readings may be derived using a function with a standardized interface that is specified in the measurement reading table. In that case, the readings that form the basis of the derivation are defined in a sub-table, the Measurement Reading Derivation Rules table.

The measurement tables are used to record measurement readings for particular measurement objects. The readings are stored with a small header that includes information about the measurement object, the owning business object, and the measurement document number. It is the responsibility of the calling business application to record all the information necessary for the application in an extended measurement document header. That document header includes a reference to the measurement document number under which the measurement document is stored.

The measurement readings are identified by the measurement document number (of the calling application) and the reading ID. The reading ID is taken from the measurement type reading defined in customizing.

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The elements listed below in customizing are pre-configured as standard by SAP. That means that you do not, in all cases, have to make customizing settings for them. You can make customizing settings for them to reflect company or country-specific settings.

Procedure

Within Customizing (which you can reach also via transaction SPRO, and then by choosing the *SAP Reference IMG*), choose *Industry Solution Oil & Gas (PRA)* → *Global Settings* . Within that area, you can make the following customizing settings in order to customize the Measurement System for your specific purposes:

Table 45:

Setting in Customizing	Effect
Quantity Conversion Interface (QCI)	Allows you to customize the Quantity Conversion Interface: Define QCI parameters, activate SAP conversion routines for natural gas, define conversion group and external function module settings, configure QCI message handling, and maintain physical properties data for natural gas components. The QCI Interface is one of the SAP standard calculation functions.
Units of measure (UoM)	Defines standard measurement units. In PRA, UoM groups are linked to delivery networks.You can also define company or customer-specific rounding rules here.

Calculation	Use this to define calculations for the Measurement System. Calculation settings are used to convert (observed) measurement readings into standard readings. You define calculation parameters here.
Assign calculations to measurement types	When calculations are assigned to measurement types, that allows readings within a measurement type to be calculated automatically. Here, you also assign measurement readings to observed and derived parameters.
Measurement document number ranges	Measurement documents that are saved to the database are assigned numbers by the system based on a number range. Here, you can define the number range.
Define reading types	Use this to define reading types for readings. Reading types are used by the Measurement System to define attributes for a reading, such as the formatting rules (number of decimal places, reading length, etc.) and validation rules.
Define measurement types	Use this to define a consistent set of readings to be taken for a business object such as a delivery network measurement point.
Define measurement classes	Use this to define the type of business object for which measurements are recorded, for example, well completion and measurement point.
Define measurement sources	This is used to define the applications that record measurements using the Measurement System (Example: MPNT = Measurement Points)

5.9 Creating Measurement Classes in Customizing

Purpose

This process defines measurement classes, and is presented here to illustrate an example of how the Measurement System is customized in PRA.

Process Flow

Measurement classes are defined in Customizing, under *Industry Solution Oil & Gas (PRA) → Global Settings → Measurement System Configuration → Measurement Document Number Ranges → Define Measurement Classes* .

1. You create a measurement class
2. You assign one or more measurement types to the measurement class
3. You set up readings (for the measurement)
4. You create reading types for the reading
5. You assign characteristics to the reading types

EXAMPLE

The requirement is to be able to take measurements (all of the readings) for a tank.

Note that this example is actually from IS-Oil Downstream, but it illustrates how the Measurement System functions. The functions are similar in Upstream. It is included here to illustrate the process.

1. The first step is to create a "measurement class" called TANK.

1. You know that this particular type of measurement is required, so, you create a "measurement type" called TANK STRAPPING and assign it to the measurement class TANK.
2. You know what readings must be taken for this measurement, so you create "reading types" and assign them characteristics, as follows:

Table 46:

Reading Type	Format	UoM	Derivation function
Gravity	NUMC	Kg/m3	
Gravity Temp.	NUMC	°C	
BS&W	NUMC	Percent(?)	
Gauge Level	NUMC	mm	
Tank Volume	NUMC	m3	OIU_ME_TANK_VOLUME

Note that the format and unit of measure (UoM) are determined from the characteristic from the SAP Classification System, not actually entered in the table.

Tank volume is a "derived" reading, so we specify which "original" readings the derivation function requires as input.

Table 47:

Reading Type	Seq. No	Original reading type
Tank Volume	1	Gravity
Tank Volume	2	Gravity temp.
Tank Volume	3	BS&W

Tank Volume	4	Gauge level

We assign the **reading types** (defined in Customizing) to the **measurement type** so that the measurement type - TANK STRAPPING - is assigned the reading types: gravity, gravity temp., BS&W, gauge level and tank volume.

Master data

When you create a tank master record, the tank maintenance transaction calls the measurement object dialog with TANK as the "measurement class". You are presented with a list of "measurement types" belonging to the "measurement class", so that you can decide which are appropriate to use. In this case, the type TANK STRAPPING would be mandatory – all TANKs must have a TANK STRAPPING measurement type.

The measurement object dialog creates a measurement object for the new TANK and includes the TANK STRAPPING measurement type in the measurement object. The measurement object is linked to the tank master record using an index in the Measurement Object Table.

From customizing, the TANK STRAPPING has five SAP-mandatory readings, one of which is "derived". Because they are mandatory in SAP, you cannot make them optional. Whenever a TANK STRAPPING measurement is taken for the tank, all five readings must be taken. Four (gravity, gravity temp. BS&W, gauge level) have to be entered by you, the last (tank volume) is derived by the system (using function OIU_ME_TANK_VOLUME).

Measurement Data

Measurement data may be entered using a measurement transaction designed for tanks (or measurement points in general). This transaction must call the measurement data dialog, which presents you with a screen for entering readings.

When you select "calculate" or "save" (or just "enter"), the dialog program calculates all derived measurements - in this case, the tank volume. The tank volume reading is "greyed out", in other words, it cannot be entered.

When you select "save", the readings are stored, and control passes back to the calling application, in this case the tank strapping transaction. When the tank strapping transaction has finished its own processing (for example, creating a measurement record of its own, containing tank volume), it saves the measurement readings.

The measurement readings are saved with an internal unique measurement document number, and also an application-specific measurement document number. In this case, the application- specific measurement document number would correspond to the document number of the measurement record created by the tank strapping transaction.

5.10 Calculating "Generic" WC and MP Data with the Measurement System

Use

Use this to calculate "generic" well completion and measurement point data with the Measurement System.

Procedure

1. At the SAP Easy Access menu, choose Logistics → *Production and Revenue Accounting* → *Production* → *Daily Transactions* → *MP/WC Generic Meas.* → *Create* .

The *Create WC Measurement Dialog: Initial Screen* is displayed. Here, you can either select *Measurement point* or *Well completion* (the Measurement Point pushbutton is displayed, if you want to calculate for a measurement point).

1. Proceed as follows:

Table 48:

For *well completion*	Enter the well completion, date, and measuremnt type (such as WC_DPS).
For *measurement point*	Enter the measurement point, date, and measurement type.

1. From either of those options, select *Enter* .

On the subsequent screen at the bottom, you can enter your observed readings (the fields that are displayed are dependent on the measurement type you entered on the first screen).

1. Select *Save* .

Result

The readings are saved for well completion or measurement point.

5.11 Using the Measurement System to Convert MP Volumes

Use

Use this to convert observed measurement point readings into standard measurement point values, using the Measurement System.

Procedure

1. At the SAP Easy Access menu, choose Logistics → *Production and Revenue Accounting* → *Production* → *Daily Transactions* → *MP Volumes* → *Create* .

The *Create MP Volumes:Initial Screen* is displayed.

1. Enter data as required to create MP volumes.

You can use the following data (as an example) :

Table 49:

Measurement point	123654
Delivery network	970002
Effective from date	Today's date
Material	EP503
Volume type	Measured production
Volume class	Estimated
Volume source	Production

1. After entering your data, choose *Enter* .

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The system uses the material (major product code), the volume type, and the volume source to determine which measurement type to load onto the screen that follows.

The *Create MP Volumes: Overview* screen is displayed. On that screen (at the bottom), are reading entry fields for that material, volume type, and measurement point.

1. Enter the observed data readings (observed volume, observed volumetric pressure, observed temperature volume, etc.).
2. Select *Edits/Calculations* .

Result

The system uses the observed data and calculates standard values for them, using the Measurement System.

5.12 Using the Measurement System to Convert WC Daily Pressures

Use

Use this to convert observed well completion daily pressures to standard WC daily pressure readings using the Measurement System.

Procedure

1. At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production → Daily Transactions → Well Completion Daily Pressures* .
   The *WC Daily Pressures: Initial Screen* is displayed.
2. Select *Create* .
   The *WC Daily Pressures: Create* screen is displayed.
3. Enterthe relevant data (well completion and date) and then select *Enter* .
   That opens the measurement reading fields at the bottom of the screen.
4. Enter the observed readings in the fields at the bottom of that screen.
5. Select *Save* .

5.13 Using the Measurement System with Chemical Analysis

Use

Use this to create measurement readings in conjunction with chemical analysis.

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Production → Daily Transactions → Chemical Analysis → Create.
   The *Create Chemical Analysis: Initial Screen* is displayed.

   > **i**
   > The measurement type is determined by the analysis type, the typification level, the basis, and the calculation checkbox, which you now enter.

2. Enter a measurement point, date, and typification level (such as C6+). Select the *Analysis type* (either gas or liquid), and the *Basis* (*Mole* or *Volume*). Set the *Calculated* checkbox.

3. Choose *Enter* .
   The *Create Chemical Analysis: Overview* screen is displayed. At the bottom of that screen are the fields for entering readings for the Measurement System.

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   The *Chemical Analysis Details* and *Properties* screen tabs are always the same in terms of the fields displayed; the second tab – *Components* – varies depending on the entries you made previously.
4. Enter your observed readings in the fields on the screen tabs.
5. Save the readings.

5.14 Displaying Measurement Documents

Use

Use this to view measurement documents that have been created in the Measurement System.

When measurements are taken, a measurement document is created and saved on the database. You can use this to view those documents.

Procedure

1. At the SAP Easy Access Menu, choose Logistics → Production and Revenue Accounting → Measurement → List documents.
2. Enter your selection criteria by entering data in the relevant fields for the search you would like to carry out.
3. Select *Execute* .
   The system displays records that correspond to your search criteria.

5.15 Displaying Changes to Measurement Documents

Use

Use this to view change documents for Measurement Documents in the PRA Measurement System.

Measurement documents are created and saved to a database for measurements. You can use this to display the changes to those documents.

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Measurement → List Changes.
The *E&P Measurement: List Measurement Change Documents* screen is displayed.
2. Make selections for the search that you would like to carry out, by entering data in all relevant fields (selections can be based on: year, measurement type, etc.).
3. Select *Execute* .
The system displays a screen with a list of records based on your selection.

6 Contractual Allocation

Purpose

The Contractual Allocation (CA) application area allocates volumes of oil and gas transported from sales points or well completions to multiple contracts and owners.It allocates contract sales volumes, breaks down well completion-level contract volumes to the working interest owners in marketing groups, and makes these volumes available for balancing and valuation.

CA first allocates **primary products** (oil and gas) and then allocates **plant products** (residue and natural gas liquids).

CA retrieves sales volumes from Production and allocates volume and energy quantities in the following order:

- first to marketing groups
- then to contracts
- finally to working interest owners.

CA also allocates residue and natural gas liquid (NGL) plant products if an outside-operated gas plant processed any of the gas.

There are four allocation methods that can be used in CA:the Sales Point Originated method, the Division Order Sales method, and two manual entry methods that allow volume or energy quantities to be entered for each termination point in a delivery network.

Integration

CA calculates entitled volumes by working interest owner for a well completion or measurement point based on volumes maintained in Production and gross revenue interest (GRI) maintained in Ownership.

Further, when minor ownership changes occur after availability processing is complete, the Contractual Allocation executes a background process to update adjusted GRIs.

6.1 Sales Point Originated Allocation Method

Purpose

The sales point originated allocation method provides a phased approach for allocating sales point volumes to termination points. The phased approach, which is usually used for gas networks, involves:

determining network totals by marketing group

allocating sales over adjusted entitlements

eliminating imbalances based on a variety of criteria

Volumes are entered for each of the contracts at a sales point, and the volumes are usually based on a pipeline statement.

Before the Sales Point Originated Allocation Method begins, you build a monthly template by using production data based on the Measurement Point / Well Completion Transporter to Contract Cross Reference [page 221] transaction. Then the volumes entered are compared with production at the sales point level. If the difference between the volumes is outside the tolerance, which is set in the Delivery Network Dated transaction, then the network is rejected in the Contractual Allocation application area.

The Sales Point Originated Allocation Method can execute up to five phases of allocation in order to allocate volumes to contracts at termination points.

The Sales Point Originated Allocation Method allocates the lesser of adjusted entitlement or sales volumes, and it uses adjusted entitlement as a basis to allocate to termination points. Any remaining marketing group imbalances are then maintained at the network level to be carried forward to the next allocation date.

Only allocated networks are processed with the Sales Point Originated method because this method requires a network structure.

Process Flow

Allocation Pre-processing

The standard system performs calculations that include determining network totals by marketing group for:

Adjusted/Entitled Volume/Energy - This calculation totals the adjusted entitlements for all termination points for a marketing group in the network.

Sales Volume / Energy - This calculation totals sales quantities for a marketing group across all of the sales points in the network.

Keep Whole Entitled Volume / Energy - This calculation totals any keep whole entitlements for a marketing group throughout the network.

There is also a New Beginning Imbalance calculation that adjusts the original beginning imbalance for the marketing group with two factors: (1) the prior period adjustments carried forward from a prior month, and (2) any manual adjustments applied to the marketing group's imbalances.

Marketing Group Imbalance Makeup

The standard system attempts to eliminate any network level marketing group cumulative imbalances, as long as the elimination is supported by marketing intent. Marketing intent is represented by the difference between a marketing group's total adjusted entitlements, and its total sales.

Therefore, if a marketing group is under-delivered at the network level and sells more than its adjusted entitlement, it is assumed that the marketing group is trying to make up all or part of its imbalance.

Allocation Phase 1

In this step, the standard system attempts to execute marketing intent in the allocation of either a measurement point / transporter sales volume, or energy quantities back to the termination point. The execution of the marketing intent involves allocating either (1) the lesser of the marketing group's adjusted entitlement for each termination point in which the marketing group has an interest, or (2) the marketing

group's adjusted sales quantity, which is the allocated sales volume or energy adjusted by the imbalance makeup volume or energy.

If a marketing group sells less than its adjusted entitlement, then its adjusted sales quantity is allocated among termination points based on its relative adjusted entitlement in each termination point.

If there is only one termination point in the network with physical sales quantities for a month, then this step, Allocation Phase 1, allocates all volume or energy quantities from the measurement point/ transporter to the single termination point. The Sales Point Originated Allocation Process is then complete in such a situation, and the following Allocation Phases 2-5 are not performed.

Allocation Phase 2

Phase 2 allocates additional portions of the sales point contract quantities back to termination points with remaining unallocated volume or energy quantities. A termination point has a remaining quantity if one or more of its marketing groups sold less than its adjusted entitlements. The quantities allocated in this phase are those associated with marketing groups that sold more than their adjusted entitlements. Volumes are allocated in a structured process where all marketing groups are treated the same.

Allocation Phase 3

Phase 3 allocates any remaining sales point contract volume or energy quantities to termination points so that all sales point quantities are completely allocated. These quantities must be allocated to termination points that had no remaining available volume or energy quantities after Phase 1. If the termination points had had available quantities, then their remaining quantities would have been allocated in Phase 2. Termination point to termination point imbalances are therefore initially created in this phase.

If allocation reaches this phase, then allocation must continue with Phase 4.

Allocation Phase 4

Phase 4 attempts to eliminate any termination point level imbalances created in Phase 3 by identifying common ownership between (1) the over-delivered termination points from Phase 3 and (2) the remaining under-delivered termination points in the network. When common ownership is found, the imbalances are re-allocated. All marketing groups are treated equally in this phase.

Allocation Phase 5

If common ownership is not found between over-delivered and under-delivered termination points, then termination point-to-termination point imbalances still exist after Phase 4. In this case, Phase 5 eliminates them and accumulates the termination point imbalances by marketing group within the delivery network. All termination points are therefore kept whole and the imbalance is maintained at a network level to promote manageability.

Use the Marketing Group Network Imbalances transaction to calculate termination point imbalances during the allocation of wet gas to working interest owners.

Allocation Post-processing

Allocation post processing includes:

Updating the appropriate contract results tables

Calculating and updating the marketing group cumulative ending imbalances

Creating the marketing group imbalance information for the next date

Calculating any adjustment associated with prior period adjustment (PPA) processing and rolling it to the current date

Calculating the energy quantities for volumetric based gas allocations, or the volume for energy based gas allocations

See also:

6.2 Division Order Sales Allocation Method

Purpose

Division Order Sales

The *Division Order Sales* allocation method, usually used for oil networks, allocates sales volume and energy that Production has allocated to termination points as well as to contracts and working interest owners based on adjusted gross revenue interest (GRI).

In allocated networks, which use network structures defined in Production, the allocation method begins by retrieving Production volumes associated with a termination point. It then processes the data by originating measurement point and transporter and allocates volumes to each working interest owner in the contracts associated with the originating measurement point.

You can associate contracts with termination points and specify which owners are marketing together on valid contracts.

If a marketing representative participates in more than one contract, the marketing representative's volume is allocated across contracts. If there is no marketing representative, then the system allocates the same volume and energy amounts to all available contracts.

There is no network structure in a non-allocated networks, which is used primarily for non-operated ventures (an operation by a third party that shares revenue with other working interest owners).

Because no network structure is used, volumes from Production have no originating measurement point and therefore contracts must be tied directly to the termination point with the *MP / WC Transporter Contract Cross Reference* transaction.

Division Order Sales – Sales Point

The *Division Order Sales – Sales Point* method is based on the *Division Order Sales* method, but allocates only to measurement points and not to wells.

Process Flow

Use the *Delivery Network Dated Characteristics* transaction to select *Assume ACRs* and/or *Assume Mkt. Grp* as required.

ⓘ

When *A ssume ACRs* is selected, the system performs allocation only at a measurement point because contracts cannot be cross-referenced to termination points.

Use the *Allocation Cross Reference* transaction to do the following:

Link contracts to termination points

Enter data specifying how to allocate the marketing representative's volume across contracts, if a marketing representative participates in more than one contract

Use the *MP / WC Transporter to Contract Cross Reference* transaction to establish cross references to contracts.

After Production has allocated volume or energy, CA creates entitlements, then runs the allocation method to retrieve those volumes along with originating measurement point and transporter.

ⓘ

If the originating measurement point is provided, CA carries the measurement point through the allocation process.

CA allocation to marketing groups under a termination point, which is based on adjusted GRI from the Product Control application component, creates entitlements.

ⓘ

If availability data is not available from Product Control, then true GRIs are used to allocate to working interest owners on the division of interest associated with the termination point.

CA allocates the volumes or energy to all applicable contracts.

The system uses the heating value factor to calculate either the energy or the volume.

CA allocates to owners.

If applicable, CA carries out natural gas liquid (NGL) and residue allocation in the *Sales Point Originated* allocation method.

6.3 Owner Level Allocation

Purpose

Owner level allocation involves allocating termination point or contract sales quantities to working interest owners in a marketing group.This owner level allocation may be based on relative gross revenue interest (GRI)

when there is no makeup in a marketing group.Or, the allocation may be based on relative adjusted GRIs when one or more owners are involved in makeup.

Relative GRIs are used for marketing groups without makeup, while relative *adjusted* GRIs are used when one or more owners within a marketing group are involved in makeup.If allocation is based on relative *adjusted* GRIs, then the allocation is based on owner availability data captured with the *Revised Owner Availability* transaction.

For owner level allocation, keep whole arrangements are considered.Keep whole arrangements, whether for entitlements or makeup, affect how volume is split among owners in a given marketing group.

Process Flow

Owner Keep Whole on Entitlements

This is the process used when owners would like to receive their entitled volume irrespective of imbalances.

If the contract's volume or energy is less than the owner's entitled volume or energy, then the entire contract volume or energy is allocated to the owner.

If multiple owners are kept whole for entitlements, and the contract does not have enough volume or energy to satisfy both owners, the standard system splits the entire contract volume or energy between the owners based on relative GRIs.

Any volume or energy remaining after allocating to the keep whole owners is then allocated among the remaining owners based on relative GRIs or relative adjusted GRIs, as defined above.

If there is remaining volume or energy for the contract and no other owners to allocate to, then the standard system splits the remaining volume or energy between the keep whole owners, based on relative GRIs.

Owner Keep Whole on Makeup

This is the process used when owners would like to receive their adjusted entitled volume irrespective of imbalances.

If the contract volume or energy is less than the owner's adjusted entitled volume or energy, then the owner is allocated the entire contract volume or energy.

If multiple owners are kept whole for makeup, and the contract does not have enough volume or energy to satisfy both owners, then the entire contract volume or energy is split between the owners based on relative adjusted entitled volume or energy quantities.

Any volume or energy remaining after allocating to the keep whole owners is allocated to the remaining owners based on relative GRIs, or relative adjusted GRIs, as defined above.

If there is remaining volume or energy for the contract and no other owners to allocate it to, then the standard system splits the remaining volume or energy between makeup keep whole owners based on relative adjusted entitled volume or energy quantities.

> ℹ Note
>
> Volume or energy quantities are not allocated to owners that are being kept whole for entitlements.

See also:

Revising Owner Availability [page 225]

6.4 Creating or Maintaining a MP / WC Transporter Contract Cross Ref

Use

Use this transaction to:

link a single contract with either a measurement point or well completion and a transporter cross reference

enter an ending effective date that specifies when the link between the contract, transporter, and measurement point or well completion expires

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Contractual Allocations → MP / WC Transporter to CT Xref*

The *MP/WC Contract Cross Reference: Initial Screen* appears.

Choose *Create* .

The *MP/WC Contract Cross Reference: Create* screen appears.

Options for Creating a Contract Cross Reference

Table 50:

Function	Follow-on action
To enter a measurement point-contract cross reference	Choose *Measurement Point*
To enter a well completion-contract cross reference	Choose *Well Completion*

Enter the following data:

measurement point or well completion

transporter

contract

Save your entries.

Using a Reference to Create a Measurement Point or Well Completion Transporter to Contract Cross Reference

To create a measurement point or well completion transporter to contract cross reference with reference to an existing record, at the *MP/WC Contract Cross Reference: Initial Screen* , select one of the following:

Measurement Point

Well Completion

Contract

Transporter

After entering data as required, choose *Execute* .

If more than one record matches the data you entered, select one of the measurement point or well completion cross references from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Measurement Point or Well Completion Transporter to Contract Cross Reference

To create a measurement point or well completion transporter to contract cross reference with reference to an existing record, at the *MP/WC Contract Cross Reference: Initial Screen* , select one of the following:

Measurement Point

Well Completion

Contract

Transporter

After entering data as required, choose *Execute* .

If more than one record matches the data you entered, select one of the measurement point or well completion cross references from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

6.5   Allocation Cross Reference

Use

This transaction links contracts to delivery network measurement points or well completions. The links dictate which contracts the system allocates at the measurement point or well completion.

This transaction is also used to maintain the allocation rules that are necessary for allocating gas plant residue volumes, as well as the marketing group contract percentage, which is used to split volumes across contracts within the same marketing group.

Only approved Allocation Cross References are used in the batch process.

> ℹ **Note**
>
> In order to make and save changes to an Allocation Cross Reference, it must be unapproved first.

Changes in the volume basis or entitlement allocation percentage generate prior period adjustment notifications.

Prerequisites

- Measurement points and well completions are linked to a delivery network in the Production application component.
- The contracts to be used in the transaction exist in *Sales and Distribution* .

Activities

From the *SAP Easy Access* menu, choose ▶ *Logistics* > *Production and Revenue Accounting* > *Sales and Balancing* > *Contractual Allocations* > *Allocation Cross Reference* > *Create* ◗ .

Options for Creating an Allocation Cross Reference

Table 51:

Function	Follow-on actions
Creating an allocation cross reference for a well completion	Enter data as required, and then choose *Enter* .
Creating an allocation cross reference for a measurement point	Choose *Measurement Point* , enter data as required, then choose *Enter* .

> ℹ Note
>
> In the *To* field, enter the date on which the data entered in this transaction becomes ineffective.

6.6 Primary Product Allocation Processing

Purpose

Primary product allocation processing allocates either gas, oil, or condensate major products from sales points to the termination point. The termination point is either a well completion or measurement point, and is the furthest upstream node in the network structure.

There are three steps involved in primary product processing:

1. allocation to marketing groups
2. allocation to the contract level
3. allocation from the contract level to working interest owners.

Further, there are five methods that can be used to carry out the allocation:

- Division Order Sales (mostly used for oil networks)
- Sales Point Originated (mostly used for gas networks)
- Manual Entry Equals Production
- Manual Entry Unrestricted
- None - Usually used in simple plant functionality for a company that wants to skip primary product allocation

All of the methods allocate contract results to the individual working interest owners marketing together on the given contract(s). For oil and condensate products, the allocation is volume based, while for gas the allocation can be either volume or energy based.

Table 52:

	Division Order Sales	Sales Point Originated
Sales volumes are entered through Contractual Allocation	No	Yes
Owners can be kept whole	Yes	Yes
Non-allocated networks are allowed	Yes	No
ACR and Marketing Group can be assumed	Yes	No

Integration

In order to carry out primary product allocation processing, the following four prerequisites must be met. (*Note* : The first three prerequisites are optional when the Division Order Sales Method is used with the Assume ACR option.)

1. Contracts must be tied to sales points with the Measurement Point Transporter Cross Reference transaction.
2. Marketing groups must be created.
3. Contracts must be tied to termination points using the Allocation Cross Reference transaction.
4. A Division of Interest -Well Completion Cross Reference must be set up in the Ownership application area.

See also:

Creating a MP / WC Transporter Cross Reference [page 117]

Creating a Marketing Group Assignment [page 226]

Creating an Allocation Cross Reference [page 222]

6.6.1 Calculating Entitlements

Use

Entitlements are calculated from volumes generated by the Production application area and stored at termination points.

The factors involved in calculating **adjusted** entitled volume or energy include:

- If the Product Control application area is implemented, availability data is incorporated.
- If availability data does not exist for the well, then availability data for any representative well from the venture / division of interest is used.
- If there is not a representative well, then entitled gross revenue interest is used as the adjusted entitled gross revenue interest.

6.6.1.1   Revising Owner Availability

Use

Use this transaction to maintain owner adjusted entitlements after the month of flow, and to enforce ownership transfers that occurred after original nominations were created in the Product Control application area.(When minor ownership changes occur, Contractual Allocation executes a background process to update adjusted GRIs.)

This transaction can also be used to modify the adjusted gross revenue interest (GRI) calculated by the Product Control application area.When original nominations are created in Product Control, owner availability data, which is the basis for these nominations, cannot be altered, and ownership changes for that production month are no longer processed through Product Control. Because retroactive ownership changes occur, this procedure is required to update adjusted GRI information from Product Control using the ownership data which actually exists on the division of interest for that production month.

This transaction identifies the owners involved in ownership changes. These owners have an entitled availability but no adjusted availability. For all other owners not involved in ownership changes, the existing availability data remains the same. The user must manually determine the new adjusted GRIs for the owners involved in ownership changes. Once the new adjusted GRI data has been entered and totals 1.0, the standard system automatically calculates adjusted availability and makeup volumes, and then approves the revised owner availability.

Procedure

At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Contractual Allocations* ❯ *Revised Owner Availability* ❯ *Change* ▶▌ .

Options for Revising Owner Availability

Table 53:

Function	Follow-on actions
Revising owner availability for a measurement point	Enter data as required, and then choose *Enter* .
Revising owner availability for a well completion	Choose *Well Completion* , enter data as required, then choose *Enter* .

The *Change Revised Owner Availability for <date>: Overview* screen appears.

Enter the new GRI and other data as required.

If there have been changes to the division of interest (DOI), such as an ownership transfer, choose *Update Availability* to retrieve the latest changes to the DOI into the screen.

To review the adjusted availability data from the Product Control application area, choose *View Original Avail.*

The *Original Availability* dialog box appears with the owners' availability data from Product Control.

To review the most recent revision(s) of availability data, choose *View Historical Avail* .

The *Historical Availability* dialog box appears with the revised data.

Save the revised owner availability.

6.6.1.2 Creating Marketing Group Assignments

Use

Use this transaction to assign working interest owners in a venture/division of interest (DOI) to marketing groups by designating a marketing representative for each owner.

A marketing group consists of one or more working interest owners jointly marketing a product under one or more contracts. The major product, the venture/DOI, and an effective date range are used to establish a marketing group. The marketing group ties working interest owners to the contract(s). (Each contract is assigned a marketing representative when it is entered into the system.)

Each marketing group can have multiple contracts, but a contract can be linked to only one marketing group.

Note that changing the marketing representative or the purchasing representative generates a prior period notification.

Integration

In the system, Ownership changes automatically update marketing group information. If a working interest owner is deleted, the owner is deleted form the marketing group for the unit property or DOI. Likewise, if a working interest owner is added and does not already exist in the marketing group, the owner is added to the marketing group for the DOI or unit property.

Prerequisites

The venture/DOI exists, and is checked in.

All marketing representatives exist as valid customers.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Contractual Allocations → Marketing Group Assignment → Create*

The *Create Marketing Group Assignment: Initial Screen* appears.

Enter data as required. Then choose *Enter* .

ℹ

The start date acts as the effective from date that defaults for each owner who is a valid owner in the DOI prior to the start date. For owners that become valid in the DOI after the start date specified in this transaction, their ownership effective from date serves as the effective from date for the marketing group.

Enter the following data as required.

In the *Marketing Rep.* field, enter the marketing representative data for each owner

In the *Gas Purchase Rep.* field, enter the gas purchaser

Enter a date range to establish the period of time for which the marketing representative is assigned to the owner.

If necessary, complete the *Owner Keep Whole* field. (If you specify keep whole, then if possible the system gives complete entitlements or nominations to the marketing group. See additional information below.)

The following options are available at the *Create Marketing Group Assignment: Detail* screen.

Options for Creating a Marketing Group Assignment

Table 54:

Adding a New *Effective From* Date for an Owner	To add a new Effective From date for an owner, select the row of the owner for which the new range will be added, then choose *Insert New Date Range* . You must use the *Insert New Date Range* to change effective dates in the resulting dialog box; it is not possible to change effective dates directly on the *Create Marketing Group Assignment: Details Screen* .
Creating Keep Whole Marketing Groups	To create and maintain keep whole marketing groups, choose *Keep Whole Marketing Group* . The keep whole function incorporates additional rules and restrictions during the allocation process. When a marketing group is specified as keep whole, the standard system does not create an adjustment for that group provided that the difference between the total allocation basis volume and the physical sales volume can be absorbed by the marketing groups not being kept whole. Therefore, a marketing group that is being kept whole usually receives its allocation basis volume as the final allocated volume. When working with a keep whole marketing group, the Effective From date must be later than the start date and it must be the first day of the month, while the Effective To date must be later than the Effective From date and it must be the last day of the month. Also, the marketing representative must already exist on the *Create Marketing Group Assignment: Details* screen.
Displaying the Gross Revenue Interest (GRI) for Each Owner	To display each owner's gross revenue interest (GRI), choose *Calculate GRI.* The GRI is then displayed in the *GRI* field.

Save the marketing group assignment.

6.6.1.3 Using Marketing Group List Processing

Use

Use this transaction to retrieve and review a list of marketing groups (venture / division of interest combinations).

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Contractual Allocations → Marketing Group Assignment → List Processing*

The *Marketing Group List Processing* screen appears.

Enter data as required and choose *Execute* .

ⓘ

To view marketing groups affected by changes that the standard system made as a result of changes made in the Ownership application area, select either the *Warning* or *Both* radio button.

The *Marketing Group List Processing* screen (2) appears.

To review the data for a particular marketing group, select the row that corresponds with the marketing group you would like to review and then choose *Display* .

The *Marketing Group Assignment: Detail* screen appears.

ⓘ

When the standard system makes changes to a marketing group, the standard system also selects the *Warning* indicator for the marketing group.

Exit the function.

See also:

Creating a Marketing Group Assignment [page 226] Creating Marketing Group Assignments [page 226]

6.6.1.4 Calculating Entitlement at the Contract Level (CA)

Use

You can use this function to:

- Create contract level entitlements in contractual allocation (CA). The contract level entitlement creation takes place for sales volume types.
- Pick up contract level entitlements from contractual allocation (CA) while running valuation. When valuation run takes place, the system automatically picks up the contract level entitlements for sales volume types from contractual allocation.

The major processes within CA are to calculate entitled (and adjusted entitled) volumes and to allocate actual volumes by contract.You can maintain the actual results at the contract level by well completion/measurement point and also at the owner level within the contract and well completion/measurement point.You can maintain the entitled volumes at the owner level within the well completion or measurement point.

In some case, the entitled volumes are valued as well as actual volumes.In some cases, this is the basis on which royalties are paid.In addition, some companies book their revenue based on entitlements.Some users pay royalties on entitlements and book revenue on actuals. The way entitlements are valued is to associate them with a sales contract.

You can use this function to perform allocation of owner entitlement volumes to multiple contracts to which owners are tied to. In addition to allocating entitlements across contracts, adjusted entitlements are also allocated across contracts. The method for allocating adjusted entitlements is the same as that used for entitlements.Also, the source of the adjusted entitlement data is the same as that for entitlements.

Activities

To enable Contractual Allocation Entitlement Enhancement, you must do the following:

- In Customizing choose ▌▶ *Industry Solution Oil & Gas (PRA)* ❭ *Global Settings* ❭ *Activate Configurable Edits* ❭
- Execute
- Choose *Edit #38 - ACTIVAT CONTRACTUAL ALLOCATION ENTITLEMENT ENHANCEMENT*
- Choose column *St* and set it to activate.

See Also

For more information, see Using the Allocated Volumes Inquiry [page 247] .

6.6.2 Changing Contract Quantities by Sales Point

Use

This transaction utilizes confirmed nominations for gas products or other override allocation quantities in order to determine actual volume or energy quantities by contract.This transaction is used only for the Sales Point Originated allocation method in the Contractual Allocation (CA) component.When this method is active, then the physical volume and energy for the measurement point and the transporter from the Production application area are allocated among contracts based on relative confirmed nominations or override quantities.The allocation is performed automatically based on changes to override nominations in the transaction, and the new, recalculated pro-rata amounts are displayed.

Since the volume and energy for a sales point could change in Production after you have already made adjustments in this transaction, the CA batch process also performs the pro-rata calculations if necessary.The batch process calculations involve determining and allocating differences between (1) the sales point volumes and energy and (2) the sum of the pipeline actual, pipeline imbalance, and marketing group imbalance volumes.

The batch process performs the allocation only if the difference is within tolerance.If the difference is not within tolerance, you must use this transaction to allocate the difference.

Prerequisites

- Contract cross references are included in the Measurement Point / Well Completion Transporter Cross Reference transaction.
- The monthly template build process is complete.

Procedure

At the SAP Easy Access screen, choose ⫷ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Sales and Balancing* ❭ *Contractual Allocations* ❭ *CT Quantities by Sales Point* ❭ *Change* ❭ .

The *Change Contract Volume by Measurement Point: Initial Screen* appears.

Enter data as required and choose *Enter* .

The *Change Contract Quantities by Sales Point: Overview* screen appears.

Enter the following data as required.

- In the *Override Noms* field, enter a value to override the confirmed nomination
- In the *Pipeline Act.* field, enter the pipeline actual volume or energy quantity
- In the *Pipeline Imb.* field, enter the pipeline imbalance quantity
- In the *Mkt Group Adj* field, enter the marketing group imbalance adjustments to be used during the makeup process of allocation
- Save the contract quantities.

See also:

6.6.3 Building Monthly Templates

Use

Use this transaction to create a month's worth of templates in order to maintain volumetric information, both for monthly and/or daily Contractual Allocation (CA) allocations.To create these templates, a monthly build process identifies, for the applicable sales date, all sales points and transporters which are within each CA network set to process through the Sales Point Originated allocation.

For each sales point/transporter combination, the contracts linked to that measurement point/transporter on the Measurement Point /Well Completion to Transporter Contract Cross Reference transaction during the sales date(s) are identified, and a template is built which contains the measurement point, transporter and associated contracts.

Volumetric or energy information can then be maintained via the *Contract Quantities by Sales Point* transaction for each contract.

Procedure

At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Contractual Allocations* ❯ *CT Quantities by Sales Point* ❯ *Build Monthly Templates* ❯ .

The *Contract Volumes by MP Build Template* screen appears.

Enter the date for the production month and the frequency.Then choose *Execute* .

Result

Templates for the month are available in order to maintain volumetric information.

See also:

6.6.4 Refreshing Monthly Templates

Use

When the contract volume template is built, the standard system uses existing measurement point, transporter, and contract cross references to determine what needs to be built.Since required cross references may not have been built, or existing cross references may be in error, there is a need to be able to update the contract volume template for cross reference changes.

When any new records are created with the Measurement Point / Well Completion Transporter to Contract Cross Reference transaction, or when any existing records are changed or deleted, the standard system uses the effective dates specified in the transaction to determine whether to make corresponding changes to existing templates in order to keep the data synchronized.

Procedure

At the SAP Easy Access screen, ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Contractual Allocations* ❯ *CT Quantities by Sales Point* ❯ *Refresh Network Templates* ❭ .

The *Contract Volumes by Sales Point Refresh Template* screen appears.

Enter the following data as required:

- production month
- delivery network
- frequency
- measurement point
- Choose *Execute* .

Result

The template is refreshed.

See also:

Building a Monthly Template [page 232]

6.6.5 Maintaining Marketing Group Network Imbalances

Use

Use this transaction to:

- track cumulative imbalances for a network's marketing group
- display any updates to the imbalances generated by the Contractual Allocation batch process
- manually adjust the imbalances as required

Pipeline imbalances can be maintained with this transaction.

Network imbalances keep leases and wells whole for settlement and tax purposes, and they occur only when they cannot be avoided.An example is a situation involving a third party well that is not kept whole in a network.

The network balances generally result from lease-to-lease or well-to-well imbalances that have occurred in a previous date's allocation.The imbalances consist of termination point imbalances calculated during the allocation of wet gas to working interest owner that are then rolled up to the network level by the Sales Point Originated allocation process.

When the Sales Point Originated allocation process is run, it creates the information for the next production date.

Procedure

At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Contractual Allocations* ❯ *Network Imbalances* ❯ *Change* ◀▌ .

Enter data as required and choose *Enter* .

The *Change Marketing Group Network Imbalances: Overview* screen appears.

In the *Unapp. Manual Adj.* column, enter the adjustment volume for the marketing group.Then save the adjustment.

6.6.6 Creating a Contractual Allocation Manual Entry

Use

Use this transaction to:

carry out allocation yourself and enter contract results

manually enter volume or energy quantities at each termination point in a delivery network

The volume or energy for each termination point is later allocated to all owners in the associated division of interest.

Prerequisites

The allocation method for the network is designated as one of the following manual entry allocation methods, which are usually used for non-operated networks.

The Manual Entry Equals Production method - Involves verifying the volumes entered with production volumes at a termination point, originating measurement point, and transporter level. An exact match is required.

The Manual Entry Unrestricted method - The Production application area does not have to allocate the network. Therefore, this method does not validate volumes against Production.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Contractual Allocations → CA Manual Entry → Create*

Options for Creating a CA Manual Entry

Table 55:

Function	Follow-on actions
Creating a contractual allocation manual entry for a well completion	Enter data as required, and then choose *Enter* .
Creating a contractual allocation manual entry for a measurement point	Choose *Measurement Point* , enter data as required, then choose *Enter* .

The *Create CA Manual Entry* screen appears.

Enter volume and heating value as required.

i

To enter volume and then have the system calculate energy, or vice versa, choose *Volume ß> Energy* as required.

To display Production data, such as the measurement point and the transport that it is linked to, choose *Production Volume* .

Save the manual entry.

Results

The networks for which you entered contract results are now ready to be run in order to ensure that the results total back to the Production numbers and that entitled volumes are calculated.

For details, see the Valuation Document Work List [page 339] .

6.6.7 Simple Plant Functionality Statement Volumes

Use

For plant properties requiring simple plant functionality (SPF), use this transaction to maintain natural gas liquid (NGL) and residue sales volumes.Volumes are entered for a material / sales contract combination for a specific measurement point.The volumes are then allocated to the working interest owners in well completions that are upstream of a measurement point.

When data is changed for networks that have already been allocated and closed, prior period notifications are generated for residue and NGL.

Procedure

At the SAP Easy Access screen, choose ▌ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Contractual Allocations* ❯ *SPF Statement Volumes* ❯ *Create* ▐ .

The *Create SPF Statement Volumes: Initial Screen* appears.

Enter data as required and choose *Enter* .

The *Create SPF Statement Volumes: Overview* screen appears.

Enter the contract and material numbers, as well as the sales volume(s) for any observed conditions.

To enter an observed condition in a unit of measure that differs from the delivery network's unit of measure, enter the observed condition(s) and then choose *Standardize Quantities* .

Save the SPF statement volumes.

Using a Reference for SPF Statement Volumes

If an SPF statement volumes record already exists with data similar to that of the new SPF statement volume record you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing SPF statement volumes record in the reference section of the initial screen for the new SPF statement volumes record.

6.7   Gas Plant Processing

Purpose

Simple plant functionality (SPF) is available in the Contractual Allocation (CA) application area. Only functionality for monthly allocations of gas is available since SPF is usually generated from outside-operated plant statements.

Process Flow

You enter residue and natural gas liquid (NGL) quantities with the SPF Statement Volumes [page 236] transaction.

Residue and NGL plant products are allocated to a termination point based on one of two methods:

The products are allocated based on a termination point's portion of the total delivery of wet gas to the plant for the network. The portion is determined by totaling the amount of gas delivered on contracts processing gas through the plant. This method is triggered when the *Wet Gas Balancing* indicator is selected in the corresponding Delivery Network Dated Characteristics [page 124] transaction.

The second allocation method occurs when the *Wet Gas Balancing* indicator in the corresponding Delivery Network Dated transaction is not selected. In this case, products are allocated to termination points based solely on the relative portions of gas allocated in the Production application area with a volume type of *Measured Production* .

NGL entitlements are calculated based on one of two methods:

NGL products are allocated in the Production application area with a volume type of *NGL Production* to serve as the basis for the entitlement calculation.

NGL entitlements are determined in order to handle cases where NGL inventories are supplying part of the monthly NGL sales volumes. This method is trigged when the *Entitlement on Sales* indicator is set on the *Contract Allocation* tab in the *Delivery Network Dated* transaction.

If CA allocation methods are not used, then results from the Production application area are used as the basis for allocating residue and NGLs.

Simple Plant Functionality
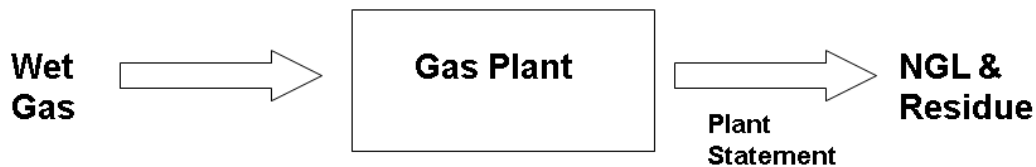
- Gas plant is operated by third party (Simple Plant).
- Wet Gas is supplied to the plant and it returns NGL & Residue.
- NGL & Residue volume is entered into CA from Plant statement

6.7.1 Creating or Maintaining a Return to Lease Percentage

Use

Use this transaction to establish and maintain percent return to lease information, which is used in gas plant agreements to calculate residue and NGL volume and value splits.

This percent return to lease value is used when the same entity owns both the property to which the product belongs as well as the gas plant in which the product is being processed. Since product that is owned by a property is taxed while product that is owned by a plant is not taxed, the government sometimes establishes a percent return to lease value in order to limit the amount of product that the plant can keep as part of the contract.

Examples of the Use of Percent Returned to Lease Data

Contractual Allocation uses percent returned to lease data to calculate volume splits for residue and NGL volumes under:

Straddle Agreements

Processing Agreements with NGL Take in Kind Rights

Valuation formulas use percent returned to lease data to calculate percent of proceeds (value splits) for residue and NGL transactions and for NGL transactions under:

Processing Agreements without NGL Take in Kind Rights

Delivery networks processed as settlement statements as well as SPF delivery networks (processed as simple plant functionality networks) need percent returned to lease information for the sales contracts, or the percent of proceeds contract, when there is a reporting requirement to have 100% volumes prior to the application of a lease/plant split.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Contractual Allocation → Gas Plant Processing → Percent Returned to Lease*

The *Percent Return to Lease: Initial Screen* appears.

Choose *Create* .

The *Percent Return to Lease: Create* screen appears.

To specify the entities for which the percent return to lease information is valid, choose one of the following:

Contract/Measurement Point

Contract/Well Completion

Contract

Enter the contract and, if required, the measurement point or well completion. Then enter the effective from date.

Choose *Enter* to refresh the screen. Then enter the material.

Enter EITHER the sliding scale code in the *Sliding Scale Code* field to allow for sliding scale lease/plant split percentages as defined in the Gas Plant Sliding Scale transaction, OR enter a fixed percentage in the *Percent Return to Le* field.

Save your entries.

Using a Reference to Create a Percent Return to Lease Record

To create a percent return to lease record with reference to an existing percent return to lease record, enter the contract number and either the measurement point or well completion number. Then choose *Execute* .

2. If more than one record matches the data you entered, the *Percent Return to Lease: Overview* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying Percent Return to Lease Records

To change or display a percent return to lease record, enter the contract number and either the measurement point or well completion number. Then choose *Execute* .

2. If more than one record matches the data you entered, the *Percent Return to Lease: Overview* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

⚠️

Changing the sliding scale code or the return lease percent after they have been used to calculate a volume or value split automatically generates a prior period adjustment.

Choose *Change* or *Display* to change or display the record as required.

6.7.2 Creating or Maintaining Gas Plant Sliding Scales

Use

Use this transaction to enter and maintain sliding scale percentage data. The data is then used to calculate volume and value splits for gas plant agreements when used with the Return to Lease Percentage transaction.

Sliding scales can have between one and three dimensions, which can be configured in customizing: *Industry Solution Oil & Gas (PRA)* → *Sales and Balancing* → *Define Sliding Scale Properties* . An example of a dimension is weighted average price.

Procedure

1. At the SAP Easy Access screen, choose *Logistics* → *Production and Revenue Accounting* → *Contractual Allocations* → *Gas Plant Processing* → *Gas Plant Sliding Scale* .

The *Gas Plant Sliding Scale: Initial Screen* appears.

Select one of the following methods for the sliding scale and then choose *Create* .

The *Gas Plant Sliding Scale: Create* screen appears.

Sliding Scale Methods

Table 56:

VP (Volume Proportion of NGLs to wet gas)	Determines the sliding scale percentage by the volume proportion at the measurement point or well completion level for the selected volume proportion components.
WAP (Weighted Average Price)	Determines the sliding scale percentage by the plant level weighted average price that is defined in *Sales and Distribution* . If a dependent product is entered, the sliding scale percentage is determined by using the weighted average price for the dependent product, but if a dependent product is not entered, the percentage is determined by using the weighted average price for the product being split.
Residue (Producer's Residue Volume Production per day)	Determines the sliding scale percentage by the producer's average daily volumetric production per day.
VPWAP (Volume Proportion and Weighted Average Price)	Determines the sliding scale percentage by both volume proportion and weighted average price.
WAPVOL (Weighted Average Price and Total Plant Level NGL Volume per Day)	Determines the sliding scale percentage by both the weighted average price and the total NGL volume per day.
PRDVPPR (Total Wet Gas Production per Day, Volume Proportion and Weighted Average Price)	Determines the sliding scale percentage by the total daily wet gas production per day for measurement point or well completion, volume proportion, and weighted average price.
SEPPRESS (Well Level Separator Pressure)	Determines the sliding scale percentage by the separator pressure at the well completion (this is only valid for well completion splits).

In the *Sliding Scale* field, enter an identifier for the sliding scale. (The identifier may be alphanumeric.) Choose *Enter* .

The *Dimension* table appears.

Choose *Edit* .

The *Gas Plant Sliding Scale: Create* dialog box appears.

In the *Range From* field, enter the beginning value of a range of values for a condition, such as price, that the return lease fuel percentage is dependent on.

 i

The system completes the *Range To* field when another range of values is entered.

To approve the sliding scale, select *Approved* .

Save your entries.

See also:

Using a Reference to Create a Gas Plant Sliding Scale

To create a gas plant sliding scale with reference to the existing gas plant sliding scale, enter the sliding scale and the method. Then choose *Execute* .

If more than one record matches the data you entered, the *Gas Plant Sliding Scale: Overview* screen appears. In this case, select one of the gas plant sliding scales from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing (including Approving) or Displaying Gas Plant Sliding Scales

To change or display a gas plant sliding scale, enter the sliding scale and the method. Then choose *Execute* .

If more than one record matches the data you entered, the *Gas Plant Sliding Scale: Overview* screen appears. In this case, select one of the gas plant sliding scales from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

i

To approve a gas plant sliding scale, at the *Gas Plant Sliding Scale: Change* screen, set the *Approved* indicator. Then choose *Save* .

6.7.3 Creating or Maintaining Plant Selective Processing Options

Use

Use this transaction to set component options for selective plant processing so that components either are available for election by individual working interest owners, or default for non-electing owners. Component options include:

Ethane (C2)

Propane (C3)

Iso-Butane (IC4)

Normal-Butane (NC4)

Pentane Plus (C5+)

Selective processing works in the unit of moles.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Contractual Allocations → Gas Plant Processing → Plant Selective Processing*

The *Plant Selective Processing Options: Initial Screen* appears.

Choose *Create* .

The *Plant Selective Processing Options: Create* screen appears.

Enter the delivery network and the effective from and to dates. Then select the possible components for election and/or the defaults for non-electing owners, as required.

Select a component in the *Possible Components for Election* to indicate that the component is available for election by individual working interest owners. A component that is not selected in the *Possible Components for Election* section will not be available for election; owners will not have a choice to include components that are not selected here in the NGLs.

Select a component in the *Defaults for Non Election Owners* to apply elections when the owner is not maintained in Owner Processing.

Save your selection(s).

Using a Reference to Create Plant Selective Processing Options

To create components options with reference to an existing record, at the *Selective Processing: Initial Screen* , enter data as required. Then choose *Execute* .

If more than one record matches the data you entered, the *Plant Selective Processing Options: Overview* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying Plant Selective Processing Options

To change or display component options, at the *Plant Selective Processing Options: Initial Screen* , enter the delivery network hierarchy node or the delivery network, as well as the effective from and to dates. Then choose *Execute* .

2. If more than one record matches the data you entered, the *Plant Selective Processing Options: Overview* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

ℹ

Changing data for previously allocated and closed networks generates prior period adjustment notification for natural gas liquids and residue.

Choose *Change* or *Display* to change or display the record as required.

6.7.4 Creating or Maintaining Owner Selective Processing

Use

Use this transaction to maintain component options for owners. Component options include:

Ethane (C2)

Propane (C3)

Iso-Butane (IC4)

N-Butane (NC4)

Pentanes+ (C5+)

This transaction is associated with the *Plant Selective Processing* transaction, which determines the components that are available for election by a working interest owner.

This *Owner Selective Processing Options* transaction records an owner's election of the available components. If an owner's elections are not maintained in this transaction, the default elections specified in the Plant Selective Processing Options transaction are then applied to the owner.

When an owner elects components, it is not guaranteed that the owner will receive entitlements in natural gas liquids (NGLs). NGL entitlements are based on total elected volume compared to total NGL volume.

When the total elected volume is less than the total physical NGL volume, owners who did elect receive all of their entitlements in NGLs, while owners who did not elect receive a portion of their entitlement in NGLs and residue.

When the total elected volume is greater than the total physical volume, owner who elect receive a portion of their entitlements in NGLs and residue, while owner who do not elect receive all of their entitlements in residue.

When the total elected volume is zero, owners receive a portion of their entitlements in NGLs.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Contractual Allocations → Gas Plant Processing → Owner Selective Processing*

The *Owners Selective Processing Options: Initial Screen* appears.

Choose *Create* .

The *Owner Selective Processing Options: Create* screen appears.

Options for Creating Owner Selective Processing Options

Table 57:

Function	Follow-on action
To enter owner selective processing options for a measurement point	Choose *Measurement Point*
To enter owner selective processing options for a well completion	Choose *Well Completion*

Enter the following data:

delivery network

measurement point or well completion

owner information

production month

Choose *Enter* to refresh the screen. Then select the components for election as required. Finally, save your selection(s).

See also:

Creating or Maintaining Plant Selective Processing Options [page 242]

Using a Reference to Create Owner Selective Processing Options

To create owner selective processing options with reference to an existing record, at the *Owner Selective Processing Options: Initial Screen* , enter data as required. Then choose *Execute* .

If more than one record matches the data you entered, the *Owner Selective Processing Options: Overview* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

i

Changing data for previously allocated and closed networks generates prior period adjustment notification for natural gas liquids and residue.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying Owner Selective Processing Options

To change or display plant selective processing options, at the *Owner Selective Processing Options: Initial Screen* , enter data as required. Then choose *Execute* .

The *Owner Selective Processing Options: Overview* screen appears.

If more than one record matches the data you entered, the *Owner Selective Processing Options: Overview* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

i

Changing data for previously allocated and closed networks generates prior period adjustment notification for natural gas liquids and residue.

6.8   Using Entitled Volumes Inquiry

Use

Use this inquiry to retrieve a list of termination points with entitled volumes.You can use the inquiry to retrieve a list of entitled volumes for either primary products (oil, gas, or condensate) or plant products.

The inquiry provides a real-time overview.

Procedure

At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Contractual Allocations* ❯ *Entitled Volumes Inquiry* ❯ .

The *Entitled Volumes Inquiry - Primary Products* screen appears.

If you would like to use the inquiry to search for plant products, choose *Search Plant Products* .

Enter data as required.Set the frequency if you are using the inquiry for primary products, or set the lease / plant indicators if you are using the inquiry for plant products.Choose *Execute* .

The *Entitled Volumes Inquiry - <Primary or Plant> Products* screen appears.

To review details about a network's allocated volume, select the row for the network you want to review, and then choose *Details* .

Exit the function.

6.9　Using the Contract Results by Termination Point Inquiry

Use

Use this inquiry to display contract-level allocation results from Sales Point Originated or Division Order Sales methods, or to display contract-level volumes and energy from manual entry methods.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Contractual Allocations* ❯ *Contract Results Inquiry* ◗ .
2. The *Contract Results by Termination Point Inquiry* screen appears.
3. Enter data as required and choose *Execute* .
4. The *Contract Results by Termination Point* screen appears.
5. Review the allocation results for each phase. Then exit the function.

6.10　Using the Allocated Volumes Inquiry

Use

Use this inquiry to retrieve a list of termination points with allocated volumes for a delivery network.You can use the inquiry to retrieve a list of allocated volumes for either primary products (oil, gas, or condensate) or plant products.

The inquiry provides a real-time overview.

Procedure

At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Contractual Allocations* ❯ *Allocated Volumes Inquiry* ◗ .

The *Allocated Volumes Inquiry - Primary Products* screen appears.

If you would like to use the inquiry to search for plant products, choose *Search Plant Products* .

Enter data as required, noting the frequency if you are using the inquiry for primary products, or noting the lease / plant indicators if you are using the inquiry for plant products.Choose *Execute* .

The *Allocated Volumes Inquiry - <Primary or Plant> Products* screen appears.

To review details about a network's allocated volume, select the row for the network you want to review, and then choose *Details* .

Exit the function.

6.11 SPF NGL Component Allocation Basis

Use

Use this transaction to set up a link between a natural gas liquid (NGL) material code and a gas material code, which the system uses as a basis for allocating NGL/residue.

Prerequisites

- You use this transaction for a component-level delivery network.
- You set a delivery network at a component level by selecting the *Component Level* indicator at the *Contractual Allocation* tab of the *Delivery Network Dated* transaction (▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Delivery Network Dated* ❭).

Procedure

At the SAP Easy Access menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Contractual Allocations* ❯ *Master Data* ❯ *SPF NGL Component Allocation Basis* ❭ .

The *SPF NGL Component Allocation Basis: Maintenance* screen appears.

In the *NGL Mat* field, specify the NGL material to be allocated.Then in the *Gas Basis* field, specify the gas material, which the system uses as a basis for allocating NGL/residue.

Save your entries.

6.12 SPF Wet Gas Equivalent

Use

Use this transaction to specify a wet gas component material to use as a basis for allocating a natural gas liquid (NGL) material that was specified on the plant statement.

The system uses the production results of the wet gas component material as the allocation basis for the NGL material.

Prerequisites

- You use this transaction for a component-level delivery network.
- You set a delivery network at a component level by selecting the *Component Level* indicator at the *Contractual Allocation* tab of the *Delivery Network Dated* transaction (▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Delivery Network Dated* ❩).

Procedure

At the SAP Easy Access menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Contractual Allocations* ❯ *Master Data* ❯ *SPF Wet Gas Equivalent* ❩ .

The *SPF Wet Gas Equivalent: Maintenance* screen appears.

In the *NGL Mat* field, enter the NGL material that was specified on the plant statement.Then choose *Create* .

The *SPF Wet Gas Equivalent: Create* screen appears.

In the *Gplt Cmpnt* field, enter the wet gas component material to use as a basis for allocating the NGL.

Save your entries.

> ℹ **Note**
>
> You can enter multiple wet gas component materials, in which case the system would sum up the production results of the multiple materials to determine the basis for the NGL.

6.13 Specifying a Summary Material for a Detail Material

Use

Use this transaction so that the system can determine pricing for a detail material when processing NGLs on full plants through Contractual Allocation at a component level.

Normally, the system does not store prices at the level of a detail material; rather, the system stores pricing data for summary materials. Therefore, in this transaction, you specify the summary material to be associated with a detail material.

However, if you do not specify a summary material to be associated with a detail material, then the system does not summarize the volume of the detail material.

Procedure

At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Contractual Allocations → Gas Plant Processing → Material Sum – Gas Plant Comp Alloc*

The *Material Summary for Gas Plant Component Allocation: Maintenance* screen appears.

In the *Detail Material* field, enter the detail material to be linked to the summary material. Then choose *Create*

The *Material Summary for Gas Plant Component Allocation: Create* screen appears.

In the *Summary Mat* field, enter the summary material to which the Detail Material will be linked.

$\mathbf{i}$

The system uses the summary material to sum the volumes of the detail material that you specified (as well as any other detail materials that are linked to it) for pricing purposes in Valuation.

Save your entries.

6.14 Sliding Scale Methods – Dim Material

Use

Use this transaction to specify a particular material for a sliding scale method.

Prerequisites

The sliding scale method to which the material will be linked is set up.To set up a sliding scale method, in Customizing choose ▌▶ *Industry Solution Oil & Gas (Production and Revenue Accounting)* ❯ *Sales and Balancing* ❯ *Define Sliding Scale Properties* ❯ .

Procedure

At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Contractual Allocations* ❯ *Gas Plant Processing* ❯ *Sliding Scale Methods – Dim / Materl* ❯ .

The *Sliding Scale Methods – Dimension / Materials: Maintenance* screen appears.

In the *Dim cd* , enter the sliding scale method.Then in the *Material* field, enter the material for the sliding scale method.

Save your entries.

7 Product Control

Purpose

Overview

The Production Control application component represents the forecasting of product volumes available for sale for each working interest owner in a producing entity.

The forecasting of volumes enables each owner to begin the process of matching the respective supply for sale to the demand for volumes at the first custody transfer point from the production area. Volumes are nominated daily at the custody transfer point as a means for the facility operator to manage the volumes to be shipped from their location.

During the month of actual product flow, producing operators compare the daily nominated volumes with the actual daily flows. When discrepancies are found between the nominations and actual flows, the facility operator requires a nomination adjustment as communication for the anticipated overage or shortage which may or may not be allowed.

At the end of the producing month, the nominated volumes are used as a basis for calculating adjusted entitlements for each working interest owner.

The adjusted entitlements:

- Represent the intended sales percentage of the monthly flow for that month
- Are used as a basis in the sales volume allocation process for calculating owner sales when the owners are nominating the volumes as a group and not individually

Objectives

The Product Control application area has the following objectives:

- **Generating producer nominations** that are submitted either to pipelines directly or to a third-party marketing company
- **Calculating adjusted gross revenue interest (GRI) percentages** that are later used by the Contractual Allocation

Integration

The following integration features are related to the **Ownership** application component:

- The system retrieves all **working interest owners** (WIOs) that exist as **vendors** from the corresponding venture/division of interest (DOI) marketing group.
- The system retrieves all **marketing representatives** that exist as **customers** from the corresponding venture/DOI marketing group.
- The system calculates each WIOs gross revenue interest using **burden groups** that are set up for venture/DOIs with **carried** WIOs.

There are also integration features related to the **Production** application component:

- The system retrieves the **unit of measure** for each well completion and measurement point from the corresponding delivery network's unit of measure group.
- The system retrieves gas sales **contracts** that are tied to gas sales points with the *Measurement Point / Well Completion to Transporter Cross Reference* transaction

Features

The process of generating producer nominations and calculating adjusted GRI starts with entering **forecasted production volumes** (by well completion, measurement point, or a representative well completion). The forecasted production volumes are allocated first to the working interest owners in the associated division of interest. The result is **owner entitlements** , which represent the volume that each owner is entitled to sell each day of the forecasted production month. Owner entitlements can be adjusted to account for **makeup** situations, when underproduced owners receive volume for a production month, as well as for **not selling** situations, when an owner either lacks approved marketing arrangements or has produced beyond reserve.

The owner entitlements are **aggregated to the marketing representatives** . The owner entitlements are then **distributed to the gas sales contracts** associated with each marketing representative. Next, **original producer nominations and a template** to allow daily nomination tracking are created. Changes to the aggregate volume for a marketing representative/contract/transporter combination in the daily template during the production month generate **nomination changes** , which are important in minimizing pipeline penalties.

Following the production month, a **final adjusted GRI percentage** based on nominations is calculated for each working interest owner and is used by Contractual Allocation.

Product Control Process

Product Control Process

Allocate Forecasted Production
Volumes to Working Interest Owners

Results

Owner Entitlements

Volume each owner is entitled to sell each day

Adjusted for Makeup and not selling scenarios

Aggregated to the Marketing Rep

Split

Gas sales contract associated with
each marketing rep

Create

Original Producer
Nominations

Template for daily
nominations tracking
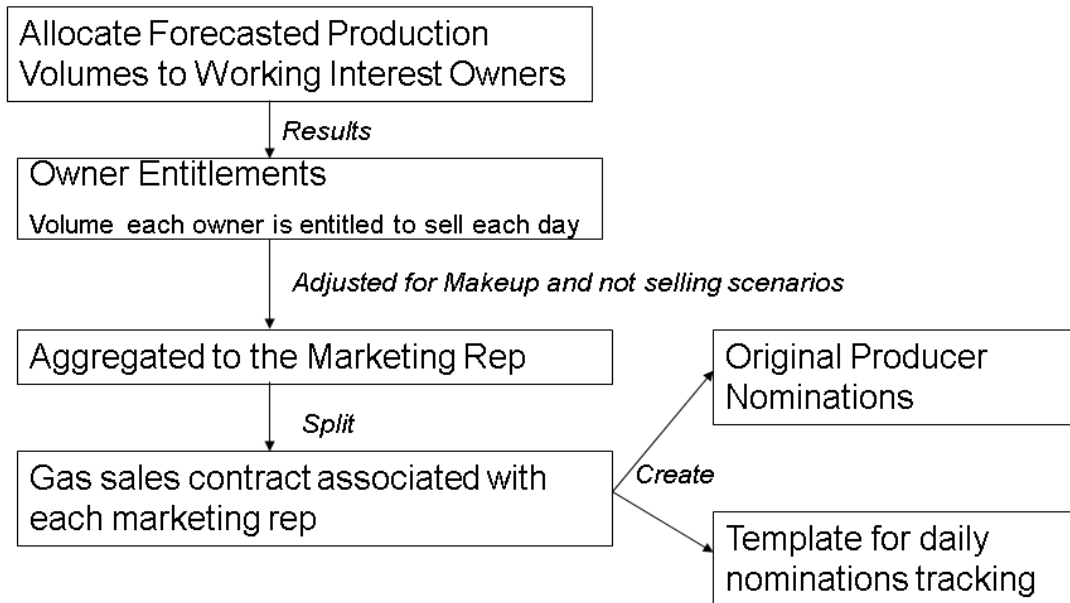
Results of the Product Control Process

- The final adjusted GRI based on nominations is calculated for each working interest owners
- An interface sends availability information to Contractual Allocation
- Once availability information is sent to CA, it cannot be changed in Product Control
- In CA, availability can be modified with the *Revised Owner Availability* transaction

7.1   Creating Capacity

Use

This transaction provides the means to collect and maintain estimated daily flow volumes for one of the
following over a forecast month:

- a well completion
- a representative well completion, which represents other wells on the venture/division of interest (DOI)
- a measurement point

The data entered in this transaction serves as the basis for forecasted production volumes by well completion,
measurement point, or representative well completion.

> **i Note**
>
> You can enter data into this transaction using the Capacity Roll - Measurement Point or Well Completion transactions. These transactions take forecasted production volume from one month and copy it to the following production month.

Within this transaction, fluctuations can be recorded when the estimated production volume is expected to fluctuate during a production month.

Prerequisites

- The unit of measure group for the delivery network contains exactly one unit of measure for the volume dimension, and exactly one unit of measure for the energy dimension.
- The well completion or measurement point is established as a node in the corresponding delivery network.
- The well completion or measurement point is associated with a default venture/division of interest (DOI). (See the DOI to Well Completion Cross Reference procedure or the DOI to Measurement Point Cross Reference procedure, respectively.)

Procedure

1. At the SAP Easy Access screen, choose ⫸ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Product Control* ❯ *Capacity* ❯ *Create.* ⫷
2. The *Create Capacity: Initial Screen* appears.
3. To enter data for a measurement point, choose *Measurement Point* . Enter data as required and choose *Enter* .
4. The *Create Capacity: Overview* screen appears.
5. Enter data as required.

6. **i**

   If you want to establish a well completion to represent other wells on the venture/DOI, set the *Representative Well* indicator. Using a representative well, a single accumulated, estimated production volume can be assigned to all the well completions on a property DOI or unitized property.
   This is useful in cases when estimated production volumes are either not known or are too small to report individually.
   When the indicator is set, the system then maintains availability information only for the representative well or for a subset of wells in the venture/DOI.

7. If you need to forecast downtime, choose *Estimate Fluctuations* . Then at the *Create Capacity Estimate Fluctuations* dialog box, enter the start and end dates for the corresponding sales volume(s) and choose *Enter* to return to the *Create Capacity: Overview* screen.

> **i Note**

All fluctuation volumes must be entered with the same unit of measure. Also, start dates in existing fluctuation date ranges cannot be changed. To modify the date range, delete the line containing the date range that needs to be changed, and insert a new line to enter the new date range.

1. To direct the system to use capacity information available for an owner's percentage in order to extrapolate availability for the entire well, choose the *Net Quantity* indicator.

2. **i**
   The *Net Quantity* indicator is for use when non-operated wells only.
   The system calculates the entire well capacity by taking the amount of the owner's share divided by the owner's GRI percentage, which results in the amount of the entire well capacity. The system then creates availability based on the capacity amount it extrapolated for the entire well.

3. Review the average daily volume. Also review the standard daily volume, which is based on the average daily volume. Finally, review the amount of energy, which is based on the standard daily volume.

4. **i**
   If fluctuations are estimated, the average daily volume is calculated from the fluctuations.

5. Save your entries.

Result

When the Create Capacity transaction is saved, the standard system automatically generates availability, sourcing, and transporter ranking records.

See also:

7.2 Creating Capacity with Capacity Roll - Measurement Point

Use

Use this transaction to copy forecasted production volumes from one month to another month when appropriate.

Procedure

At the SAP Easy Access screen, choose ▎▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Product Control* ❯ *Capacity* ❯ *MP Capacity Roll* ❱ .

The *Capacity Roll - Measurement Point* screen appears.

In the *Roll From Month* field, enter the month and year from which forecasted production volumes will be copied.

In the *Roll To Month* field, enter the month and year that will contain the copied data.

Choose *Execute* .

7.3 Creating Capacity with Capacity Roll - Well Completion

Use

Use this transaction to copy forecasted production volumes from one month to another month when appropriate.

Procedure

At the SAP Easy Access screen, choose ▎▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Product Control* ❯ *Capacity* ❯ *WC Capacity Roll* ❱ .

The *Capacity Roll - Well Completion* screen appears.

In the *Roll From Month* field, enter the month and year from which forecasted production volumes will be copied.

In the *Roll To Month* field, enter the month and year that will contain the copied data.

Choose *Execute* .

7.4 Creating or Maintaining Availability Grouping

Use

Use this transaction to maintain cross references between capacity points and an availability point for an effective monthly period. Capacity points are grouped to an availability point, and all the capacity points within an availability point must be tied to the same delivery network and venture/division of interest (DOI).

In order to create availability, a capacity point must be assigned to an availability point within the effective period.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Product Control → Availability Grouping*

The *Availability Grouping: Initial Screen* appears.

Choose *Create* .

The *Availability Grouping: Create* screen appears.

Options for Entering Availability Grouping Data

Table 58:

Function	Follow-on action
To create an availability grouping for a well completion	Choose *Well Completion*
To create an availability grouping for a measurement point	Choose *Measurement Point*

Enter the following data:

delivery network

well completion or measurement point

effective from date

Choose *Enter* to refresh the screen.

Enter well completion or measurement point data as required.

ⓘ

If you are entering measurement point data, choose *Add Capacity Points* to group multiple capacity points to one availability point (that is, a measurement point). This grouping generates the structure required for reporting at the availability point level.

Save your entries.

Using a Reference to Availability Groupings

To create an availability grouping with reference to an existing record, at the *Availability Grouping: Initial Screen* , enter data as required. Then choose *Execute* .

The *Availability Grouping: Overview* screen appears.

Select one of the records from the list.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying Availability Groupings

To change or display availability groupings, at the *Availability Grouping: Initial Screen* , enter data as required.

The *Availability Grouping: Overview* screen appears.

Select one of the records from the list.

Choose *Change* or *Display* to change or display the record as required.

7.5 Maintaining Availability

Use

The availability record results from the Create Capacity transaction. When the Create Capacity transaction is saved, the standard system automatically generates an availability record. Therefore, creating an availability record is not an option; only changing and displaying are options for availability records.

Availability refers to owner entitlements, and availability is maintained at the 8/8ths level by capacity point. Original entitlements are calculated based on each owner's gross revenue interest, as established in the associated division of interest.

Original entitlements cannot be edited; however, they can be indirectly modified to account for makeup and not selling scenarios. When an owner's original entitlement is modified, the result is the owner's adjusted entitlement.

Prerequisites

The venture/division of interest (DOI) for the well completion or measurement point has a marketing group.

If the DOI contains a carried working interest owner, then the venture / DOI has a burden group as well.

ⓘ

The burden group is required to correctly calculate the gross revenue interest for each owner.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Product Control → Availability → Change*

The *Change Availability: Initial Screen* appears.

Enter data as required and choose *Enter* .

The *Change Availability for <date>: Overview* screen appears.

Enter data or make changes to the data as required.

ℹ

When availability for the previous production month exists, the Payback, Makeup, and Not selling indicators default as selected. However, when capacity is created with Capacity Roll, these indicators default as selected based on the month before the *Roll To* month. The indicators do not default as selected based on the *Roll From* month.

⚠

Table 59:

Payback (indicator)	Makeup volume
Payback percentage	Not selling
Payback volume	Swing (indicator)
Makeup (indicator)	Swing volume

Choose *Recalculate Avails* to refresh the screen with the results of the changes you entered.

ℹ

If you decide that you do not want to keep the changes, cancel the transaction.

Save the availability data.

7.6 Maintaining Multiple Sales Sourcing

Use

The multiple sales sourcing record results from the Create Capacity transaction. When the Create Capacity transaction is saved, the standard system automatically generates a multiple sales sourcing record. Therefore, creating a multiple sales sourcing record is not an option; only changing and displaying are options for multiple sales sourcing records.

Gas marketing representatives may have multiple gas sales contracts (spot and/or dedicated) valid for a single production month. When there are multiple gas sales contracts, allocation percentages are required entries to determine how gas is sold under each contract. These allocation percentages specify the percentage of a marketing representative's available volume that is sold under each contract.

If a marketing representative has only one contract on one sales point, it is assumed that the total adjusted entitlement volume is allocated to that contract.

Prerequisites

Each marketing representative is set up as a customer.

Each marketing representative has at least one gas sales contract for the production month.

Each gas sales meter has an allocation profile for monthly sales in the Production application area.

Each gas sales contract is linked to a gas sales meter, and each gas sales meter is linked to a transporter. (See the Measurement Point to Transporter Cross Reference transaction.)

Each transporter is set up as either a customer or vendor.

Contract diversity is required.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Product Control → Multiple Sales Sourcing → Change*

The *Change Multiple Sales Sourcing: Initial Screen* appears.

Enter data as required and choose *Enter* .

The *Change Multiple Sales Sources for <date>: Overview* screen appears.

In the *Alloc. Percent* field, enter the allocation percentage.

i

An allocation percentage defaults from the previous production month when:

(1) sourcing exists for the previous production month, and

(2) the current sales contracts for a marketing representative are the same as the previous month's sales contracts.

When a marketing representative has only one sales contract for the production month, the allocation percentage defaults to 100.

i

When capacity is created with Capacity Roll, allocation percentages that default are based on the month before the *Roll To* month. The allocation percentages do not default based on the *Roll From* month.

Save the multiple sales sourcing transaction.

See also:

Creating a MP / WC Transporter Cross Reference [page 117]

7.7 Maintaining Transporter Rankings

Use

The transporter ranking record results from the *Create Capacity* transaction. When the *Create Capacity* transaction is saved, the standard system automatically generates a transporter ranking record. Therefore, creating a transporter ranking record is not an option; only changing and displaying are options for transporter ranking records.

Use this transaction to specify the order in which gas is delivered to each of the pipelines for split connect delivery networks (that is, delivery networks with multiple pipelines).

Rankings are required only for split connected wells, because wells that are single connected to one pipeline default to a ranking of one (1).

Prerequisites

Each gas sales meter has an allocation profile in the Production application area for monthly sales.

Each gas sales meter is linked to a transporter in the Production application area. (See the Well Completion / Measurement Point Transporter Cross Reference procedure.)

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Product Control → Transporter Ranking → Change*

The *Change Transporter Ranking: Initial Screen* appears.

Enter data as required and choose *Enter* .

The *Change Transporter Ranking: Maintenance Screen* appears.

In the *Rank* field, enter the rank for the measurement point to specify the order in which gas is delivered to each of the pipelines.

ℹ

For concurrent flow, the default ranking should be set to zero. For non-allocated networks, the ranking is always set for concurrent flow, and it is not changeable.

ℹ

When rankings default from the previous production month when:

(1) ranking exists for the previous production month, and

(2) the current sales points for a delivery network are the same as the previous month's sales points

When capacity is created with Capacity Roll, transporter rankings that default are based on the month before the *Roll To* month. The rankings do not default based on the *Roll From* month.

Save the transporter ranking.

See also:

Creating a WC / MP Transporter Cross Reference [page 117]

7.8 Using the Validations and Exceptions Report

Use

Use the exceptions report to identify the entries that are required to complete the Create Original Nominations / Create Daily Availability process.

The exceptions report consists of a list of exceptions generated by the validation function. The exceptions represent changes made in other areas of PRA that affect the integrity of product control data, and reflect problems in the process of creating availability.

Examples of changes in other areas of PRA modules that may result in exceptions include: ownership transfers, marketing group changes, contract changes, contract / measurement point cross-reference changes, and measurement point allocation profile changes.

Features

To create a list of exceptions, the validations process:

Recreates availability

Compares the newly recreated availability with the existing availability

Returns any errors or warnings.

If no errors occur for availability, the validations process goes on to:

Recreate multiple sales sourcing

Compare the newly recreated multiple sales sourcing with the existing multiple sales sourcing

Returns any errors or warnings.

If no errors occur for sales sourcing, the validations continues the comparison process for transporter rankings.

Activities

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Product Control → Run Validations & View Exceptions*

The *View Exceptions* screen appears.

Choose *Run Validation* to generate exceptions for a particular production month. Information is validated without creating exceptions.

ⓘ

The validation process creates exceptions for: ownership transfers, contract changes, and contract / measurement point cross references.

Once data is validated, enter the production month and choose *Execute* .

The *Exceptions Report* screen appears.

To resolve an exception, select the required row and choose *Resolve Exception* . Then choose *Back* to return to the *View Exceptions* screen.

Choose *View Exceptions* to return to the *Exceptions Report* .

Enter data as required and determine whether the scope of the list is for operated or non-operated, or both. Then choose *Execute* .

Review the list of exceptions generated by validation. Review message text for detailed information about why an exception was generated.

ⓘ

Messages may indicate problems encountered in the process of creating availability.

Exit the report.

7.9   Creating Daily Availability and Nominations

Use

Executing this transaction creates:

- daily availability
- a nomination file

After this transaction is executed, the daily availability data is then available through other Product Control transactions, and the original nomination data is sent to ALE.

Also, once the transaction is executed, availability and capacity cannot be changed for the production month.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Product Control* ❯ *Create Daily Availability & Noms* ◢ .
2. The *Create Daily Availability* screen appears.
3. Enter the production month and choose *Execute* .

7.10 Maintaining Daily Availability

Use

Use this transaction to maintain daily volumes for all availability points during the production month. You can maintain daily volumes at either an availability point level or at the owner level.

Procedure – Changing Daily Volumes for an Owner

At the SAP Easy Access screen, choose *Logistics Production and Revenue Accounting Sales and Balancing* → *Product Control* → *Daily Availability* → *Change*

The *Change Daily Availability: Initial Screen* appears.

Enter data as required. Then choose *Enter* .

The *Change Daily Availability for <Month/Year>: Overview* screen appears.

To change daily volumes for an owner, select one of the Day 1 to Day 30 columns. Then select *Edit Daily Avails* .

ℹ

Selecting *Edit Daily Avails* changes the status of the column from display to change in order to allow you to change the way the day's total is distributed among owners.

Change the volumes as required.

To manually redistribute volumes, select *Allocate Manually* . When you choose this, you must manually redistribute volumes for all of the owners on the selected day so that they add up to the day's total.

⚙

If you subtract 5 from the first owner, you must add 5 manually to another owner, or a combination of other owners, so that the total for the day remains the same.

i

To check that the volumes add up to the day's total, choose *Recalculate Daily Avails* .

To have the system automatically redistribute volumes, select *Allocate to Non-Zero Interest Owners* . Then change the volume for one or more owners on the selected day and choose *Recalculate Daily Avails* . The system then automatically allocates the remainder to the non-zero interest owners whose volumes have not changed.

If you add 5 to one owner and choose *Recalculate Daily Avails* , they system subtracts 5 from the remainder of the non-zero interest owners so that the day's total remains the same.

To apply changes made for a single day to a range of days, choose *Cascade Changes* .

If you change day 3 in June 2001 and would like to apply the changes from June 4 to June 10 as well, you would choose *Cascade Changes* . Then in the *Cascade Changes* dialog box, you would enter 06/04/2001 to 6/10/2001. The system then copies the changes made in day 3 to days 4, 5, 6, 7, 8, 9, and 10.

Save the entries.

Procedure – Changing Daily Volumes for an Availability Point

At the SAP Easy Access screen, choose *Logistics Production and Revenue Accounting Sales and Balancing → Product Control → Daily Availability → Change*

The *Change Daily Availability: Initial Screen* appears.

Enter data as required. Then choose *Enter* .

The *Change Daily Availability for <Month/Year>: Overview* screen appears.

To change the amount for one day's total (also known as the Availability Point Volume) or for multiple days at the same time, choose *Edit Avail Point Vol* .

The *Edit Availability Point Volume* dialog box.

Enter data as required.

i

When the new volume/total is changed, the system distributes the new volume to owners using the same distribution percentage as the old volume.

The Day 1 total=100 where Owner 1=25 and Owner 2=75. If you choose *Edit Avail Point Vol* and change the Day 1 total to 200, the system automatically allocates Owner 1=50 and Owner 2=150.

If required, change the effective date range. Choose *Enter* to return to the *Change Daily Availability for <month/year>: Overview* screen.

Save the changes.

Result

If you make changes with this transaction that result in an overall volume changes for a marketing representative/transporter combination, the system generates Nomination Changes records, which you can review before submitting with the Review Nomination Changes [page 267] transaction.

7.11   Sales Point Adjustments

Use

Use this transaction (▐▶ *Logistics* ▷ *Production and Revenue Accounting* ▷ *Sales and Balancing* ▷ *Product Control* ▷ *Sales Point Adjustments* ▎)to make nomination changes at the sales point level. Net changes are entered for a sales point (for example, -200, +100, and so on). Changes can be made for individual days within a production month.

Each change overrides the previous adjustment; the new adjustment is not a sum of the previous and new adjustment.

If sales point adjustments were created before the creation of original nominations, deletes are not allowed after the nomination changes. If sales point adjustments are created after the submission of original nominations, deletes are not allowed after nomination changes are sent.

Prerequisites

The *Summary Level Nominations* edit is set in the *Activate Configurable Edits* Customizing activity (▐▶ *Industry Solutions Oil & Gas (Production and Revenue Accounting)* ▷ *Global Settings* ▎).

If this edit is not set, you will not be able to execute this transaction.

Activities

> **i Note**
>
> Before entering adjustment data, you must choose *Enter* to lock the fields that come before the adjustment fields.

7.12 Reviewing Nomination Changes

Use

Use this transaction to review nomination changes before they are actually submitted. Reviewing nominations is useful in avoiding penalties that pipelines impose for incorrect nominations.

Nomination changes result from changes made in the Daily Availability transaction, and are created only when the total volume for a marketing representative / contract / transporter combination has changed.

Procedure

At the SAP Easy Access screen, choose ▌ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Product Control* ❯ *Review Nomination Changes* ❯ .

The *Review Nomination Changes* screen appears.

Enter data as required and choose *Execute* .

The *Review Nomination Changes* screen appears.

Review the nomination changes.

See also:

Maintaining Daily Availability [page 264]

7.13 Submitting Nomination Changes

Use

Nomination changes result from changes made in the Daily Availability transaction, and are created only when the total volume for a marketing representative / contract / transporter combination has changed.

Use this transaction to generate a nomination change notice by selecting the nomination changes to be included in the notice.The nomination notice is sent to the appropriate pipeline as required using Application Link Enabling (ALE).

Multiple nomination change notices can be created for each date in the production month.

Prerequisites

You have determined at what level nomination changes are to be generated.

> **i Note**
>
> You can configure nomination changes to be generated at a sales point level or at a termination point level.
>
> To configure nomination changes, in the IMG choose ▐▶ *Industry Solution Oil & Gas(PRA)* ▶ *GlobalSettings* ▶ *Activate Configurable Edits.* ◗ .If the *Enable summary level product control nominations* indicator is set, nominations are generated at a sales point level.

Procedure

At the SAP Easy Access screen, choose ▐▶ *Logistics* ▶ *Production and Revenue Accounting* ▶ *Sales and Balancing* ▶ *Product Control* ▶ *Submit Nomination Changes* ◗ .

The *Submit Nomination Changes* screen appears.

Enter data as required and choose *Execute* .

The *Submit Nomination Changes* screen appears.

Select the rows for the nominations that are to be included in the nomination change notice and then choose F8 to generate the nomination change notice.

Choose *Print* to generate a hard copy that can be sent to the pipeline.

See also:

7.14 Run the Contractual Allocation Interface

Use

This transaction sends the final adjusted gross revenue interest amount to the Contractual Allocation application area.

The Product Control application area bases the calculation of the final adjusted gross revenue interest percentage on nominations for each working interest owner.

It is the last transaction to be executed in the Product Control monthly process.After this transaction is executed, daily availability cannot be changed in Product Control.

Procedure

At the SAP Easy Access screen, choose ▐▶ *Logistics* ▶ *Production and Revenue Accounting* ▶ *Sales and Balancing* ▶ *Product Control* ▶ *Run CA Interface* ◗ .

The *CA Interface* screen appears.

Enter the production month, then choose *Execute* .

See also:

7.15   Using the Availability by Owner Inquiry

Use

Use this report to access all availability data across capacity points for one working interest owner.

Availability data is maintained at the 8/8ths level by capacity point.

Procedure

At the SAP Easy Access screen, choose ▌ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Product Control* ❯ *Availability by Owner Inquiry* ▐.

The *Availability by Owner* screen appears.

Enter the code for the owner and the production month.Then choose *Execute* .

The *Availability by Owner* screen appears.

Review the availability data.

Exit the function.

8 Balancing Workplace

Purpose

The Balancing Workplace (▎▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Product Balancing* ❯ *Balancing Workplace* ❩) is a single transaction in which you can carry out the following tasks.

- Creating, maintaining and displaying a product balancing agreement (PBA)
- Creating and maintaining a PBA to well completion / measurement point cross reference
- Creating and displaying manual adjustments
- Maintaining and displaying ownership transfers
- Generating, printing, and finalizing a monthly imbalance report

Functions

The Balancing Workplace comprises the following functions.

- Creating a Product Balancing Agreement (PBA) Master Record [page 271] – Used to create a record for the PBA legal document containing the specifications about how imbalances will be processed.
- Maintaining or Displaying PBAs [page 272] – Used to make changes to PBAs or to display PBAs.
- Creating or Maintaining a PBA WC / MP Cross References [page 273] – Used to maintain cross references between PBAs and either well completions or measurement points for a given monthly period.
- Creating a Manual Adjustment [page 274] – Used to make adjustments to an owner's imbalance, such as a starting imbalance, which can be negative if required.
- Reviewing Adjustments and Owner Balance History [page 275] – Used to retrieve a list of adjustments to PBAs.Can also be used as an inquiry for an owner's current balances.
- Reviewing Ownership Transfers [page 275] – Used to maintain the transfer of imbalances with an ownership transfer, and to retrieve a list of ownership transfers based on the selection criteria that you enter.
- Maintaining Transfer Settings and Retaining Imbalances Settings [page 276] - Used to specify whether the system should transfer imbalances to a new owner or to retain the imbalances of an old owner.
- Generating a Balancing Statement [page 277] – Used to generate and view monthly imbalance statements; you can generate a current report for each production month.

  > **i Note**
  >
  > To set up the *Balancing Workplace* so that upon opening the transaction after having closed it you return to the tab that you were last working on, go to ▎▶ *System* ❯ *User profile* ❯ *Own data* ❩ .
  >
  > Then choose the *Parameters* tab, and in the *Parameters* field, enter **OIUBL01_WORKPLACE** .Then save your entry.

- Balancing User Reports [page 279] - Used to run various utilities in order to verify and analyze the balancing data.

8.1 Creating Product Balancing Agreement Master Records

Use

Use this function to create master records for product balancing agreements (PBAs), the legal documents that contain specifications about how imbalances will be processed.

The PBA is used to generate reports about owner-level imbalances.

ℹ

There can be multiple PBAs within a delivery network.

A measurement group enables the use of a PBA across networks.

Integration

The system obtains actual and entitled volumes from the Contractual Allocation (CA) application component and the entries in the *Adjustments* tab of the *Balancing Workplace* transaction.

The system adds manual adjustments to CA adjustments.

Procedure

1. From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Product Balancing → Balancing Workplace*

The *Balancing Workplace* screen appears.

1. Choose the *PBA* tab. Then choose *Create* .

The *Balancing Workplace – Create* screen appears.

1. Enter data as required.

ℹ

In the field immediately to the right of the *Effective To* field, enter the year in which the PBA is effective.

To suppress the printing of a PBA, ensure that the *External Rpt Flag* is deselected. (The system generates reports only for those PBAs that have the *External Rpt Flag* selected.)

ℹ

You define balancing product groups in Customizing within the *Define/Maintain Balancing Product Groups* activity, under *Industry Solution Oil & Gas (Production and Revenue Accounting) → Sales and Balancing → Balancing Statement*

Save your entries.

Result

After you create a PBA master record, it must be linked to a well completion or measurement point. See Creating or Maintaining a PBA to WC/MP Cross Reference [page 273] for more details.

8.2 Maintaining or Displaying Product Balancing Agreements

Use

Use this function either to make changes to a product balancing agreement (PBA) master record or to display a PBA master record.

Activities

At the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Sales and Balancing Product Balancing → Balancing Workplace*

The *Balancing Workplace* screen appears.

Choose the *PBA* tab.

Enter the selection criteria for the system to use in order to retrieve the PBA(s).

In the *PBA No* field, enter the code for the PBA.

In the *Effective From* field, enter the month in which the PBA becomes effective.

In the field immediately to the right of the *Effective From* field, enter the year in which the PBA becomes effective.

In the *PBA Group* field, if the PBA is part of a PBA group, enter the code for the PBA group.

In the *BIProduct Group* field, specify the product group that applies to the PBA.

To retrieve report imbalances at the well completion or measurement point level, choose *Detail Rpt Flg* .

If there is a PBA number from a legacy system that you would like to reference, enter the legacy system number in the *External PBA* field.

In the *Preparer Nm* field, enter the name of the person preparing the PBA.

Choose *Execute* .

The system displays the PBA(s) that correspond with the selection criteria that you entered.

8.3 Creating or Maintaining PBA to WC/MP Cross References

Use

Use this function to maintain cross references between product balancing agreements (PBAs) and either well completions or measurement points for a given monthly period.

Activities

At the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Sales and Balancing Product Balancing → Balancing Workplace*

The *Balancing Workplace* screen appears.

Choose the *Master Data* tab. Then choose the *PBA to WC/MP Xref* tab.

The *Balancing Workplace – Change* screen appears.

In the *PBA No* field, enter the PBA number.

To insert all well completions or measurement points that are linked to a division of interest into the PBA cross reference, choose *Add Vent/DOI WC to PBA* .

Enter the following data as required.

Either enter the well ID in the *Well* field and the well completion ID in the *WC* field, or enter the measurement point ID in the *Measurement Point* field.

> **i**

You can attach a well/well completion or a measurement point to multiple PBAs as long as each PBA has a different product group.

In the *From* field, enter the month in which the cross reference becomes effective.

In the *Year* field, enter the year, corresponding to the month, on which the cross reference becomes effective.

In the *To* field, enter the month in which the cross reference becomes effective.

In the *To* field, enter the year, corresponding to the month, through which the cross reference is effective.

> **i**

If you do not enter the effective to month and year, the system defaults the effective to month and year of the PBA.

6. Save your entries.

8.4 Creating Manual Adjustments

Use

This function makes adjustments to an owner's imbalance, which can be negative if required. The system tracks adjustments as debit and credit entries are made in a ledger. That is, depending on whether the adjustment is negative or positive, the system adds to or subtracts from the current imbalance.

With the exception of manual adjustments, adjustments are system-generated.

Activities

At the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Sales and Balancing Product Balancing → Balancing Workplace*

The *Balancing Workplace - Display* screen appears.

Choose the *Adjustments* tab. Then choose the *Manual Adjustments* tab.

Enter the following data as required.

Either enter the well in the *Well* field and the well completion in the *Well Completion* field, or enter the measurement point in the *Measurement Point* field.

Enter the balancing product group in the *BIPRoductGroup* field.

Enter the production month in the *ProductionMonth* field.

In the field immediately to the right of the *ProductionMonth* field, enter the year corresponding to the month.

Choose *Change* .

The *Balancing Workplace – Change* screen appears.

Enter the following data.

In the *Owner* field, enter the code for the owner.

In the *Interest Type* field, enter the type of ownership for the owner.

In the *Own. ISQ* , enter the owner's sequence number, which differentiates between owner records.

In the *Adjust. Reason* field, enter a reason for the adjustment.

In the *Adj. Quan* field, enter the amount of the adjustment.

Save your entries.

ⓘ

If the balance of the adjustments is *not* zero, the system stores the data only temporarily and does not use the temporary data on a statement. The system also displays a red light next to the total when the balance is not zero.

8.5   Reviewing Adjustments and Owner Balance History

Use

Use this function to retrieve a list of adjustments to PBAs based on the selection criteria that you enter.

By retrieving the adjustments, you can review, for example, whether the system has run Contractual Allocation again, or whether manual adjustments have been entered.

This function can be used as an inquiry to an owner's current and previous balances.Because it contains all adjustments ever made to an owner's account, it also provides a history of an owner's balances.

Activities

At the SAP Easy Access menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Product Balancing* ❯ *Balancing Workplace* ❯ .

The *Balancing Workplace - Display* screen appears.

Choose the *Adjustments* tab.Then choose the *Browse Adjustments* tab.

Enter data as required to specify the selection criteria for the system to use in order to retrieve the adjustment(s).

Choose *Execute* .

The system displays adjustments and owner balance history that correspond with the selection criteria that you entered.

8.6   Reviewing Ownership Transfers

Use

Use this function to retrieve a list of ownership transfers based on the selection criteria that you enter.

Unless specified otherwise, the system transfers all imbalances to the new owner.

For information about making settings to either transfer imbalances to a new owner or retain the imbalances of an old owner, see Maintaining Transfer Settings and Retaining Imbalances Settings [page 276] .

Activities

1. At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Product Balancing → Balancing Workplace* .

The *Balancing Workplace – Display* screen appears.

2. Choose the *Adjustments* tab. Then choose the *Ownership Transfers* tab.

3. Enter data as required to specify the selection criteria for the system to use in order to retrieve the ownership transfer(s).

4. Choose *Select* .

The system displays ownership transfers that correspond with the selection criteria that you entered.

8.7   Maintaining Transfer Settings and Retaining Imbalance Settings

Use

Use this function to specify whether the system should transfer imbalances to a new owner or retain the imbalances of an old owner.

Activities

At the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Sales and Balancing Product Balancing → Balancing Workplace*

The *Balancing Workplace – Display* screen appears.

Choose the *Adjustments* tab. Then choose the *Ownership Transfers* tab.

Choose *Select* .

The system displays ownership transfers that correspond with the selection criteria that you entered.

Choose *Change* .

To specify that the old owner should retain imbalances at the time of transfer, select *Retain Curr* for the required record.

ⓘ

If you leave the *Retain Curr* indicator unselected, then any imbalances at the time of transfer are passed to the new owner.

To specify that the old owner should retain any imbalances that are due to PPA activity during the months that the well was owned but that were entered into the system after the ownership transfer, select *Ret PPA* for the required record.

ℹ

If you leave the *Ret PPA* indicator unselected, then these "after-the-fact" imbalances pass to the new owner.

Save your entries.

8.8 Generating Balancing Statements

Use

Use this function to generate monthly imbalance statements. You can generate a current report for each production month.

The Balancing reporting functionality features a finalization feature. After you execute trial runs and determine that data for an imbalance statement is correct, you finalize the statement. The system keeps the last trial run as the final version and then rolls over any changes into the current report, thereby creating a previous balance (that is, a new starting imbalance) for the current month.

Further, if there is a change in Ownership, Contractual Allocation, or the PBA Cross Reference, the system changes the status of the statement from *Current* to *Outdated* .

ℹ

The system prints a single current statement with all activity that occurred in the system since the last statement. When a prior period adjustment (PPA) occurs, you do not print an amended statement for each of the prior periods adjusted. Instead, the system rolls up any adjustments to previous production months into the current month's statement.

For example, suppose the current month is June. In June you run the statement for May (the reporting month), which shows adjustments to the volumes in January (the production month).

After January's production is adjusted in June (PPA activity), the system will not reprint separate statements for January, February, March, and April.

Instead, the system will print a single statement for May (per PBA) showing PPAs as adjustments to the current balance.

Activities

At the SAP Easy Access menu, choose *Logistics* → *Production and Revenue Accounting* → *Sales and Balancing* → *Product Balancing* → *Balancing Workplace*

The *Balancing Workplace – Display* screen appears.

Choose the *Balancing Statements* tab.

Enter the following data as required.

In the *ReportingMonth* field, enter the month for which you will generate a balancing statement.

In the field immediately to the right of the *ReportingMonth* field, enter the year in which the PBA is effective.

In the *BlProduct Group* field, specify the product group that applies to the PBA.

ⓘ

A balancing product group comprises a combination of major and minor product groups. You define product groups in Customizing within the *Define/Maintain Balancing Product Groups* activity, under *Industry Solution Oil & Gas (Production and Revenue Accounting) → Sales and Balancing → Balancing Statement.*

If the PBA is part of a PBA group, enter the code for the PBA group in the *PBA Group* field.

Enter the number (or numbers) of the PBA(s) for which you want to generate a balancing statement.

To send the statement to the printing spool, select the *Print to Spool* indicator.

In the *SmartForm* field, enter the name of the SmartForm to be used in order to generate the balancing statement.

ⓘ

If you do not specify a SmartForm, then the system uses the default SmartForm.

You set the default *SmartForm* in Customizing at *Industry Solution Oil & Gas (Production and Revenue Accounting) Sales and Balancing Balancing Statement → Maintain valid Smartforms for Balancing statement* .

Choose *Display Balancing Statements* .

The system displays any PBAs that correspond with the selection with the selection criteria that you entered.

ⓘ

There are three PBA statuses:

-- *Current, but not finalized* – The PBA data is current and up-to-date.

-- *Outdated* – Indicates that the data has changed in one or more of the following areas since the report was last run.

Contractual Allocation

Manual Adjustments

Ownership Transfer

PBA Cross-reference

-- *Finalized* – The statement is stored in the system as a final version and can no longer be changed. If any changes occur in a previous production month, the system will incorporate the changes when the next report is run.

If you would like to manually set the status of a report to *Outdated* , select the row with the PBA number and then choose *Outdated* .

To generate the imbalance report(s), select the row(s) with the PBA numbers(s) in the bottom left corner of the screen, and then either choose *Generate Online* to generate the reports online, or if there are multiple PBAs for which you are generating reports, you may want to choose *Generate in Background* to improve processing.

If you would like to print a statement showing changes that were entered after the statement was finalized, select the row(s) with the PBA number(s) in the bottom left corner of the screen and then choose *Generate amnd. in Background* .

The system sends the statement with the changes entered after finalization to the spool for printing. The system does not overwrite the original statement for that month.

To view the status of your jobs and use job overview functions, choose *Jobs* .

To view and print reports that you sent to the spool (reports are sent to the spool when the *Print to Spool* indicator is selected), choose *Spool* .

To display the balancing reports that correspond with a PBA, double-click on the row with the PBA number in the bottom left corner of the screen.

The system displays the balancing report(s) data that corresponds with a PBA.

To display imbalance details contained in a report, select a report and then choose *Display Cum. Balances* .

The system displays imbalance details such as the entitlement percentage, entitled and actual quantity, and adjustments by owner.

To display adjustments to a PBA, select a report and then choose *Display Adjustments* .

The system displays an adjustment details for the PBA, such as the adjustment type and adjustment quantity.

After you have verified the results, select the PBA and choose *Finalize* .

After you choose *Finalize* , the report can no longer be changed.

8.9 Balancing User Report

Use

You use this report to:

- Run system verification utilities which include the following reports:
  - Contractual allocation, volume validation

- Historical ownership
- Zero interest owners
- Balancing exception report
- Control reports utilities which include the following reports:
  - Well/measurement point master data display
  - Owner balances by sales month
- Run partner reporting utilities which include the following reports:
  - Owner balances by the reporting month
  - Reprint product balancing agreement report

Activities

- To access the *Balancing User Reports* screen, go to the *SAP Easy Access* menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Balancing User Reports* ◀ .
- Select the radio button for one of the *Utility* and choose *Execute* . The corresponding utility screen appears.

8.9.1 Running System Verification Utilities

This section includes the following:

8.9.1.1   Using Contractual Allocation (CA) Volume Validation Report

Use

You use this report to verify the contractual allocation (CA) results reported in balancing workplace against the results reported in contractual allocation (CA).

Activities

You must do the following:

- Go to the screen.

- Select the *Contractual Allocation (CA) Volume Validation* radio button and choose *Execute* . The *Contractual Allocation (CA) Volume Validation* screen appears.
- Enter the *Balancing Product Group* and *Product Balancing Agreement (PBA) Number* or *PBA Group* and any other additional selection criteria as required. Choose *Execute* .
- The *Contractual Allocation (CA) Volume Validation Report* appears. The report shows the records where there is discrepancy between contractual allocation (CA) results and the contractual allocation (CA) results reported in balancing.
- Review the differences columns.

8.9.1.2 Using Historical Ownership Report

Use

You use this report to verify the beginning balance of a product balancing agreement (PBA) for the given reporting month with the last month's ending balance. The balancing report status must be current or finalized for the given reporting month in order to use this report.

Activities

You must do the following:

- Go to the Balancing User Report [page 279] screen.
- Select *Historical Ownership* radio button and choose *Execute* . The *Historical Ownership* screen appears.
- Enter the *Balancing Product Group* , *PBA Number* , *Reporting Month* and any other additional selection criteria as required. Choose *Execute* .
  The *Historical Ownership* report appears. The report shows the records where there is difference between beginning balance for the given reporting month and the last month's ending balance.
- Review the differences column.

8.9.1.3 Using Zero Interest Owners Report

Use

You use this report to list down the owners who have zero entitled interest (GRI) for the given month but who still hold the balances. The balancing report status should be current or finalized for the given reporting month in order to use this report.

Activities

You must do the following:

- Go to the Balancing User Report [page 279] screen.
- Select *Zero Interest Owners* radio button and choose *Execute* . The *Zero Interest Owners Report* screen appears.
- Enter the *Balancing Product Group* , *Product Balancing Agreement (PBA) Number* , *Reporting Month* and any other additional selection criteria as required. Choose *Execute* . The *Zero Interest Owners Report* appears.
  The report shows the owners who have zero entitled interest (GRI) for the given month but who still hold the balances.
- Review the *Entitled Interest* and *Current Balance* column.

8.9.1.4   Using the Balancing Exception Report

Use

You use this report to generate a list of:

- Well completions and measurement points (MP) that have been allocated through contractual allocations (CA), but that are not attached to a product balancing agreement (PBA) for a specific month.
- Product balancing agreements (PBA) which do not have any well completions or measurement points attached for a specific month.
- Product balancing agreements for which PBA cross-references have changed for a specific month.
- Product balancing agreements which do not have any beginning balances.

Activities

- You can access *Balancing Exception Report* in the following 2 ways:
  - Go to the *SAP Easy Access* menu, choose ▌ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Balancing Workplace* ▌.The *Balancing Workplace* screen appears.
    Choose ▌ *Goto* ❯ *Exception Report* ▌. The *Balancing Exception Report* screen appears.
  - Go to the *SAP Easy Access* menu, choose ▌ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Sales and Balancing* ❯ *Balancing User Reports* ▌. The *Balancing User Reports* screen appears.
    Select *Balancing Exception Report* radio button and choose *Execute* . The *Balancing Exception Report* screen appears.
- Enter the production month and production year, and any other selection criteria as required.
- Select the radio button for one of the exception report and choose *Execute* . The corresponding *Balancing Exception Report* appears.
- Review the resulting list.

8.9.2 Running Control Reports Utilities

This section includes the following reports:

8.9.2.1   Using Well/Measurement Point (MP) Master Data Display

Use

You use this report to list down the product balancing agreement (PBA) cross-references and venture/ division of interest (DOI) cross-references for given wells or measurement points (MPs).

Activities

- Go to the Balancing User Report [page 279] screen.
- Select *Well/MP Master Data Display* radio button and choose *Execute* . The *Well/MP Master Data Display* screen appears.
- Enter the *Well* , *Well Completion* or *Measurement Point* or *PBA* in the selection criteria. Choose *Execute* . The *Well/MP Master Data Display Report* appears.
- Review the list for venture/DOI information for the given *Well* , *Well Completion* or *Measurement Point* or *PBA* .

8.9.2.2   Using Owner Balances by Sales Month Report

Use

You use this report to display owner balances by sales month. The balancing report status should be current or finalized for the given sales month in order to use this report.

Activities

- Go to the Balancing User Report [page 279] screen.
- Select *Owner Balances by Sales Month* and choose *Execute* . The *Owner Balances by Sales Month* screen appears.

- Enter the balancing product group, product balancing agreement (PBA) number, sales month, owner, owner sequence number and any other additional selection criteria as required.
  Choose *Execute* . The *Owner Balances by Sales Month Report* appears.
- Review the list of adjustments for given PBA and sales month.
- Summarize the *Adjustment Quantity* column in order to get the owner balance on the given sales month.

8.9.3 Running Partner Reporting Utilities

This section includes the following reports:

- Using Reprint Product Balancing Agreement (PBA) Statement [page 284]
- Using Owner Balances by Sales Report Month [page 283]

8.9.3.1 Using Reprint Product Balancing Agreement (PBA) Statement

Use

You use this report to reprint the product balancing statement using your own smartform.

Activities

- Go to the Balancing User Report [page 279] screen.
- Select *Reprint PBA Statement* radio button and choose *Execute* . The *Reprint PBA Statement* screen appears.
- Enter the *Balancing Product Group* , *PBA Number* , *Reporting Month* , *Smartform Name* and any other additional selection criteria as required.Choose *Execute* . A pop-up window appears to ask for the printer parameters.
- Enter the printer parameters and select the checkbox. The hard copy of the PBA statement gets printed.

8.9.3.2 Using Owner Balances by Report Month

Use

You use this report to display owner balances by report month. The balancing report status must be current or finalized for the given reporting month in order to use this report.

Activities

- Go to the Balancing User Report [page 279] screen.
- Select *Owner Balances by Report Month* and choose *Execute* . The *Owner Balances by Report Month* screen appears.
- Enter the *Balancing Product Group* , *PBA Number* , *Report Month* , *Owner* , *Owner Sequence Number* and any other additional selection criteria as required.
  Choose *Execute* . The *Owner Balances by Report Month Report* appears.
- Review the list of adjustments for the given PBA and report month.
- Summarize the *Adjustment Quantity* column in order to get the owner balance for the given report month.

9   Valuation

Purpose

The Valuation application area represents the process of valuing volumes for all products.Valuation utilizes various types of data to **value volumes for all products** and to **calculate marketing and tax deducts** , including volumetric, pricing, deduct, ownership, and accounting data.In addition, Valuation serves as the central point for **processing prior period adjustments** , and as the entry point for **settlement statements** .

The main areas of functionality for the Valuation application area are:

- Valuation Cross Reference (VCR) maintenance – maintenance for a link between the approved formulas and approved contracts, Production entities, Ownership entities, and marketing groups from Contractual Allocations
- The use of lists to process VCR approvals
- Formula maintenance
- Internal marketing rates and tax master data maintenance
- Settlement statements and oil and gas run statements
- Current selection – allows a user to manually select a network that is not set up to be processed automatically, and it allows the final processing status to be overridden if necessary
- Prior period selections
- Reject maintenance
- Job submission
- Job reporting

Integration

The Valuation application area requires product sales information from the Production application area or the Contractual Allocation application area; pricing information from contracts; and ownership, venture, and division of interest accounting information from division orders.

After summarizing data, the Valuation application area then transmits it to the Revenue Distribution and Tax and Regulatory Reporting application areas.

SAP Oil & Gas (PRA - Production and Revenue Accounting)
Valuation
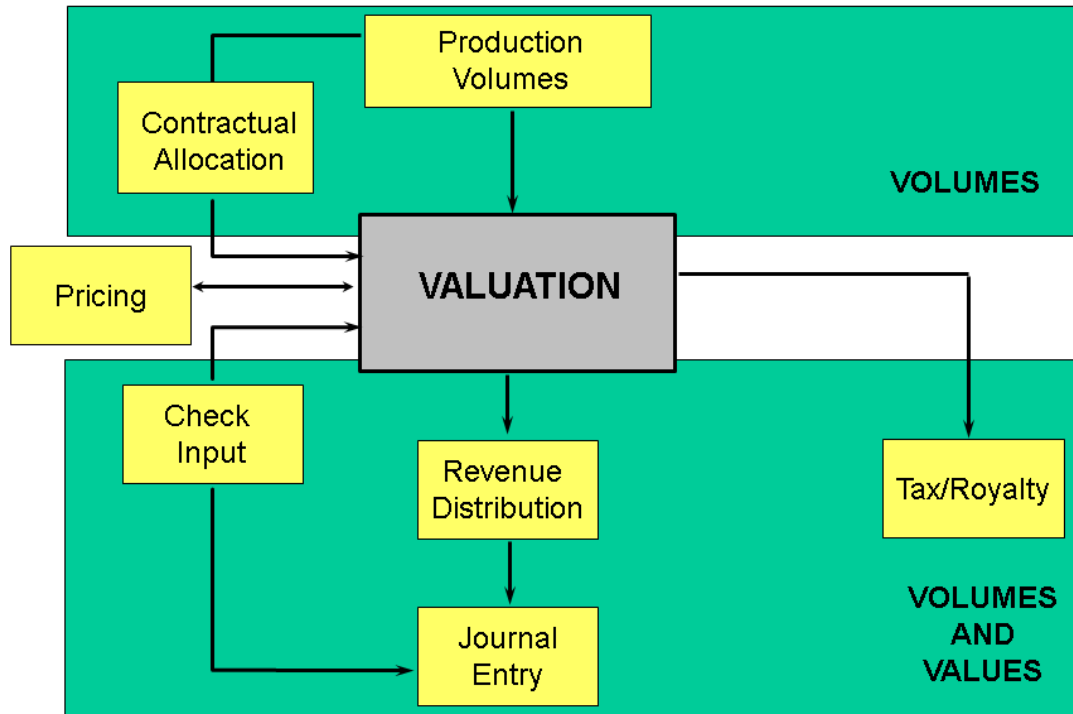
9.1 Valuation Formula

Use

Formulas use volume, ownership, and rates data, as well as formula master data, to calculate values.

Formulas are essential to Valuation processing; only a formula can attribute a calculated value to a volume of oil, gas, or natural gas liquid sold.Further, only a formula can apply the costs or reimbursements associated with the expenses of marketing a product to a calculated value.

All non-pricing reserve words and calculations are processed in Production Revenue Accounting (PRA), while data such as contract, well, measurement point, and material numbers are sent to *Sales & Distribution* to obtain prices and values.

Sales & Distribution provides the ability to extract pricing information from any contract, including contracts maintained at either a measurement point or well completion level.Further, *Sales & Distribution* serves as the repository for postings and gravity scales.

Integration
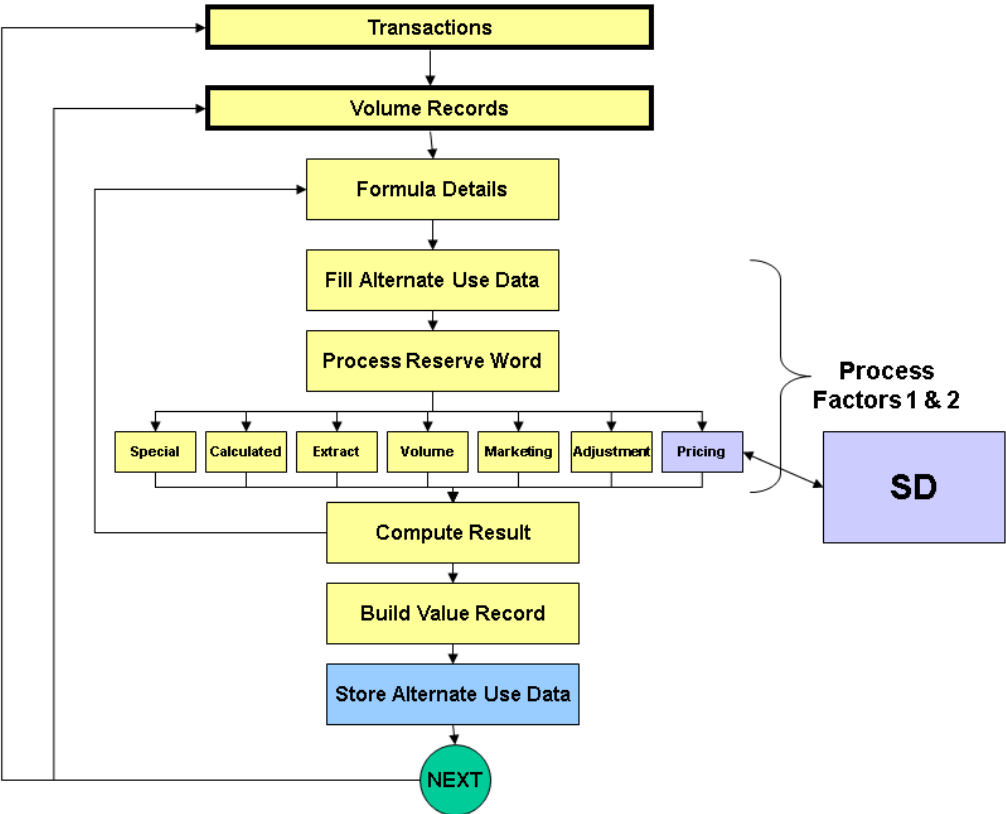
Features

Marketing Costs

Marketing formulas feature the ability to process marketing costs with a variety of marketing formula reserve words.This supports situations when owners negotiate marketing amounts to be added or subtracted from their interest.

Marketing costs may or may not be included in taxable value.
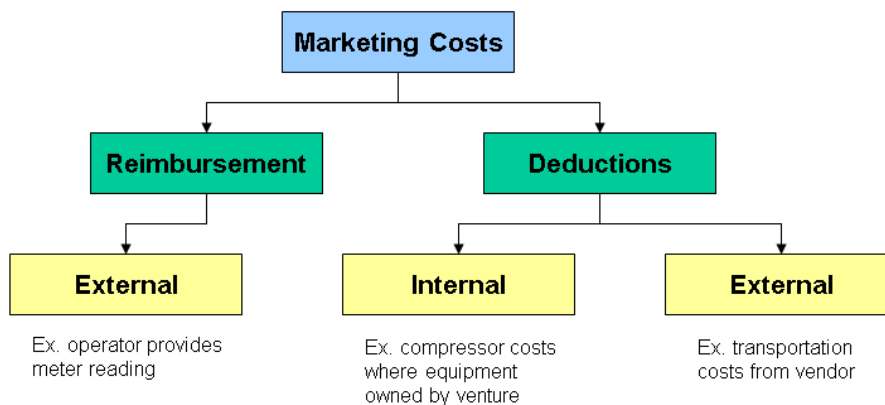
9.1.1 Creating Formula IDs

Use

Use this transaction to set up an ID for a formula to be created. The formula contained within the ID can change over time, because each formula is effective dated. The ID itself, however, remains the same.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Sales and Balancing → Revenue Accounting → Valuation → Valuation Formula ID → Create*

In the *Formula ID* field, enter an ID code for the formula. It may be alphanumeric. Then choose *Enter* .

The *Create Formula ID - Overview* screen appears.

In the *Formula ID <name>* field, enter a description for the formula ID. Then enter other data as required.

Set the Calculation Indicators as required. To determine what calculation should be executed in the formula, choose one of the following.

Options for Setting Calculation Indicators

Table 60:

To calculate	Set the indicator(s)
Actual volumes	Actual
Entitled and volumes	Actual and Entitled
Entitled and settlement volumes	Entitled and Settlement
For Settlement diversity owners	Settlement

ⓘ

Entitled cannot be selected by itself.

Save the formula ID.

Using a Reference for a Valuation Formula ID

If a valuation formula ID record already exists with data similar to that of the new valuation formula ID you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter the ID for the existing valuation formula ID in the reference section of the initial screen for the new valuation formula ID.

See also:

9.1.2 Creating Valuation Formulas

Use

Use this transaction to specify what calculation(s) a formula carries out.

Formulas, which are effective-dated, define how the system values a product. They provide the means for the system to value any volume type or disposition being maintained in sales, production, on-lease, off-lease, etc.

Formulas are a critical component of the valuation cross reference relationship providing the ability for the system to use production and revenue allocation information; contract, pricing, and marketing cost/reimbursement information; and ownership and accounting information.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation Formula → Create*

The *Create Valuation Formula: Initial Screen* appears.

Enter the formula ID and the effective from date. Then choose *Enter* .

The *Create Valuation Formula: Overview* screen appears.

Enter data for the formula as required, using the Reserved Words to define how the system performs revenue computations.

ⓘ

The *Result* field contains the reserved word that represents the result of the system's computation of Factor 1 and Factor 2, using the operator in the *Function* field. The format is RESULT = FACTOR 1 (OPERATOR) FACTOR 2.

ⓘ

For a natural gas liquid (NGL) major product, the reserved word NGLPC can be used to value minor products differently. When you enter NGLPC, the system's selections process creates new Valuation transactions for each material that the reserved word refers to.

Review the *Alt* indicator. When selected, this indicates that alternate data is being used in the formula.

To review alternate data or to enter data in order to override formula entries, choose *Alternates* .

ⓘ

The *Alternates* button could be used to specify an alternate measurement point or well completion in a formula instead of the measurement point or well completion normally stored in the formula.

To approve the formula, set the *Approval* indicator.

Save the valuation formula.

Using a Reference for a Valuation Formula

If a valuation formula record already exists with data similar to that of the new valuation formula you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the existing valuation formula in the reference section of the initial screen for the new valuation formula.

See also:

9.1.2.1 Using Reserved Words

The reserved words listed below are available for use when creating valuation formulas.

Table 61: Reserved Word Type Code

F	Factor Word
R	Result Word
B	Both

Table 62: Reserved Word Use Code

A	Adjustment	Adjustment reserved words retrieve fixed values for use in formula calculations.
C	Calculated	Calculated reserved words are the result of calculations within the formula. The values associated with these words are placed in appropriate fields on the transaction and they override any previously existing values.
E	Extract	Extract reserved words retrieve previously calculated values (or volumes) from the transaction for use in formula calculations.
M	Marketing	Marketing reserved words retrieve marketing rates or percentages for use in the formula calculation. The prefix EM stands for external marketing; IM stands for internal marketing; and ET stands for external transportation.
P	Pricing	Pricing reserved words retrieve or calculate prices for use in formula calculations.
S	Special	Special reserved words perform a special function unlike the functions of other reserved word. Special reserved words may be used in the result fields of the valuation formulas.

V	Volume	Volume reserved words retrieve or accumulate specific volumes from Production or Contractual Allocation. They are used in formula calculations only. They do not replace any volumes on the transaction.

> ℹ **Note**
>
> Some pairs of Reserved Words are the same, differentiated only by a **D** or an **R** at the end of the word.The D stands for *Deduction* , while the R stands for *Reimbursement* .

Table 63:

Reserved Word Code	Reserved Word Name	Reserved Word Description	Re-served Word Type Code	Re-served Word Use Code
ACTBTUFAC	Actual BTU Factor Override	The BTU Factor associated with the actual volume preloaded with the system calculated amount. This word overrides thesystem-calculated amount if used in a result field. None of the override source fields may be used with this word. The result of this word must be divided by 1,000 in your formula.	B	C
ACTMMBTU	Actual MMBTU Volume	This word is pre-loaded with the system-calculated volume and overrides the system calculated volume if used in a result field. None of the override source fields may be used with this word.	B	C

ACTVAL	Actual Value	The actual value associated with a VL Transaction. The value of this word is passed in the Revenue system as the gross value of an actual transaction. None of the override source fields may be used with this word.	B	C
ACTVOL	Actual Volume	The actual volume is pre-loaded with the system-calculated volume. This word overrides the system-calculated volume if used in a result field. None of the override source fields may be used with this word.	B	C
ACTWLR	Actual PVR	A field on the Valuation transaction is pre-loaded with a system calculated volume for Actual PVR.	B	C
ADANOPL	Alternative dual accounting **non** -plant owner	Indicates that the price multiplier does **not** represent gas plant interest ownership.	F	S
ADAPLOWN	Alternative dual accounting plant owners	Indicates that the price mulitplier **does** represent gas plant interest ownership.	F	S

BBLPWL	Barrels per Well	This reserved word retrieves the unit volume for a given product code and volume type in addition to the well count associated with the unit. The unit volume divided by the well count is the Barrels per Well. The product code and volume type cannot be entered independently, but can be overridden together. If not entered, they will default to the formula header. An override contract may be used with this word.	F	V
BTUFAC	BTU Factor Determination	The BTU factor for an override product code and determination volume type. BTU is at the determination method as entered in volume determination. The product code and volume type cannot be entered independently. The product code and volume type default to those entered on the formula header. Also, an override purchaser, measurement point, or well completion may be entered with this word. If an override measurement point or well completion is used, you must use the Transporter BA that corresponds with it. Do not divide the result of this BTU word by 1,000 in your formula.	F	V

BUYSELLVAL	Buy / Sell Value	Buy/sell value for buy/ sell contract agreement. The purchaser buys from itself through indirect supply contract. Revenue Distribution makes journal entries for the portion of the buy/sell agreement relating to a sale in a indirect supply contract. The contract number is required.	B	C
COUNTABLEWELLS	Countable Wells	The number of countable wells on a lease for a settlement diversity formula.	B	
DAYSINMO	Days in the month	This reserved word calculates the days in the current production month. An override contract may be used with this word.	F	S
DAYSPRMO	Days in the prior month	This reserved word calculates the days in the previous production month.An override contract may be used with this word.	F	S
EMCMPRS	Ext Compression Marketing Type	The override portion of these words is required, including rate, percent, fixed or sliding scale, and deduction or reimbursement. A product override is optional. An override contract may be used with these words.	F	M
EMDEHYD	Ext Dehydration Mtkg Type			
EMDISTR	Ext Oil Distributed Transportation Mktg			
EMFCDIF	Ext Facility Fee/ Cost Diff Mktg Type			
EMFUELS	Ext Fuel Mktg Type			

EMGATHR	Ext Gathering / Handling Mktg Type			
EMGGATH	Ext Gas Gatherng Mktg Type			
EMLAWGA	Ext Loss Allow with Gathering Mktg Type			
EMLAWOG	Ext Loss / Allow without Gathering Mktg Type			
EMLCDIF	Ext Location Differential Mktg Type			
EMMAINL	Ext Mainline Mktg Type			
EMOILOT	Ext Oil Other Mktg Type			
EMOTHER	Ext Other Mktg Type			
EMPRCTR	Ext Processing / Treating Mktg			
EMQADIF	Ext Quality Differential Mktg Type			
EMSVFAC	Ext Service Fee Acct - Mktg Type			
EMSVFMK	Ext Service Fee Mktg - Mktg Type			
EMTOTTR	Ext Total Transportation Mktg Type			
ERSVFAC	Ext Service Fee Mktg Amt			
EMUNDIS	Ext Oil Undistributed Transportation Mktg Type			
ENTMMBTU	Entitled MMBTU Volume	Pre-loaded with system calculated volume. If used in a result field, these words override the system-calculated volume. None of	B	C

ENTVOL	Entitled Volumes	the override source fields may be used with these words.		
ENTVAL	Entitled Value	The entitled value associated with a Valuation transaction.The value of the word will be passed in the Revenue system as the gross value of the entitled transaction.None of the override source fields may be used with this word.	B	C

ENTWLR	Entitled PVR	A field on the Valuation transaction is pre-loaded with a system-calculated volume.	B	C
		Entitled PVR volume is calculated as follows.		
		For NGL Sales Transactions in Wet Gas Balancing Networks:		
		Entitled PVR = 203/01 Entitlement Attributable to wet gas sent to the plant - 204/03 Entitlement - 2x4/xx Returned Lease Fuels		
		For NGL Sales Transactions in Non-Wet Gas Balancing Networks and NGL Casinghead Transactions:		
		Entitled PVR = 203/01 Entitlement - 204/03 Entitlement - 2x4/xx Returned Lease Fuels.		
		The returned lease fuel volume types are *10-15* , *75* , and *79* .Returned lease fuel is adjusted for excess lease fuel volumes.		
		The system-calculated value can be overridden by using Entitled PVR as a result word in a valuation formula.None of the override source fields may be used with this word.		
		Note :Because Entitled PVR is calculated using OA gas volumes, both NGLs and residue must be allocated be-		

		fore NGLs can be valued.Entitled PVR is only valid when used for NGL transactions in an OA network.		
ERSVFAC	Ext Service Fee Mktg Amt	The override portion of these words is required, including rate, percent, fixed or sliding scale, and deduction or reimbursement. A product override is optional. An override contract may be used with these words.	B	C
ERCMPRSD ERCMPRSR	Ext Compression Amount	The override portion of these words are required, including actual, entitled, or settlement. None of the override source fields may be used with these words.	R	C
ERDEHYDD ERDEHYDR	Ext Dehydration Amount			
ERDISTD ERDISTR	Ext Oil Transp Amount			
ERFCDIFD ERFCDIFR	Ext Facil Fee / Code Diff			
ERGATHRD ERGATHRR	Ext Oil Gath / Handle Amount			
ERGGATHD ERGGATHR	Ext Gas Gatherng Amount			
ERLAWGAD ERLAWGAR	Ext Loss Allow with Gathering			
ERLAWOGD ERLAWOGR	Ext Loss Allow without Gathering			
ERLCDIFD ERLCDIFR	Ext Location Diff Amount			

ERMAINLD ERMAINLR	Ext Mainline Amount			
EROILOTD EROILOTR	Ext Oil Other Amount			
ERPRCTRD ERPRCTRR	Ext Processing / Treating Amt			
ERQADIFD ERQADIFR	Ext Quality Diff Amount			
ERSVFMKD ERSVFMKR	Ext Service Fee - Mktg Amt			
ERTOTTRD ERTOTTRR	Ext TOT Transportation Amount			
ERTRANSD ERTRANSR	Ext Transportation Mktg Amount			
ERUNDISD ERUNDISR	Ext Oil Undistrib Transp Amount			
ERFUELSD ERFUELSR	Ext Fuel Amount	The override portion of this word is required, including actual, entitled, or settlement. None of the override source fields may be used with this word.	B	C
ESETVOL	Settlement Owner Volume	Defines a settlement owner's portion of the contract and producer entitled volume.		
ESETMMBTU	Settlement Owner Energy	Defines a settlement owner's portion of the contract and producer entitled energy.		
ESETWLR	Settlement Wet Less Residue	Defines a settlement owner's portion of the contract to hold entitled wet less residue amount.		

GASPRICE	Gas Price	The contract calculated gas price or the contract override gas price. The override portion of this word is optional, including product and whether the price is daily or monthly. If monthly/daily indicator is not entered, it will default to monthly. An override purchaser, measurement point, well completion, or contract may be entered with this word.	F		P
GBBLPW	Gravity Barrels per Well	This reserved word retrieves the unit volume for a given product and volume type in addition to the well count associated with the unit. The unit volume divided by the well count is the Barrels per Well. This word also calculates the percentage of volume with gravity less than the limit specified on the sliding scale header and the percentage of volume with gravity greater than or equal to the limit specified on the sliding scale header. The product code and volume type cannot be entered independently, but can be overridden together. If not entered, they will default to the formula header. An override contract may be used with this word.	F		V

HILOPRES	Hi / Lo Pressure	HI/LO Pressure. Can only be used on a "D" network. Computes the ratio of volume for a given allocation meter to the total volume for all allocation meters. An override allocation meter measurement point type must be entered.	F	V
IMCMPRS	Int Compression Mktg Type	The override portion of these words is required, which is a rate or percent. The product override is optional. An override measurement point, well completion or contract may be used with these words.	B	C
IMDEHYD	Int Dehydration Mktg Type			
IMFUELS	Int Fuel Mktg Type			
IMGGATH	Int Gas Gathering Mktg Type			
IMOILOT	Int Other Mkt Type			
IMOTHER	Int Other Mktg Type			
IMPRCTR	Int Process / Treating Mktg Type			
IMSVFAC	Int Service Fee Acct - Mktg Type			
IMSVFMK	Int Service Fee Mktg - Mktg Type			
IRCMPRS	Int Compression Cost	The override portion of these words is required, which includes actual, entitled, or settlement. None of the override source fields may be used with these words.	F	A
IRDEHYD	Int Dehydration Cost			
IRFUELS	Int Fuel Cost			
IRGGATH	Int Gas Gathering Cost			
IROTHER	Int Other Mktg Cost			
IRPRCTR	Int Process / Treat Mktg Cost			
IRSVFAC	Int Service Fee Acct Cost			

IRSVFMK	Int Service Fee Mktg Cost			
IMMULTF	Int Multiple Mktg Type	Returns the internal marketing rate for the multiple fee marketing type.The resulting amount is available for further processing in RD.	F	
IRMULTF	Int Multiples Mktg Cost		R	
IMROYDE	Int Royalty Deduction Mktg Type	Returns the internal marketing rate for the royalty deduction marketing type.	F	
IRROYDE	Int Royalty Deduct Mktg Cost		R	
IROILOT	Int Other Mkt Cost	The override portion of this word is required, which includes actual, entitled, or settlement. None of the override source fields may be used with this word.	B	C
KANADPVAL	Kansas Override Taxable Value	Applies an override taxable value for use in the calculation of Kansas severance taxes.	F or R	

LSEVAL	Lease Sales Value	The value of lease sales under the operating company sales contract.Lease Sales Value is used in situations where both plant and lease owners marked NGLs under the operating company sales contract.It is used by Revenue Distribution to create entries for the plant clearing account when the lease has a processing agreement with the plant.Lease Sales Value is only valid when used with the operating company plant NGL sales contract transactions.None of the override source fields may be used with this word.	B	C
LSEVOL	Lease Sales Volume	The volume of lease sales under the operating company sales contract.Lease Sales Volume is used in conjunction with Lease Sales Value to create entries for the plant clearing account in Revenue Distribution.Lease Sales Volume is only valid when used with the operating company plant NGL sales transactions.None of the override source fields may be used with this word.	F	V

MMSPROC	MMS Processing	Tax and Royalty MMS processing rate or percent.The override portion of the this word is optional, including product (which should be a processed gas product) and a rate or percent.An override measurement point, well completion, or contract may be entered with this word.	F	C
MMSTRANS	MMS Transportation	Tax and Royalty MMS transportation rate.The override portion of this word is optional, which is product code.An override measurement point, well completion, or contract may be entered with this word.	F	C
NGLPC	NGL Factor or NGL Transactions	Formula statements immediately following this word will be executed only for transaction with major product code *4* and minor product code *xx* . An override contract may be used with this word. Generates separate transactions for major product code 4 and minor product code xx, where 4xx is a valid product code. All formula statements prior to this word are executed for all product codes listed using this word.	F	S

NGLPRICE	NGL Price	Plant price based on formula product code. The override portion of this word is optional, which includes product code and whether the price is daily or monthly. If monthly/daily indicator is not entered, it will default to monthly. An override measurement point, well completion, or contract may be entered with this word.	F	P
OILPRICE	Oil Price	The posted price for oil or condensate sales. This price is determined based on posting company, posting area, crude type, and gravity. The posting area is optional, but can be overridden. An override posting company, measurement point, well completion, or contract may be used with this word.	F	P
PERRETLSE	Percent Returned to Lease	Used to calculate a value split for the settlement of casinghead agreement contracts.None of the override source fields may be used with this word.	F	C

PURMMBTU	Purchaser MMBTU	Returns an MMBTU for product and a purchaser.There is an option to override the product code if required.An override purchaser, measurement point, well completion, or contract may be entered with this word.		
PURVOL	Purchaser Volume	Returns a volume for product and a purchaser.There is an option to override the product code if required.An override purchaser, measurement point, well completion, or contract may be entered with this word.		
SETBTUFAC	Settlement BTU Factor	The BTU factor associated with the calculation of the settlement volume and value preloaded with the system calculated amount. Will override system calculated amount if used in a result field. None of the override source fields may be used with this word. The result of this word should be divided by 1,000 in the formula.	B	C

SETMMBTU	Settlement MMBTU	The Settlement MMBTU volume. Pre-loaded with system-calculated volume. This word overrides the system-calculated volume if used in a result field. None of the override source fields may be used with this word.	B	C
SETVAL	Settlement Value	The Settlement value associated with a valuation transaction. The value of this word is passed in the Revenue system as the gross value of a settlement transaction. None of the override source fields may be used with this word.	B	C
SETVOL	Settlement Volume	Pre-loaded with system-calculated actual volume. This word will override system calculated volume if used in a result field. None of the override source fields may be used with this word.	B	C

| SETWLR | Settlement PVR | A field on the Valuation transaction is pre-loaded with a system calculated volume.

Settlement PVR volume is calculated as follows.

For Contract Level Settlement NGL Transactions :Settlement PVR = Contract Level ACTWLR * NRI Percent

For Producer Level Settlement NGL Transactions :Settlement PVR = Producer Level ACTWLR * Bearer Group Percent * NRI Percent

The calculated value can be overridden by using Settlement PVR as a result word in a valuation formula.None of the override source fields may be used with this word.

Note :Because Settlement PVR is calculated using OA gas volumes, both NGLs and residue must be allocated before NGLs can be valued. | B | C |

THEOVL	Theoretical Volume	Accumulates theoretical quantity for a given product and volume type. The product code and volume type are optional as a group. An override purchaser, measurement point, well completion, or contract may be entered with this word.	F	V
TOTMMBTU	Total MMBTU	Total MMBtu for the product and volume type. Product code and volume type cannot be entered independently, but can be overridden together. If not entered, product code and volume type will default to the formula header. An override purchaser, measurement point, well completion, or contract may be entered with this word.	F	V
TOTVOL	Total Volume	Total volume for the product code and volume type. Product code and volume type cannot be entered independently, but can be overridden together. If not entered, product code and volume type will default to the formula header. An override purchaser, measurement point, well completion, or contract may be entered with this word.	F	V
TRACTPF	Tract Participation Factor	Retrieves the tract participation factor for a given tract number.	F	

UNSVOL	Unsigned Volume	Volume for product code and volume type. Product code and volume type cannot entered independently, but can be overridden together. If not entered, product code and volume type default to the formula header. An override property and DOI are required with this word. The well volume tied to the property/DOI is required and multiplied by the owners decimal from the override property/DOI.	F	V
UNTGRVL	Unit Gravity Volume	This word retrieves the total unit volume for a product code and volume type. This word also calculates the percentage of volume with gravity less than the limit specified on the sliding scale header and the percentage of volume with gravity greater than or equal to the gravity specified on the sliding scale header. The product code and volume type cannot be entered independently, but can be overridden together. If not entered, they default to the formula header. An override property may be entered with this word.	F	V
UNTPRVL	Unit Prior Month Volume	These words retrieve the total unit volume	F	V

UNTVOL	Unit Volume	for the previous production month for a product code and volume type. The product code and volume type cannot be entered independently, but can be overridden together. If not entered, they default to the formula header. An override property may be entered with these words.		
VALSSCALE	Sliding Scale OVR	An override value to be used in lieu of transaction values for scale purposes.None of the override source fields may be used with this word.	B	C
VOLSSCALE	Sliding Scale Volume OVR			
VLACTBTUFAC	Actual BTU Factor Extract	The Btu factor associated with the actual volume on the Valuation transaction. None of the override source fields may be used with this word. The result of this word should be divided by 1,000 in the formula.	F	E
VLACTMMBTU	Actual MMBTU Extract	The Actual MMBtu Volume on the Valuation transaction. (See result reserved word **Actual MMBtu Volume / ACTMMBTU**). None of the override source fields may be used with this word.	F	E

VLACTVOL	Actual Volume Extract	The Actual Volume on the Valuation transaction. (See result reserved word **Actual Volume/ACTVOL**). None of the override source fields may be used with this word.	F	E
VLCTRDEC	Contract Decimal Extract	The decimal represents the percentage of a contract's actual volume which is being valued. This percentage is 100% for contract level transactions. The percentage for producer or owner level transaction represents the producer's or owner's share of the contract's volume. None of the override source fields may be used with this word.	F	E
VLENTDEC	Entitled Decimal Extract	This is 100%, the producer GRI, or the owner NRI depending on the level of the transaction. None of the override source fields may be used with this word.	F	E
VLENTMMBTU	Entitled MMBTU Extract	The Entitled MMBtu volume on the valuation transaction. (See Result Reserved Word **Entitled MMBTU Volume/ENTMMBTU**). None of the override source fields may be used with this word.	F	E

VLENTVOL	Entitled Volume Extract	The Entitled volume on the Valuation transaction. (See Result Reserved Word **Entitled Volume/ENTVOL**). None of the override source fields may be used with this word.	F	E
VLPRODDAYS	Total Days Production Extract	The total number of days a well completion produced during a month for the volume previously extracted on the Valuation transaction. None of the override source fields may be used with this word.	F	E
VLSETVOL	Settlement Volume Extract	The settlement volume on the Valuation transaction. (See Result Reserved Word **Settlement Volume/ SETVOL**). None of the override source fields may be used with this word.	F	E
WELLCOUNT	Property Well Count	This word retrieves the well count for a property. An override property may be used with this word.	F	V
WORK01 - WORK15	Work Word 01-15	Work words to be used for intermediate results. None of the override source fields may be used with this word.	B	C

9.1.3 Approving Valuation Formulas or Reviewing a List of Formulas

Use

Use this transaction to:

retrieve a list of formulas and review the associated details

approve or unapprove individual formulas, or a group of formulas, for use in Valuation

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Valuation Formula → List Processing*

The *Valuation Formula List Processing* screen appears.

Enter data as required and choose *Execute* .

The *Valuation Formula List Processing* screen appears with a list of formulas that matches the criteria you entered on the first screen.

Review the details of the list.

To approve or unapprove a formula, click a row to select the formula in the row, and then choose *Approve* or *Unapprove* as required.

i

Even though a formula has been used, or "booked", it is still possible to unapprove it.

To review changes to the formulas, choose *Log* .

Exit the valuation formula list processing.

9.2   Valuation Cross Reference

Definition

A valuation cross reference represents an effective-dated link by product.The link includes:

- Entities from Production – delivery networks, measurement points (MP), wells, and well completions (WC)

- Marketing groups from Contractual Allocations
- Entities from Ownership – unit properties, divisions of interest (DOIs), DOI to MP Cross Reference, and DOI to WC Cross Reference
- Approved contracts and approved formulas

See also:

Creating a Valuation Cross Reference [page 317]

Approving Valuation Cross References or Reviewing a List of VCRs [page 318]

9.2.1 Creating a Valuation Cross Reference

Use

Establishes a set of effective-dated data by product that allows product to be valued. The set of data includes:

Production entities – delivery networks, measurement points (MPs), wells, and well completions (WCs)

Contractual Allocation marketing groups

Ownership entities – unit properties, divisions of interest (DOIs), DOI to MP/WC Cross References

Approved contracts and approved formulas

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation Cross Reference → Create*

Enter data as required. Then choose *Enter* .

The *Create Valuation Cross Reference: Overview* screen appears.

Enter the formula ID.

When creating a valuation cross reference at an MP level, to enable grouping of WC volumes to an MP level, do one of the following:

If wells with differing ownership feed a common tank, select *Ownership* .

If wells with differing tax classifications (for example, a classification which either exempts a well completion from taxes or qualifies it for reduced rates) feed a common tank, select *Tax Class* .

To enter contract diversity details, choose *Contract Diversity* . Then verify or change the start date in the *Contract Diversity* dialog box.

ℹ️

Contractual diversity occurs when multiple producers in the DOI have responsibility for marketing a product.

In situations where working interest owners are taking their product in kind, valuation will be calculated at the *producer* level. Since there are multiple contracts involved in this situation, the volume from the wells in the DOI is divided among the contracts and priced separately.

The value resulting from this division of volume is attributable only to a group of producers rather than the entire DOI.

Choose *Enter* to return to the *Change Valuation Cross Reference: Overview* screen.

To enter settlement diversity details, choose *Settlement Diversity* .

ⓘ

Settlement diversity occurs when one or more owners in the DOI needs to be handled differently than the other owners in the DOI regarding the contract. For example, one owner could be paid a price different than the price paid to the other owners, or a particular owner could be paid on a sliding scale basis.

By identifying settlement diversity owners on the DOI, a different formula can be tied specifically to these owners.

Options for Entering Settlement Diversity Data

Table 64:

Function	Follow-on action
Retrieve all owners on the venture into the *Settlement Diversity* dialog box.	Choose *Load All Owners* . In the *Settlement Diversity Selection* dialog box, enter the override formula number, which will apply to all the owners listed.
Specify a particular owner to be entered in the *Settlement Diversity* dialog box.	Choose *Load Selected Owners* . In the *Settlement Diversity Selection* dialog box, enter data for the particular owner as well as the corresponding over-ride formula number.

To verify that the data entered can be used in the VCR, choose *Validate VCR.*

To either approve or unapprove the valuation cross reference, choose *Approve* or *Unapprove* as required.

Save your entries.

9.2.2 Approving Valuation Cross References or Reviewing a List of VCRs

Use

Use this transaction to retrieve a list of valuation cross references (VCRs), and to approve or unapprove multiple VCRs at the same time.

Procedure

At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Valuation Cross Reference* ❯ *List Processing* ❯ .

The *Valuation Cross Reference List Processing* screen appears.

Enter data as required.Verify and change as required the effective dates.Also verify the approval status of the VCRs that are to be retrieved for the list.Then choose *Enter* .

The *Valuation Cross Reference List Processing* screen appears.

As required, either choose *Approve* to approve a VCR, or choose *Unapprove* to unapprove the VCR.

Exit the valuation cross reference list.

9.3   Creating Internal Marketing Rates

Use

Use this transaction to establish internal marketing deduct or cost information for company-operated equipment or for other internal charges to be assessed to owners when valuation process runs. These internal cost will be passed to owners within the Division of Interest unless they are marked as exempt.

In this transaction you specify the date that the marketing deduct information becomes effective as well as the date that it is no longer in effect.

> **i Note**
>
> The detailed marketing costs are calculated and stored individually in journal entries.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Internal Marketing Rates* ❯ *Create* ❯ .
   The *Create Internal Marketing Rates: Initial Screen* appears.
2. Choose one of the following.
   Options for Entering Internal Marketing Rates

   Table 65:

Function	Follow-on action
To enter data for a measurement point	Enter data as required

Function	Follow-on action
To enter data for a well completion	Choose *Well Completion* , then enter data as required.

1. Choose *Enter* .
   The *Create Internal Marketing Rates: Overview* screen appears.
2. In the *Mktg Type Code* field, specify marketing costs to be deducted.
3. Either enter the marketing cost deduction percentage in the *Deduct %* field, or enter the flat marketing deduction rate in the *Mkting Ded Rt* field.
4. Enter other data as required, then save your entries.

Using a Reference for Internal Marketing Rates

If an internal marketing rates record already exists with data similar to that of the new internal marketing rates you are creating, you can copy data from the existing record into the new record.

To copy data from the existing record into the new record, enter data for the internal marketing rates in the reference section of the initial screen for the new internal marketing rates.

9.4 Setting Up Tax Master Data

Purpose

Use this process to set up tax master data, which is essential for the system to process Tax and Royalty records.

Process Flow
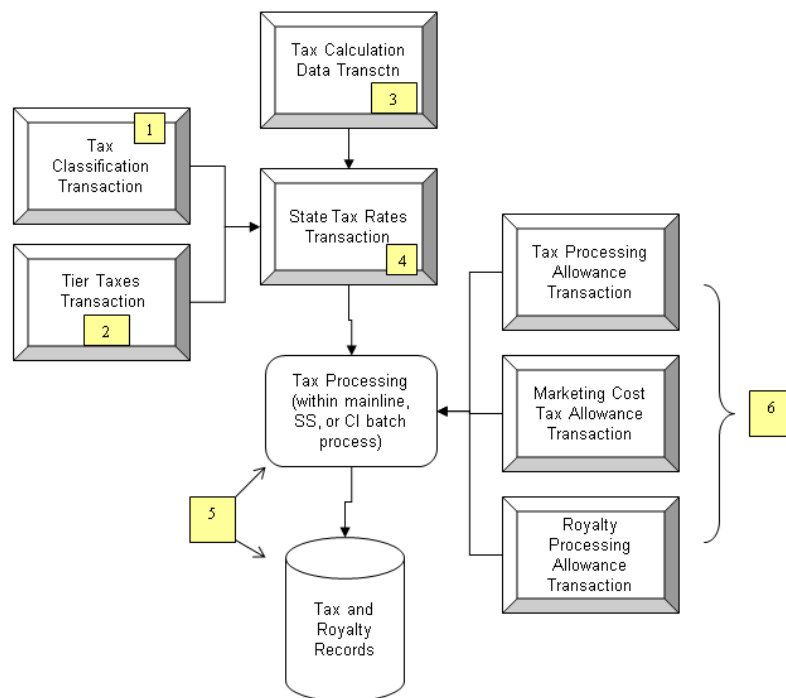
Identify **entities** (well completions, measurement points or divisions of interest) that qualify for **reduced rates** using the *Creating or Maintaining a Tax Classification* transaction.

Establish **baseline volumes** for either a well completion or a group of wells.A tier tax is applied to volumes that exceed the baseline quantity by using *Creating or Maintaining Tier Taxes* .

If you need to define the **criteria for tax calculation** by state, tax type, and major product, use the *Creating or Maintaining Tax Calculation Data* transaction.With this transaction, you can define other criteria such as exempt quantities, as well as marketing reimbursements.

After you use the above transactions as required, use the *Creating or Maintaining State Tax Rates* transaction to display a list of tax rates and/or establish **tax rates** , based on value or volume, by state, tax type, and product.

The **results** of the *Creating or Maintaining State Tax Rates* transaction are handled in the system's **Tax Processing** , and are utilized in **Tax and Royalty records** .

The system also uses **Tax Processing** to handle the results of

(1) the *Creating or Maintaining a Tax Processing Allowance* transaction, which applies a state tax processing allowance when the state provides a **tax discount** instead of the contractually established value,

(2) the *Creating or Maintaining a Marketing Cost Tax Allowance* transaction, which **deducts** a marketing cost tax allowance from the taxable value

(3) the *Creating or Maintaining a Royalty Processing Allowance* transaction, which applies a **royalty processing override** when one royalty owner's settlement is based on a lease/plant split that is different from the contractual split with the associated gas plant

9.4.1 Tax Classification

Definition

A category of data, such as deduction rules, that apply to each tax type.

Tax classifications are related to tax classes, which represent a variation of a specific tax rate. For example, the default rate for a severance tax may be 6%, but for a disadvantaged area, the rate may be less. There could be, therefore, within a tax classification, a tax class such as "disadvantaged area", which represents a rate lower than the normal default rate

Use

Use the *Tax Classification* transaction (▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Tax Master Data* ❯ *Tax Classification* ◀▌) to identify well completions, measurement points, or divisions of interest that qualify for reduced rates.

You can assign a tax classes (and for New Mexico only, a school district code) to a particular property/division of interest (DOI), measurement point, or well/well completion by major product.

> ℹ **Note**
>
> Production and Revenue Accounting utilizes tax classification data when retrieving the correct tax rate from the State Tax Rates [page 325] transaction. The State Tax Rates transaction is required only when tax rates within a state vary by tax class and/or school district.

9.4.2 Creating or Maintaining Tier Taxes

Use

Use this transaction to maintain tier tax baseline volumes for either a well completion or a project, which is a group of wells that cover area over one reservoir.

The baseline volume that you specify is compared against the actual volume produced by the well or project. If the actual volume is greater than the baseline volume, then the tier tax is applied to all volumes exceeding the baseline volume quantity.

Procedure

1. At the *SAP Easy Access* screen, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Tax Master Data* ❯ *Tier Tax* ◀ .

The *Tier Tax Maintenance: Initial Screen* appears.

1. Choose one of the following.

Options for Entering Tier Tax Data

Table 66:

Function	Follow-on action
To establish a baseline volume by well completion	Choose *Tier Tax by Well*
To establish a baseline volume by project	Choose *Tier Tax by Project*

1. Choose *Execute* .
2. The *Create Tier Tax Maintenance: Application Maintenance Form* screen appears.
3. Enter data as required, including the baseline volume.
4. **i**
   If the actual volume is greater than the amount that you specify in the *Baseline volume* field, then the tier tax is applied to volumes that exceed the amount.
5. Save your entries.

Using a Reference to Create Tier Taxes

1. To create a tier tax record with reference to an existing tier tax record, at the *Tier Tax Maintenance: Initial Screen* , either choose *Tier Tax by Well* to change or display baseline volumes by well completion, or choose *Tier Tax by Project* to change or display baseline volumes by project.
2. Enter data as required. Then choose *Execute* .
3. If more than one record matches the data you entered, the *Tier Tax Maintenance: List Viewer* screen appears. In this case, select one of the tier tax records from the list.
4. OR
   If only one record matches the data you entered, a single record is displayed.
5. Choose *Create* to create a new record with the data from the record you selected.
6. **Changing or Displaying Tier Taxes**
7. To change or display a tier tax record, at the *Tier Tax Maintenance: Initial Screen* , either choose *Tier Tax by Well* to change or display baseline volumes by well completion, or choose *Tier Tax by Project* to change or display baseline volumes by project.
8. Enter data as required. Then choose *Execute* .
9. If more than one record matches the data you entered, the *Tier Tax Maintenance: List Viewer* screen appears. In this case, select one of the tier tax records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

1. Choose *Change* or *Display* to change or display the record as required.

9.4.3 Creating or Maintaining Tax Calculation Data

Use

With this transaction, you define the criteria for tax calculation by state, tax type, and major product. You can define other criteria such as exempt entities, marketing costs, and reimbursements.

The criteria that you define determines how the system calculates taxable volume or value.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Tax Master Data → Tax Calculation Data*

Choose *Create* .

Enter data and set indicators as required. Then at the *Mktg on Taxable Value* tab, review and maintain marketing costs as required.

If a marketing cost is to be deducted from the displayed tax type, set the *Subtract Ded.* indicator.

> **i**
>
> For value-based taxes, a *Subtract Deductions* indicator that is set specifies that the marketing cost is deducted from the actual value or volume to arrive at a new taxable value. If an appropriate reserved word is specified in a formula, the formula calculates the amount of the deduction.

If a reimbursement for a marketing cost is to be considered taxable for the displayed tax type, set the *Add Reimb.* indicator.

> **i**
>
> For value-based taxes, an *Add Reimbursements* indicator that is set specifies that the reimbursement is considered taxable, and that it needs to be added to the actual value or volume to arrive at a new taxable value. If an appropriate reserved word is specified in a formula, the formula calculates the marketing reimbursement.

Select the *Entity Characteristics* tab, which lists entities that may either (1) claim exemption on either a volume or a value basis or (2) participate in the distribution of reimbursements for the displayed tax type.

If the entity will share in the tax reimbursement amount, set the *Reimbursements* indicator.

If the entity type will be exempt from the displayed tax, set the *Exemptions* indicator.

> **i**
>
> Exempt amounts are critical to the tax calculations. The system uses exemptions to reduce both the taxable volume and taxable value, thereby reducing the actual tax payable amount.

To establish fixed deductions for the displayed tax type and major product code, select the *Fixed Mktg Deduction* tab.

On the *Fixed Mktg Deduction* tab, you can do one of the following:

Enter a percentage in the *Fix market rate amt* field

Enter a fixed amount in the *Fix market amount* field

ℹ

The system deducts the amount that you enter from the gross value in order to calculate the taxable value.

To select the volume types used to sum and compare the baseline volumes, select the *Tier Tax Volume Type* tab.

Save your entries.

Result

The indicators selected in this transaction are used in the Valuation Formula process to determine taxable volume and value.

For value-based taxes, the value tax rate specified in the *State Tax Rates* transaction is multiplied by the taxable value. Likewise, for volume-based taxes, the volume tax rate is multiplied by the taxable volume.

9.4.4 Creating or Maintaining State Tax Rates

Use

Use this transaction to:

- display a list of tax rates
- establish the tax rates, based on value or volume, by state, tax type, and product. These rates are then used to calculate taxable amounts.

Tax rates can also be established at a lower level such as county, tax class, or school district where applicable.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Tax Master Data* ❯ *State Tax Rates* ▶.
2. The *State Tax Rates: Initial Screen* appears.
3. Choose *Create* .
4. The *Create State Tax Rates: Application Maintenance From* screen appears.
5. Enter the following data as required.

- Country
- In the *Primary geo loc* field, enter the state.

- Major product
- Severance tax
- Tax class
- Effective dates

1. In the *Tax Options* section, enter the following data as required.

- To establish a rate based on volume, in the *Volume Rate* field, enter a rate that will be used to determine taxes based on volume.
- To establish a rates based on the value of a volume, in the *Valuation Rate* field, enter a rate that will be used to determine taxes based on value.
- To establish rates for tier taxation, in the *Tier Tax Options* section, complete the following fields.

-- To set minimum and maximum volume rates, in the *Min Volume Rate* field, enter the **low** rate to be used for Enhanced Oil Recovery (EOR) processing. Then in the *Max Volume Rate* field, enter the **high** rate to be used for EOR processing.

--To set minimum and maximum value rates, in the *Min Val Rate* field, enter the **low** rate to be used for EOR processing. The in the *Max Val Rate* field, enter the **high** rate to be used for EOR processing.

--In the *Price Unit* field, enter the baseline price for tier tax processing.

1. Save your entries.

Using a Reference to Create State Tax Rates

1. To create state tax rates with reference to existing state tax rates, at the *State Tax Rates: Initial Screen* , enter data as required . Then choose *Execute* .
2. If more than one record matches the data you entered, the *State Tax Rates: List Viewer* screen appears. In this case select one of the records from the list.
3. OR
   If only one record matches the data you entered, a single record is displayed.
4. Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying State Tax Rates

1. To change or display state tax rates, at the *State Tax Rates: Initial Screen* , enter data as required . Then choose *Execute* .
2. If more than one record matches the data you entered, the *State Tax Rates: List Viewer* screen appears. In this case select one of the records from the list.
3. OR
   If only one record matches the data you entered, a single record is displayed.
4. Choose *Change* or *Display* to change or display the record as required.

9.4.5 Maintaining State Tax Rates

Use

You define state tax rates based on value or volume, by state, tax type, and product for the tax classes.

Tax rates can also be established at a lower level such as country, tax class, or school district where applicable.

Procedure

1. A the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Tax Master Data* ❯ *State Tax Rates* ❯.
2. Perform one of the following:

Creating State Tax Rates

1. In the *State Tax Rates: Initial Screen* screen, choose *Create*.
2. In the *State Tax Rates: Application Maintenance From* screen, enter the required data.
3. In the *Tax Options* screen area, enter the following data:
   - To establish a rate based on volume, in the *Volume Rate* field, enter a rate that will be used to determine taxes based on volume.
   - To establish a rate based on the value of a volume, in the *Valuation Rate* field, enter a rate that will be used to determine taxes based on value.
   - To establish the rates for tier taxation, in the *Tier Tax Options* screen area, enter the range for volumes and value rate and the baseline price.
     This would be used for enhanced oil recovery (EOR) processing.
   - If you want to associate the tax class to EOR, select the *EOR Enabled* checkbox.
     If not selected, this would be a regular tier tax scenario.

Creating State Tax Rates using a Reference

1. To create state tax rates with reference to existing state tax rates, in the *State Tax Rates: Initial Screen*, enter the required data.
2. Choose *Execute*.
3. Select a record from the list of records that match the selection criteria.
4. To create a record with the data from the selected record, choose *Create*.

9.4.6 Creating or Maintaining a Tax Processing Allowance

Use

Use this transaction to apply a state tax processing allowance when the state chooses to specify the allowance and provide a tax discount instead of using the contractually established value. A processing allowance is established for a given property/division of interest (DOI) by product.

Under plant contractual agreements, a lease/plant split (contractual split) is defined frequently, and the portion of the product contractually owned by the plant is typically not subject to taxes.

However, certain states (MontanaNew MexicoUtah, andWyoming) have the right to specify the calculation methodology and approve the processing allowance subject to a tax discount, regardless of the contractual lease/plant split. In these situations, the state tax processing allowance must be applied to calculate the taxes payable.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Tax Master Data → Tax Processing Allowance*

The *ERP* system screen appears.

Choose *Create* .

The *Create Tax Processing Allowance: Application Maintenance Form* appears.

Enter the following data as required.

Company code

Venture/DOI

Owner

Effective dates

Material

Severance tax

Tax allowance (that is, the portion subject to a tax discount)

Save your entries.

Using a Reference to Create a Tax Processing Allowance

To create a tax processing allowance with reference to an existing tax processing allowance, at the *ERP system* screen, enter the venture/DOI, the owner, and the effective from and to dates. Then choose *Execute* .

If more than one record matches the data you entered, the *Tax Processing Allowance: List Viewer* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Tax Processing Allowance

To change or display a tax processing allowance, at the *ERP system* screen, enter the venture/DOI, the owner, and the effective from and to dates. Then choose *Execute* .

If more than one record matches the data you entered, the *Tax Processing Allowance: List Viewer* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

9.4.7 Creating or Maintaining a Marketing Cost Tax Allowance

Use

Use this transaction to establish a marketing cost tax allowance for a division of interest, producer, product, state, and tax type. The allowance established is deducted from the taxable value, so that the taxable value is reduced.

Procedure

1. At the SAP Easy Access screen, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Tax Master Data* ❯ *Marketing Cost Tax Allowance.* ▐
2. The *Marketing Cost Allowance - Selection Screen* appears.
3. Choose *Create* .
4. The *Marketing Cost Allowance - Create* screen appears.
5. Enter the following data as required:

- Company Code
- Venture/DOI
- Oil
- Effective From
- Effective To

1. Choose *Enter* to activate the fields in the bottom of the screen.
2. Complete the remaining fields as required. Then save your entries.

Using a Reference to Create a Marketing Cost Tax Allowance

1. To create a marketing cost tax allowance with reference to an existing record, at the *Marketing Cost Allowance - Selection Screen* , enter data as required. Then choose *Execute* .
2. If more than one record matches the data you entered, the *Marketing Cost Allowance - List Processing* screen appears. In this case, select one of the records from the list.
3. OR
   If only one record matches the data you entered, a single record is displayed.
4. Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Marketing Cost Tax Allowance

1. To change or display a marketing cost tax allowance, at the *Marketing Cost Allowance - Selection Screen* , enter data as required. Then choose *Execute* .
2. If more than one record matches the data you entered, the *Marketing Cost Allowance - List Processing* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

1. Choose *Change* or *Display* to change or display the record as required.

9.4.8 Creating or Maintaining a Royalty Processing Allowance

Use

Use this transaction to apply a royalty processing override for situations in which one royalty owner's settlement is based on a lease/plant split that is different from the contractual split with the associated gas plant. An allowance is established for a given plant property/division of interest (DOI) by product and contract.

The lease/plant split is defined under a gas plant contractual agreement, and it defines one of the following:

In a volume-based split, the portion of the product that is allocated to the lease DOI(s), as well as the portion that is attributable to the plant

OR

In a value-based split, the portion that will be used to make settlement to the leases

This ability to establish owner level overrides for the above situation reduces the number of settlement diversity transactions in a gas plant network.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Tax Master Data → Royalty Processing Allowance*

The *ERP system* screen appears.

Choose *Create* .

The *Create Royalty Processing Allowance: Application Maintenance Form* screen appears.

Enter the following data:

company code

venture/DOI

the effective from and to dates

Choose *Enter* to refresh the screen.

Enter the following data:

material

contract

owner

In the *Tax Allowance* field, enter the owner-level override percentage of the product that will go to the plant.

Save your entries.

Using a Reference to Create a Royalty Tax Allowance

To create a royalty processing allowance with reference to an existing record, at the *ERP* system screen, enter the following data:

company code

the venture/DOI or range of venture/DOIs

the effective from and to dates

Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Royalty Processing Allowance

To change or display a royalty processing allowance, at the *SAP ERP* screen, enter the following data:

company code

the venture/DOI or range of venture/DOIs

the effective from and to dates

Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

9.5   Settlement Statements

Use

Settlement statements are entered directly into the system in lieu of system-valued volumes, and they allocate units and/or compute state production and severance taxes if needed.

Use the following procedures as required in order to enter data that is necessary for the system to process settlement statements.

> ⓘ Note
>
> The difference between a prior period adjustment and a reversal is that the prior period adjustment involves rebooking, while a reversal executes a "cancellation" of what was entered without rebooking.

9.5.1 Creating or Maintaining Settlement Statements

Use

Use this transaction to enter settlement statement data for processing through the Revenue application component. Settlement statements are entered directly into the system in lieu of system-valued volumes, and they allocate units and/or compute state production and severance taxes if needed. Settlement statements transactions bypass Valuation Formula processing because value and marketing deduction amounts are entered here.

Further, this settlement statement transaction features a prior period adjustment function to adjust data, and a function to reverse a record.

Prerequisites

The appropriate cross reference is established in the Settlement Statement/DOI Cross Reference [page 335] transaction.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Settlement Statements → Settlement Statement*

The *Settlement Statement: Initial Screen* appears.

Choose *Create* .

The *Settlement Statement: Create* screen appears.

Enter data as required.

ℹ

In the *Doc date* field, enter the date on which the settlement statement should be posted.

To enter a negative amount, enter the number followed by a negative sign (−).

For oil products, complete the *Act Gros Vol* and the corresponding *UoM* fields.

For gas products, complete either the *Actual Energy* or *Actual Heat Fct* field, and the corresponding *UoM* field.

To specify that the system should calculate taxes automatically, set the *Calculate Tax* indicator.

ⓘ

If you do not select this option, you must enter tax data manually. If you enter tax data manually, it is assumed that the data has already been reported, and so the system sends the settlement statement directly to the *Revenue Distribution* application component.

To enter tax amounts and/or reimbursements manually, choose *Tax* . At the *Settlement Statement: Create* dialog box, enter severance tax data as required. Then choose *Enter* .

To enter marketing details manually choose *Marketing* . At the *Settlement Statement: Create* dialog box, enter the marketing cost amount and/or the marketing reimbursement amount. Then choose *Enter* .

ⓘ

The total of marketing cost amounts is displayed in the *Market Cost Amt* field, and the total of reimbursement amounts is displayed in the *Tot. reimb Amount* field on the *Settlement Statement: Create* screen.

Choose the following as required.

To send data to the valuation application component and to book the settlement statement, user can choose *Value + Post* to directly post the document. The user has the flexibility to just *Value* the document to review the results before posting.

To display line items that have failed, and the reasons for the failures, choose *Error Log*

To change line items in error, choose *Prior Period Adjustment*

To offset the line items in error, choose *Reversal*

To display line items that have not passed system edits and validations, choose *Validate*

To display all line items that have processed successfully, choose *Result* .

To post a *Value Complete* document, choose *Post*

Save the settlement statement.

See Also

9.5.2 Creating a Prior Period Adjustment for a Settlement Statement

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Settlement Statements → Settlement Statement*

The *Settlement Statement: Initial Screen* appears.

Enter data as required to indicate which records the system should retrieve. Then choose *Execute* .

ℹ

The more data that you enter, the more specific the resulting set of records will be.

The *Settlement Statement: List Viewer* screen appears.

Select the settlement statement to be adjusted. Then choose *Create Prior Period Adjustment* .

The *Settlement Statement: Create* screen appears.

Maintain the settlement statement as needed by changing data, deleting lines, etc. Then complete the *ppa reason* field.

Save the adjustment(s).

See also:

9.5.3 Reversing a Settlement Statement

Use

You use this function for reversing a settlement statement.

Activities

1. At the *SAP Easy Access* screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Settlement Statements* ❯ *Settlement Statement* ❯ .
   The *Settlement Statement: Initial* screen appears.
2. Enter data as required to indicate which records the system should retrieve. Choose *Execute* .

   > ℹ Note
   >
   > The more data that you enter, the more specific the resulting set of records will be.

   The *Settlement Statement: List Viewer* screen appears.
3. Select the settlement statement to be reversed.
4. Choose *Create Reversal* .
   The *Settlement Statement: Create* screen appears.
5. Choose *Value + Post* to determine whether there are any errors and to begin processing.
6. Save the reversal.

See Also

9.6   Creating a Settlement Statement / DOI Cross Reference

Use

Use this screen to create a cross reference and link a purchaser's unique property data to SAP's venture data.

The cross reference between these two sets of data is then used as required in the Settlement Statement transaction.Whenever the purchaser's data is entered, the system then automatically defaults the corresponding SAP venture data.

Procedure

At the SAP Easy Access screen, choose ▐▶ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Revenue Accounting* ❭ *Valuation* ❭ *Settlement Statements* ❭ *Settlement Statement / DOI Cross Reference* ❭ .

The *Settlement Statement/DOI XRef: Initial Screen* appears.

Choose *Create* .

The *Create Settlement Stmnt/DOI XRef: Maintenance View* screen appears.

Enter data as required.

To review details about how records already processed in Settlement Statement Valuation processing are affected by changes to Settlement Statement / DOI Cross Reference data, choose *Log* .

Save your entries.

Using a Reference to Create a Settlement Statement - DOI Cross Reference

To create a settlement statement - DOI cross reference with reference to an existing cross reference, at the *Settlement Statement/DOI Xref: Initial Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, the *Settlement Statement/DOI XRef: List Viewer* screen appears.In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Settlement Statement -DOI Cross Reference

To change of display settlement statement - DOI cross references, at the *Settlement Statement/DOI XRef: Initial Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, the *Settlement Statement/DOI XRef: List Viewer* screen appears.In this case, select one of the records from the list.

OR

- If only one record matches the data you entered, a single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

See also:

Creating or Maintaining a Settlement Statement [page 332]

9.7 Creating or Maintaining a Purchaser-Remitter Cross Reference

Use

Use this transaction to establish a cross reference when the entity responsible for remitting payment is someone other than the purchaser. Because many different remitters may exist for a single purchaser, the remitter information you enter is specific to a property/DOI, product, and either a well completion or measurement point.

Valuation uses the information you enter to determine the remitter associated with a Valuation Cross Reference (VCR). (The VCR is established for a DOI, contract, product code, and either a well completion or measurement point.)

Along with VCR attributes, the system uses the purchaser, which is retrieved from base contract information, to determine the party responsible for remitting payment. Revenue Distribution then uses this remitter to create Accounts Receivable entries.

Procedure

1. At the SAP Easy Access screen, choose ▎▶ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Revenue Accounting* ❭ *Valuation* ❭ *Purchaser/Remitter Cross Reference* ❭ .
2. The *Purchaser/Remitter Cross Reference (OIUH_VL10): Initial Screen* appears.
3. Choose *Create* .
4. The *Purchaser/Remitter Cross Reference (OIUH_VL10) – Create* screen appears.
5. Enter data as required, including the selection of either the well completion or measurement point radio button.
6. ⅈ

The **Purchaser ID** identifies the purchaser of a product for a property/DOI while the **Remitter ID** identifies the business associate who is responsible for remitting payment on behalf of the purchaser for the sale of the product.

7. Save your entries.

Using a Reference to Create a Purchaser / Remitter Cross Reference

1. To create a purchaser/remitter cross reference with reference to an existing record, at the *Purchaser/ Remitter Cross Reference (VL10): Initial Screen* , enter data as required. Then choose *Execute* .
2. If more than one record matches the data you entered, a list of records appears Select one of the records from the list.
3. OR
   If only one record matches the data that you entered, the single record is displayed.
4. Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Purchaser / Remitter Cross Reference

1. To change or display a purchaser/remitter cross reference, at the *Purchaser/Remitter Cross Reference (VL10): Initial Screen* , enter data as required. Then choose *Execute* .
2. If more than one record matches the data you entered, a list of records appears Select one of the records from the list.
3. OR
   If only one record matches the data that you entered, the single record is displayed.
4. Choose *Change* or *Display* to change or display the record as required.

9.8 Network Processing

Purpose

A network is processed in the Valuation application area in order to calculate the value of the volumes for the network.

As each network is processed, the status of the processing is tracked in the system.

Process Flow

1. Make manual adjustments by using Current Selections, Valuation Cross Reference Prior Period Notification Selections, Reject Selections, or Manual Prior Period Notifications.
2. Use the Valuation Document Work List to execute the process of valuing volumes for the network.
3. The system calculates the value of the volumes by using formulas.
4. The status of the valuation of the volumes is tracked for each network.
5. Transactions that encounter errors are rejected and made available for reject processing.
6. The status of network processing can be monitored by using the Valuation Document Work List [page 339] .

Network Processing by Batch or Via the Valuation Document Work List

When the *Auto Select* indicator is selected for a delivery network, the network is then available for batch processing.

The Valuation Batch Process processes all delivery networks through Valuation/Revenue Distribution that have (1) been selected by the Selection Driver **and** that (2) have the *Auto Select* indicator selected.

The Selection Driver creates a document containing all the transactions for a given network/sales date combination. The Selection Driver creates documents for:

- all available delivery networks that have the *Auto Select* indicator selected
- all delivery networks with prior period notifications
- all rejected delivery networks

In contrast, if the *Auto Select* indicator is **not** selected, then the network can be processed only with the Valuation Document Work List transaction.

9.8.1 Valuation Document Work List

Definition

The Valuation Document Work List (*Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Valuation Processing → Valuation Document Work List*) centralizes the tasks involved in Valuation processing. It is a single transaction from which you can:

select networks for processing

value and post transactions

review reports

A valuation document represents a unique combination of:

network

sales dates

frequency code

Use

You can use this object to carry out the following procedures.

Processing Networks; Verifying and Committing Results [page 339]

Correcting or Deleting a Document [page 342]

Using the Valuation Selection Report [page 343]

Using the Valuation Work List to Create a Document Manually [page 344]

9.8.1.1 $PRCD$ Processing Networks; Verifying and Committing Results

Use

Processing Networks Part 1 of 3

1. At the SAP Easy Access menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Valuation Processing* ❯ *Valuation Document Work List* ❯ .
   The *VL Document Work List – Initial Screen* appears.
2. Enter criteria to select documents.Then choose *Execute* .
   The *VL Document Work List – Document Header* screen appears.
3. Double-click on a document to verify that lines were created for it.
   The *VL Document Work List – Document Details* screen appears.
4. To review volume, formula, and tax details, double-click on a line item within a document.
   The *VL Document Work List – Volume, Formula and Tax Header* screen appears.

   > **i Note**
   >
   > If a formula has been overwritten, the system displays the details in the *Formula* tab.In addition, in the *Tax* tab the system displays details by position, which represents a tract.

   > **i Note**
   >
   > You can double-click on the lines within the tab for even more details.For example, if you double-click on a line within the *Formula* tab, you will access the *VL Document Work List – Formula Tax and Marketing Details* screen.

5. In case of NGL processing the plant thermal reduction (PTR) can be viewed under the *Volume Details* tab and the underlying journal entries will include the PTR details.
6. At the *VL Document Work List – Document Header* screen, review the **Document stage** and **Processing status** columns to determine how the system has processed a document.

   > **i Note**
   >
   > The system has processed the document successfully if *Value Complete* (which indicates that the system has run the document all the way through Revenue Distribution) is displayed in the **Document stage** column and *Successful* is displayed in the **Processing status** column.

7. To run a document from the Valuation mainline through Revenue Distribution, select a document and choose *Value* .
   Choosing *Value* is equivalent to processing the data in a trial status because data is not actually committed to the database.You can choose *Value* as many times as you would like to review and verify results.

   > **i Note**
   >
   > Choosing *Value* is useful when setting up master data.It assists you in finding errors before data is committed to the database.

8. Choose the following options as required to verify results.

Verifying Results - Part 2 of 3

Verifying Results with the Combined Run Report

1. To display lines that the system has processed through Revenue Distribution and verify allocation results, from the *VL Document Work List - Document Header* , select a document and choose *Comb. Run RPT.* The *VL Document Work List – Oil and Gas Appl Header* screen appears.To access accounting, owner, marketing, and taxes information, double-click on a line.

Verifying Results with the new Combined Run Report Transaction(o3u_comb_new)

With this function, you have a flexible selection criteria which helps to analyze the bookings and reversals data across documents. You can access the transaction in the *SAP Easy Access* menu under *Logistics -> Production and Revenue Accounting -> Revenue Accounting -> Valuation -> Valuation processing -> Reports* (o3u_comb_new). This also has the following features:

- Have flexibility in selection criteria involving business fields like venture, well, measurement point, DNs, specific documents, contracts and major product code.. All the selection fields represent the PRA data model.
- You can view dual accounting reports via this transaction in the ALV mode.
- Highlight any owner who has undergone ownership transfer on the combined run are highlighted with an indicator.
- You can view natural gas liquids (NGL) bookings Report details by component although journalized entries are at NGL 400 level.
- Latest booking option for a delivery network/sales date will show all the latest bookings by fetching data across documents associated with delivery network/sales date.
- You can view marketing cost details for oil and gas
- View the accounts receivable measurement point from DOI Accounting in the Accounting section on the 3rd Party A/R Account.
- View the Owner Name in the ownership section and well completion name in the header data section.
- View negative gross values, taxes, and marketing costs on reversals

Use the Combined Run Report to Identify the Corresponding FI Document

1. To display lines that the system has processed through Revenue Distribution and verify allocation results, from the *VL Document Work List - Document Header* screen, select a document and choose *Comb. Run RPT.*
   The *VL Document Work List – Oil and Gas Appl Header* screen appears.

2. Select a row.Then choose *Summary* .
   The *Summary of Combined Run Report* screen appears.

3. In the *Accounting* section, note the **batch number** .

4. Open another SAP session and choose ▶ *Accounting* ▶ *Financial Accounting* ▶ *General Ledger* ▶ *Document* ▶ *Display* ◀ .
   The *Display Document: Initial Screen* appears.

5. Choose *List* .
   The *Document List* screen appears.

6. Enter the company code.Then in the *Reference key* field, enter the **batch number** that you noted from the Combined Run Report.
   The *Document List* screen appears with a list of documents that correspond with the company code and batch number that you entered.

7. Double click on a line for the document you want to review.
   The *Document Overview* screen appears with the accounts and corresponding amounts.

8. Double click on line items as required for more detailed information.

Verifying Results with the Application Log

1. To review details about any fatal errors that may have occurred when the system was processing a document, from the *VL Document Work List - Document Header* screen, select the document and choose *Application Log* .
   The *Display Logs* screen appears with information about how the system processed the document, and it may include information about any fatal errors that occurred.

Verifying Results with the Job Overview

1. To review details about a document submitted to the system for processing, from the *VL Document Work List - Document Header* screen, select the document and choose *Job Overview* .
   The *Simple Job Selection* screen appears with the job name for the document in the *Job name* field.

2. Choose *Execute* .
   The *Job Overview* screen appears with details about how the system has processed the document. There may be informational messages indicating issues such as density not set.

Committing Data to the Database - Part 3 of 3

1. Once you have verified results and the system defines a document as *Value complete* (shown in the **Document stage** column) and *Successful* (shown in the **Processing status** column), choose *Post* to commit data to the database and send data to Journal Entry.

2. To commit a document to the database without reviewing details, choose *Value + Post* .

> **i Note**
>
> *Value + Post* is the function that the system uses for automatic batch processing.

Result

You can review the resulting FI documents that correspond with the Valuation documents by using the *Combined Run Report* and the *FI Display Document* transactions. See Reviewing FI Documents that Correspond with VL Documents [page 344] for more information.

9.8.1.2 Correcting or Deleting a Document

Use

Use this function to correct a document or to delete a document.

Prerequisites

Rejected records at the selection stage are corrected. To access records rejected at the selection stage, access the Valuation Rejects Selection for Delete [page 345] transaction by choosing *Logistics → Revenue Accounting → Valuation → Valuation Processing → Valuation Rejects Selection for Delete* .

Procedure

After making a correction, from the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Valuation Processing → Valuation Document Work List*

i

When you choose *DEL doc* , the system actually deletes the document while leaving the input intact. The system then creates a new document based on the input.

i

For information about continuing the process of running a selection again, see Using the Valuation Doc. Work List to Create a Document Manually [page 344] (*Logistics → Revenue Accounting → Valuation → Valuation Processing → Valuation Rejects Selection for Delete*).

To delete a document and related prior period notifications, choose *DEL doc + PPNs* .

⚠️

When you choose *DEL doc + PPNs* , the system deletes not only the document but any related prior period notifications as well.

9.8.1.3   Using the Valuation Selection Report

Use

Within the Valuation Document Work List, you can use the Valuation Selection Report to analyze data related to selection processing.

The Valuation Selection Report function provides a way to access details about:

- networks selected for initial processing on a specific sales date
- prior period notifications that need to be processed for valuation cross references
- rejected transactions that require corrections

Procedure

At the SAP Easy Access menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Valuation Processing* ❯ *Valuation Document Work List* ❯ .

The *VL Document Work List - Initial Screen* appears.

Choose *Doc. Create RPT* .

The *Valuation Selection Report* screen appears.

Enter selection criteria and choose *Execute* .

The *Valuation Selection Report Overview* screen appears.

Double click on a line to access details about a document.

The *Valuation Selection Report* screen appears.

Review the details of the document, including the contents of the **Selection Type** column, which identifies whether the document is current, PPN or reject.

Also review the contents of the **Rej Rsn** and **Rej Rsn Description** columns, which provide information about why rejects occurred.

9.8.1.4 Using the Valuation Doc. Work List to Create a Document Manually

Use

Use this procedure to create a document manually.

This procedure is necessary in order to create a new document after a document has been reselected.

Procedure

1. At the SAP Easy Access menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Valuation Processing* ❯ *Valuation Document Work List* ❯ .
2. The *VL Document Work List – Initial Screen* appears.
3. Enter a network, sales date, and the frequency. Then choose *Create* .
4. The *Start Time* dialog box appears.
5. Either choose *Immediate* to begin the selection immediately, or schedule a start time. Then choose *Save* .

6. **i**

   The data is submitted on-line, which in turn causes the system to begin processing the batch job.

   i

   The system attempts to process the batch job through posting. The system will not, however, execute an out-of-balance posting. Further, the system will not commit documents with rejects to the database.
7. Choose *Execute* .
8. The *VL Document Work List – Document Header* screen appears.
9. If you create a document manually in order to replace a document that you reselected, review the **Run Time** column to find the document with the most recent time stamp.

The document with the most recent time stamp is the replacement for the document you reselected. It will include any previously rejected lines that you corrected successfully.

9.8.2 Reviewing FI Documents that Correspond with VL Documents

Use

By using the *Combined Run Report* and the *Display Document* transactions, you can review the FI documents that correspond with Valuation documents.

Procedure

1. At the SAP Easy Access menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Valuation Processing* ❯ *Reports* ❯ *Combined Run Report* ◀▌.
2. The *Combined Run Report* screen appears.
3. Enter selection criteria as required. Then choose *Execute* .
4. The *Combined Run Header Information* screen appears.
5. Choose *Summary* .
6. The *Summary of Combined Run Report* screen appears.
7. In the *Accounting* section, **note the batch number** .
8. Open another session and choose ▌▶ *Accounting* ❯ *Financial Accounting* ❯ *General Ledger* ❯ *Document* ❯ *Display* ◀▌.
9. The *Display Document: Initial Screen* appears.
10. Choose *List* .
11. The *Document List* screen appears.
12. Enter the company code and in the *Reference key* field, enter the batch number that you noted from the Combined Run Report followed by an asterisk. Then choose *Execute* .
13. The *Document List* screen appears with a list of documents that correspond with the company code and batch number that you entered.
14. Double click on a line for the document you want to review.

The *Document Overview* screen appears with the accounts and corresponding amounts.

1. Double click on line items as required for more detailed information.

9.8.3 Using Valuation Reject - Selection for Deletion

Use

Rejects from prior runs are automatically selected for processing. With this transaction you can review any rejects from prior runs, and you can delete rejected transactions as required so that they are not processed in future Valuation jobs.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Valuation Processing* ❯ *Valuation Rejects Selection for Delete* ❯ . ◀▌
2. The *Valuation Rejects: Selection for Delete* screen appears.
3. Enter data as required. To enter prior period notifications for a specific sales date, enter a date or range of dates.
4. Specify the scope of the list and then choose *Execute* .

5. The *Valuation Rejects: Selection for Delete* screen appears.
6. To prevent the system from processing a reject further, select the reject and then choose the *Del Ind* that corresponds with the reject.
7. Save the valuation reject selections.

9.8.4 Using Valuation Prior Period Notification Selection

Use

Use this transaction to select a user-generated prior period notification (PPN) for processing or delete it, as required.

You can also use this transaction to display PPNs resulting from the Production and Contractual Allocation application areas. These PPNs are automatically generated by the system and transmitted to Valuation.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Valuation Processing → Valuation Prior Period Notification Selection*

The *Valuation Prior Period Notification Selection* screen appears.

Enter data as required. To retrieve prior period notifications for a specific production date, enter a date or range of dates.

Specify the scope of the list for the system to retrieve by choosing the required *Delete* and/or *Re-Process* radio buttons as required. Then choose *Execute* .

The *Valuation Prior Period Notification Selection* screen appears.

To delete a PPN and therefore prevent further processing of it, select the *Del Ind.* for the PPN.

OR

To process a PPN, select the *Rpr Ind* for the PPN.

ℹ

You can identify any PPNs that the system automatically generated by reviewing the *Del Ind.* and *Rpr Ind* indicators, which are grayed out and cannot be used for automatically-generated PPNs. Also, the descriptions of reason codes for automatically-generated PPNs include the words volume change.

Save your entries.

9.8.5 Creating Manual Prior Period Notifications

Use

Use this transaction to create a prior period notification (PPN) manually. A PPN can be created manually for a unit property or division of interest (DOI) for any reason.

This transaction could be used if, for example, you decide to create a PPN after bypassing the prompt to create a PPN at the *Prior Period Notification* dialog box.

Procedure

At the SAP Easy Access screen, chose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Valuation Processing → Valuation Manual Prior Period Notification → Create*

The *Create Manual Prior Period Notifications: Selection Screen* appears.

Enter data as required, including either a well completion or measurement point. Then choose *Enter* .

The *Create Manual Prior Period Notifications: Overview* screen appears.

Delivery network IDs that correspond with the data you entered on the selection screen appear. To create a PPN, enter a reason that corresponds with the production date(s).

ℹ

To remove a reason entered in error, select the row with the incorrect reason and choose *Clear Sel. Records* .

To review the selection criteria that produced the delivery network IDs, choose *Selection Criteria* .

Save the manual prior period notification(s).

9.9 Valuation Batch Process

Use

The Valuation Batch Process represents the automatic processes that builds Valuation records required to value volumes. The Valuation Batch Process includes the following areas:

- Selection Functions – Begins building Valuation records
  Optimizer – Ensures efficient and successful processing of networks
  Mainline Controller – Performs functions to determine value

Valuation batch processing can be either scheduled or executed on-demand.

Features

Selection Functions

The following Selection Functions build Valuation records and report the processing status of the data that you enter.

Table 67:

Selection Function	Description
Current Selections	Processes current period records
VCR PPN Selections	Processes prior period notifications for valuation cross references
Reject Selection	Processes rejected records

The selection functions extract values and volumetric data from Production and Contractual Allocation, and they also calculate taxes.

Optimizer

The Optimizer takes the Valuation records begun by the Selection Functions and retrieves a unique **ID number** that is used to organize all of the records by network and sales date.

It use the *Activate for Specific Client* Customizing table to determine how many parallel mainline controller processes have been specified. If nothing is specified in the table, the system uses a default of 10 parallel processes.

The Optimizer starts the mainline controller jobs.

Mainline Controller

Each mainline controller job processes all of the transactions within a given network/sales-date combination.

The system first processes networks with the **greatest number of transactions** for a given network and sales date. (A Valuation transaction is a physical record containing the attributes of an oil or gas sale.) Further, the system launches unit properties before other networks. When the system successfully processes a network/sales date combination, it submits a new set of network/sales date combinations to be processed.

You can **monitor** the progress of a cycle by network—each network shows real-time status, such as waiting, running, and finished. If a network abends, the system stops processing only for that particular network.Processing of other networks is not affected.

You can **maintain** a network immediately after the system processes it, even if the system is still processing other networks, and access its **reports** .

Mainline Controller

Mainline processing drives each parallel process to ensure that the system performs the following major functions for Valuation:

- **Edits and Validations** of Valuation records
- **Volume Extractions** for Valuation records
- **Valuation Formula Processing**
- **Unit to Tract** , which breaks down records to the tract level for unit properties
- **Tax Processing** calculates tax amounts and updates tax tables for Tax and Royalty processing
- **Oil and Gas Statement Updates** , which update current month databases with tax information for Oil and Gas Statements
- **Valuation Report Updates**
- **Valuation History Table Updates** handle records that the system has processed through Valuation successfully, and updates network processing status and history tables
- **Valuation Rejects Update** deletes rejected records and prior period notifications marked for deletion
- **RD Processing** summarizes records and creates a file for Revenue Distribution processing, and processes all steps for reversal and bookings in Revenue Distribution
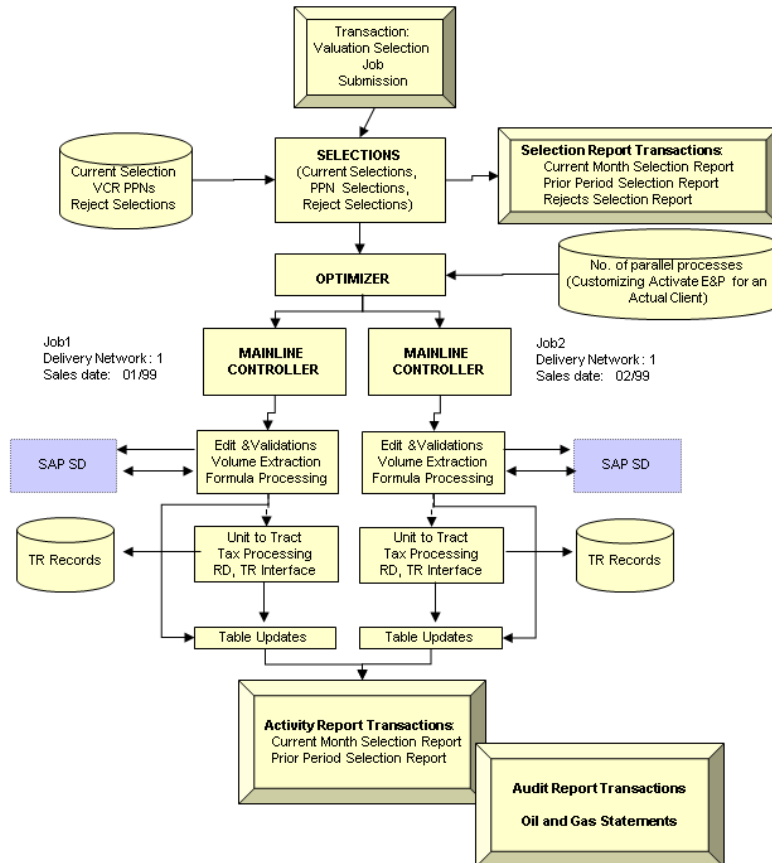
9.9.1 Debugging the Valuation Batch Cycle

Use

Use the following rules when debugging the Valuation Batch Cycle in order to investigate problems in Valuation and Revenue Distribution.

Prerequisites

- If you are working in a productive system, confirm that debugging is absolutely necessary. Debugging is risky in a productive system because it can easily lead to inconsistencies. It can also result in long-lasting data base locks which can affect number ranges, for example.
- The debug mode is set for debugging, NOT the normal mode. To confirm that the system is in debug mode, go to SM50 and review the work process. Verify that the system is displaying **Stopped** in the *Status* column and **Debug** in the *Reason* column for that work process.

> ⓘ Note
>
> You should not use the normal mode to debug because if you do, data base commits cannot be rolled back.

Features

- The system handles a debugging session in debug mode by assigning the session its own work process. The work process is not available until the debugging session is finished.
- It is possible to debug SELECT-ENDSELECT –loops.
- Generation of a program load issues a database commit. This occurs only in development systems; it is suppressed in productive systems.

9.10 Valuation Selections Process

Use

The Valuation Selections Process builds system documents containing the prerequisite information required to collate data that is later posted in various accounting ledgers after the system completes Revenue Distribution processing.

You can maintain and view the system documents by using the transaction.

Features

The Selections Process handles **contract diversity** , when more than one marketing representative sells the same product, as well as **settlement diversity** , when a royalty owner has negotiated a formula calculation that is different than the calculation for other owners.

Further, the Selections Process generates data for the **Selections Report** in order to provide information about:

- networks processed in the current month
- networks that were rejected and have been reprocessed
- prior period notification (PPN)

To prevent duplicate processing of PPNs and rejected, reprocessed networks, the system automatically clears the PPN and reject tables.
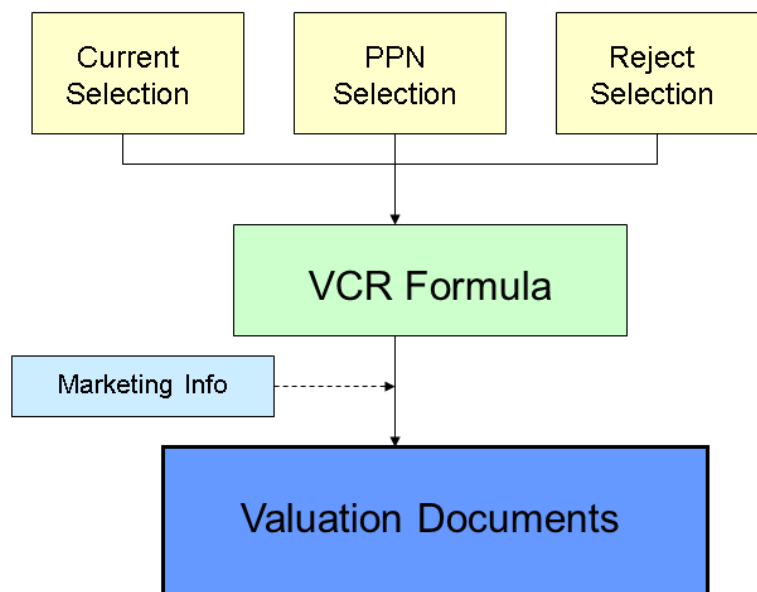
9.11   Valuation Reports

Use

The Valuation Selection Report and the Combined Run Report are available for you to monitor Valuation processing.

You can also monitor the status of records that the system is processing in Valuation by using the .

9.11.1 Valuation Selection Report

Use

Use the Valuation Selection Report to display the processing status for each combination of :

delivery network

sales date

frequency code

major product code

If there has been a change that affects a valuation cross reference, the system produces a prior period adjustment (PPA) and displays a description of the PPA in the report under PPA columns.

Further, if the system could not process completely a particular delivery network / sales date/ frequency code / major product code combination, the system displays a reason describing the incomplete processing in the report under Reject columns.

Activities

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Valuation Processing → Reports → Valuation Selection Report*

The *Valuation Selection Report* screen appears.

Specify data for the system to use when retrieving records.

> ⓘ

The system will retrieve any records that contain the data you specify. The more data that you enter, the more restricted the resulting set of records will be.

Choose *Execute* .

The *Valuation Selection Report Overview* screen appears.

To review details about the processing of a particular delivery network / sales date / frequency code / major product code combination, double-click on a Report ID.

The *Valuation Selection Report* screen (2) appears.

Use the *Valuation Selection Report* screen (2) to review the details of processing, including entity and contract numbers and any PPA or reject description.

Exit the report.

9.11.2 Using the Combined Run Report

Use

Use this report to verify allocation results before posting the results.

The Combined Run Report displays records that have been processed all the way through PRA, that is, through Valuation and on through Revenue Distribution. The system matches transaction history record with associated journal entries created in the allocation process in order to generate a detailed report of allocation activity.

Most records are produced by the Valuation components, although Check Input and other components produce records as well.

Activities

Displaying the Combined Run Report

At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Valuation Processing → Reports → Combined Run Report*

The *Combined Run Report* screen appears.

Enter selection criteria as required. Then choose *Execute* .

The *Combined Run Header Information* screen appears.

For a print preview of a record, select the record and then choose *Views → Print preview*

ℹ

The date on the upper right corner of the report represents the actual run date.

To display details of the records, choose a record and select *Details* .

The *Combined Run Detail Information* screen appears.

ℹ

The tabs on the *Combined Run Detail Information* screen provide the following additional information.

--The *Accounting* tab displays account distributions:

Batch number

Account numbers and descriptions

Debits and credits

--The *Owner* tab displays information about owner detail distributions:

Owner number and type

Pay code and suspense code

Owner disbursement decimal

Owner share of volume, value, deducts and taxes

--The *Marketing* tab displays marketing costs and reimbursements.

--The Taxes tab displays tax percentages and amounts, including any reimbursement amounts.

Identifying the Corresponding FI Document

At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Valuation → Valuation Processing → Reports → Combined Run Report*

The *Combined Run Report* screen appears.

Enter selection criteria as required. Then choose *Execute* .

The *Combined Run Header Information* screen appears.

Choose *Summary* .

The *Summary of Combined Run Report* screen appears.

In the *Accounting* section, note the batch number.

Open another session and choose *Accounting   → Financial Accounting → General Ledger → Document → Display*

The *Display Document: Initial Screen* appears.

Choose *List* .

The *Document List* screen appears.

Enter the company code. Then in the *Reference key* field, enter the batch number that you noted from the Combined Run Report.

The *Document List* screen appears with a list of documents that correspond with the company code and batch number that you entered.

Double click on a line for the document you want to review.

The *Document Overview* screen appears with the accounts and corresponding amounts.

Double click on line items as required for more detailed information.

9.12   Oil and Gas Run Statements

Use

Valuation features functions to enter oil and gas statement profiles, and to build statements from current data with the Valuation Document Work List [page 339] .

Further, you can use list processing to view statements, and to generate statements for a prior month, not just for a current run.

9.12.1 Creating or Maintaining an Oil Statement Profile

Use

Use this transaction to specify the venture/division of interest, measurement point, and contract information required for statements that are printed in a batch job every month. Individual statements can be accessed and printed ad hoc as required.

The ad hoc statements report all run ticket data for a required sales month, while monthly statements report the ticket data that has been valued since last month's statements.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Oil and Gas Run Statements* ❯ *Oil Statement Profile* ▌.
2. The *Oil Statement Profile: Initial Screen* appears.
3. Choose *Create* .
4. The *Create Oil Statement Profile: Application Maintenance* screen appears.
5. Enter data as required, including:

- In the *Owner/Recipient* field, enter the recipient, which could be a purchaser.

> ℹ **Note**
>
> It is not required to enter the owner for the Venture/DOI in this field.

- In the *Number of Copies* field, enter the number of copies to be printed.

1. Save the oil statement profile.

Using a Reference to Create an Oil Statement Profile

1. To create an oil statement profile with reference to an existing record, at the *Oil Statement Profile: Initial Screen* , enter data as required. Then choose *Execute* .
2. If more than one record matches the data you entered, the *Oil Statement Profile: List Viewer* screen appears. In this case, select one of the profiles from the list.
3. OR
   If only one record matches the data you entered, a single record is displayed.
4. Choose *Create* to create a new record with the data from the record you selected.

Changing of Displaying an Oil Statement Profile

1. To change or display an oil statement profile, at the *Oil Statement Profile: Initial Screen* , enter data as required. Then choose *Execute* .
2. If more than one record matches the data you entered, the *Oil Statement Profile: List Viewer* screen appears. In this case, select one of the profiles from the list.
3. OR
    If only one record matches the data you entered, a single record is displayed.
4. Choose *Change* or *Display* to change or display the record as required.

9.12.2 Oil Statement List Processing

Use

Use this transaction to review a group of monthly oil statements with details about what data is included on a statement, and when a report was generated.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Oil and Gas Run Statements* ❯ *Oil Run Statement List Processing* ◗ .

The *Oil Statement Report List Processing: List Viewer* screen appears.

1. Enter data as required. Then choose *Execute* .

The *Oil Statement Report List Processing: List Viewer* screen appears.

1. Review the reports listed, and note the **run date** , which indicates when the statement report was generated.

1. Exit the list viewer.

9.12.3 Creating or Maintaining a Gas Statement Profile

Use

Use this transaction to specify the venture/division of interest, measurement point, and contract information required for statements that are to be printed in a batch job every month. Individual statements can be accessed and printed ad hoc as required.

Actual, entitled, or settlement amounts will be reported.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Oil and Gas Run Statements* ❯ *Gas Statement Profile* ❮ .
2. The *Gas Statement Profile: Initial Screen* appears.
3. Choose *Create* .
4. The *Create Gas Statement Profile: Application Maintenance Screen* appears.
5. Enter data as required, including the number of copies to be generated.
6. Save the gas statement profile.

Result

A batch job generates gas statements based on the records entered in this transaction.

Using a Reference to Create a Gas Statement Profile

1. To create a gas statement profile with reference to an existing record, at the *Create Gas Statement Profile: Initial Screen* , enter data as required. Then choose *Execute* .
2. If more than one record matches the data you entered, the *Gas Statement Profile: List Viewer* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

1. Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Gas Statement Profile

1. To change or display a gas statement profile, at the *Gas Statement Profile: Initial Screen* , enter data as required. Then choose *Execute* .

1. If more than one record matches the data you entered, the *Gas Statement Profile: List Viewer* screen appears. In this case, select one of the records from the list.

OR

If only one record matches the data you entered, a single record is displayed.

1. Choose *Change* or *Display* to change or display the record as required.

9.12.4 Gas Statement List Processing

Use

Use this transaction to review a group of monthly gas statements with details about what data is included on a statement, and when a report was generated.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Oil and Gas Run Statements* ❯ *Gas Statement List Processing* ◀ .

The *Gas Statement Report List Processing* screen appears.

1. Enter data as required. Then choose *Execute* .

The *Gas Statement Report List Processing: List Viewer* screen appears.

1. Review the reports listed, and note the **run date** , which indicates when the statement report was generated.

1. Exit the list viewer.

9.12.5 Running the Oil and Gas Statement Reports

Purpose

Use these steps to run the oil and gas statement reports.

ⓘ

You create oil and gas statement profiles by using the Oil Statement Profile [page 355] and the Gas Statement Profile [page 356] transactions.

⚠️

SAP recommends that you execute the statement generation and print programs in the same background job, as described in Part 3 below. If the generation job were to be run multiple times prior to the print job, the data for initial generation could be overwritten with the print job showing only the most recent set of data.

Process Flow

Part 1 of 3 - Verify Entries in the OIUVL_CM_STAT Table

Verify that the following data is entered in the report print programs.

Table 68:

Field Name	Oil Statement Entries	Gas Statement Entries
KSCHL	OI01	GA01
NACHA	1	1

Field Name	Oil Statement Entries	Gas Statement Entries
PGNAM	ROIUVL_OIL_RPT_STATEMENT_PRINT	ROIUVL_GAS_RPT_STATE-MENT_PRINT
RONAM	PRINT_STATEMENT	PRINT_STATEMENT
FONAM	OIUVL_OIL_STATEM	OIUVL_GAS_STATEM

In the fields LDEST and DSNAM, make your customer-specific entries.

Part 2 of 3 - Creating Variants for the Oil and Gas Statement Print Programs

From the *SAP Easy Access* menu, choose *Tools → Development → ABAP Editor*

In the *Program* field, enter eitherROIUVL_OIL_RPT_STATEMENT_PRINTfor the oil report orROIUVL_GAS_RPT_STATEMENT_PRINTfor the gas report *.*

Choose *Goto Variants*

In the *Variant* field, enter a name for the variant. Then choose *Create* .

Leave the P_LOGNUM field blank, and in the P_RUN_DT field, enter the date for which the report is needed.

Choose *Back* . When the system prompts you to save, choose *Yes* .

The *ABAP: Save Attributes of Variant <name>* screen appears.

Complete the *Description* field.

Choose *Save* and exit.

Part 3 of 3 - Define Background Job

Choose *System Services Jobs Define jobs*

Complete the *Job name* and *Job class* fields.

Choose *Step* .

The *Create Step 0* dialog box appears.

Verify that in the *Name* field, eitherROIURV_OIL_RPT_STATEMENTorROIURV_GAS_RPT_STATEMENTis displayed.

Choose *Save* .

The *Define Background Job* screen appears.

Choose *Save* again. Then choose *Step* .

Choose *Create* .

The *Create Step 0* dialog box appears.

Choose *ABAP Program* to enable the *Name* , *Variant* , and *Language* fields. Then enter the following data:

- In the *Name* field, enter eitherROIUVL_OIL_RPT_STATEMENT_PRINTorROIUVL_GAS_RPT_STATEMENT_PRINT
- In the *Variant* field, enter the name of the variant created in Part 2.

Choose *Save* .

The *Step List Overview* screen appears.

Choose *Back* .

The *Define Background Job* screen appears.

Choose *Start condition* .

The *Start Time* dialog box appears.

Either choose *Immediate* to run the program immediately, or choose *Date/Time* to schedule a run.

Choose *Save* .

The *Define Background Job* screen appears.

Choose *Save* .

The system displays the status.

Choose *Job overview* .

The *Simple Job Selection* screen appears.

Choose *Execute* .

Select your job and choose *Spool* .

Either print out the report by selecting the spool and choosing *Print* or display the output by choosing the icon in the column *Type* .

9.13 Using the Run Ticket Inquiry

Use

Use this transaction to view information about oil run tickets for a selected property and measurement point.

Procedure

1. At the *SAP Easy Access* screen, choose ❙▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Valuation* ❯ *Oil and Gas Run Statements* ❯ *Run Ticket Inquiry* ❱ .
2. The *Run Ticket Inquiry* screen appears.
3. Enter data as required. Then choose *Execute* .
4. The *Run Ticket Inquiry List Processing* screen appears.
5. Review the run ticket details. Then exit the function.

9.14 List Processing

Use

Use list processing to retrieve and review data as required.

Activities

Using Multiple Selection

Often to the right of the input fields the system displays an icon with a yellow arrow. This is the *Multiple selection* icon, which allows you to enter multiple sets of data as criteria for the system to use when executing a report. For example, you could use the Multiple selection feature to specify more than one range of numeric IDs (1-50 and 60-100) and at the same time exclude a value (not ID number 75).

If more than one selection is entered, the system displays the arrow in green because the system cannot display all of the selection criteria on the initial screen at one time.

Multiple Selection Features

Table 69:

Feature	Description
1. Select single values	Use this to enter single values to be retrieved for the report.
2. Select ranges	Use this to enter a range of values to be retrieved for the report.
3. Exclude single values	Use this to enter single values to be excluded from the report.
4. Exclude ranges	Use this to enter a range of values to be excluded from the report.
5. Entity lookup	Enables a lookup on the entity.
6. Delete entire selection	Delete all values that you entered in the dialog box.
7. Delete line	Deletes the value from the line in which the cursor is placed.
8. Insert line	Inserts a new line above the field on which the cursor is placed.
9. Selection operators	Retrieves a list of selection operators (, ≥ , , , ,) that can be used with the input values.

Using Selection Screen Variants

Use a variant to establish a set of values that will be used on a regular basis to run a report. By setting up a variant, you eliminate the need to enter a set of data more than one time. When you retrieve a variant, the values you specified in the variant default into the corresponding fields on the screen.

Creating a Variant

1. On the List Processing screen, enter the values to be included in the set of values for the variant.
2. ⓘ
   Any values that you include by using Multiple Selection are included in the variant.
3. Choose ▶ *Goto* ❯ *Variants* ❯ *Save as variant* ❯.
4. In the *Variant name* field enter a name or ID for the variant. In the *Description* field enter a description for the variant.
5. Choose *Save* to return to the List Processing screen.

Retrieving a Variant

1. From the List Processing screen choose ▶ *Goto* ❯ *Variants* ❯ *Get* ❯.
2. The system displays a dialog box with a list of variants.
3. Select a variant and then choose *Enter* to return to the list processing screen.

The system inserts the values specified in the variant into the corresponding fields.

List Viewer Navigation Functions

After you choose a variant and/or enter data on the initial screen and choose *Execute* , the system displays the results on a List Viewer screen. Some of the functions available on the List Viewer screen follow.

Table 70:

	Viewing Details of a Record
	• To view details of a record, select the appropriate record and choose *Details* .
	Viewing Data in Ascending Order
	• To sort data in ascending order, select the column by which you will sort in ascending order. Then choose *Sort in ascend. order* .
	Viewing Data in Descending Order
	• To sort data in descending order, select the column by which you will sort in descending order. Then choose *Sort in descend order* .
	Finding a Record
	• To find a record in the report, choose *Find* . Then enter selection criteria.
	Using the Filter
	• To limit the number of records shown in the report, select the column for which you will set the filter. Then choose *Set filter* and enter criteria for the filter.
	Printing the Report
	• To print the data displayed in the List Viewer, choose *Print* .
	Export the Report
	• To save the data displayed in the List Viewer as a file, choose *Export* .
	Changing the Format of the Report
	• To select a different format for the report, choose *Views* .

10 Check Input

Purpose

The Check Input application area **processes payments** received from third party purchaser or remitter remittance statements into the SAP Oil and Gas system and involves the **standardization of data** .

> **i Note**
>
> The standardization involves the editing and translation of purchasers' data into the necessary standard data types and formats so that it can be processed.

Payments can be processed automatically, through CDEX, or they can be entered into the system manually.Further, there are options to process payments for recording income, expenses, and royalty payments for non-material interests.

Check Input allows you to **define formats** that represent the remitter's check stub layout in order to facilitate data entry.Further, Check Input utilizes batch data input to organize and process information.

Check Input **automated processing** :

- Credits accounts receivable and debits cash clearing
- Creates valuation input
- Suspends line correction – errors are automatically suspended, then automatically reprocessed upon completion of master data set up.A write-off process is also available to remove unwanted or non-material errors.
- Supports intercompany receivables with cash transfers from affiliated companies and makes the corresponding intercompany journal entries.
- With the Check Stub Data Exchange (CDEX) interface , Check Input receives check detail and processes payments from purchasers electronically

Integration

- Creates accounts receivable and cash journal entries through the Journal Entry application area
- Sends sales data into the Valuation application for further distribution to revenue allocations and journal entries.
- Utilizes division order accounting rules for processing determination

10.1 Creating or Maintaining Check Layouts

Use

Use this transaction to establish and maintain check layouts for the input of check data.Since each remitter uses a different check format, the system uses a layout to map a remitter's data into standard Check Input fields for further processing.

Procedure

At the SAP Easy Access screen, choose ▎▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Check Input* ❯ *Master Data* ❯ *Check Layout* ❯ .

Choose *Create* .

Enter the following data as required.

- In the *Seq* field, specify the order in which the associated field name will appear in the check layout.
- In the *Field Name* field, enter the names of the fields to be included in the check layout.
- In the *Override Field Name* field, enter a description of the field name that will be used in place of the already existing description throughout Check Input.You could use this field to rename a field in order to match the actual field name on the check detail.
- In the *Calc Net* field, specify whether the corresponding *Field Name* is used to calculate the net amount.
- To sum the field for all equal records in a check (that is, records with the same property number, sales from date, remitter product code, etc.), select the *Sum* indicator.

> ℹ **Note**
>
> The *Approved* indicator must be selected before the layout can be cross-referenced to a remitter in the Remitter / Layout Cross Reference.

- Save your entries.

See also:

Creating or Maintaining a Ck. Input – Remitter / Layout Cross Reference [page 366]

Using a Reference to Create a Check Layout

To create a check layout with reference to an existing record, enter data as required in the *Check Layout: Initial Screen* .Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Check Layout

To change or display a check layout, enter data as required in the *Check Layout: Initial Screen* .Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

10.2 Creating or Maintaining Ck. Input - Remitter / Layout Cross Ref.

Use

Use this transaction to assign a specific check layout to a remitter. This assignment must be established before the layout can be accessed in other Check Input transactions.

Prerequisites

The check layout that you will link the remitter to is complete. To create or maintain a check layout, use the Check Layout [page 365] transaction (*Logistics → Production and Revenue Accounting → Revenue Accounting → Master Data → Check Layout*).

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Check Input Master Data → Remitter/Layout Cross Reference*

The *Check Input - Remitter / Layout Cross Ref* screen appears.

Choose *Create* .

The *Check Input - Remitter / Layout Cross Ref* screen (2) appears.

Enter data as required.

ℹ️

Though the remitter may be tied to several different layouts, only one layout may be designated as the default.

To enter free-form text comments, choose *Comments* .

Save your entries.

Using a Reference to Create a Check Input - Remitter / Layout Cross Reference

To create a check input - remitter / layout cross reference record with reference to an existing record, at the *Check Input - Remitter / DOI Cross Ref* screen, enter data as required. Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Check Input / Remitter / Layout Cross Reference

To change or display a check input - remitter / layout cross reference record with reference to an existing record, at the *Remitter / DOI Cross Ref* screen, enter data as required. Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

10.3 Check Input Process Rules

Use

Use this transaction (*Logistics → Production and Revenue Accounting → Revenue Accounting → Check Input → Master Data → Process Rules)* to establish and maintain processing rules to be used if it is necessary to manipulate check field values when a remitter's check is processed.

In order to determine the value for a specific layout field, the factor 1 and factor 2 fields (either a field value or a fixed, constant value) act on each other as directed by the function.

Prerequisites

A check layout exists with the fields to which the process rules will apply.

Activities

Setting Up Rules by Product

You can set up a unique rule for a remitter's product by setting up the rule with the *Default Process Rule* indicator (see description below) deselected.

ⓘ

When you set the *Default Process Rule* indicator, then the rules entered on this screen are the default rules for the remitter ID, layout ID, and product combination.

You must then do the following:

Complete the *Override Process Number* field to specify that the normal processing rules will not be used.

Complete the *Product* field in order to specify the product to which the unique rule applies.

Reference the override process number in the transaction in order to make the rules available to the system for processing.

The resulting value is displayed in the *Result Field* for the specified layout.

Example

If a remitter sends check deduction values as positive, you can use this transaction to set up rules that multiply the remitter's deduction values by −1.

10.4 Creating or Maintaining Product / Property Translations

Use

Use this transaction to establish and maintain translations of a remitter's code value for a product or property into a recognized SAP Oil and Gas System value.

The system uses translations when remitter check detail lines contain values that do not correlate directly to SAP values.For example, a remitter may identify an oil product as **OIL** while SAP identifies the same product as **100** .

This transaction provides a method to translate remitter values into SAP values.

Prerequisites

The check layout for which you will create the product / property translation is complete and linked to a remitter.For information about completing a check layout and linking it to a remitter, see Creating or Maintaining Ck. Input - Remitter/Layout Cross Reference [page 366] .

Procedure

At the SAP Easy Access screen, choose ▐ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Check Input* ❯ *Master Data* ❯ *Translations* ▐ .

The *Product / Property Translations* screen appears.

Choose *Create* .

The *Product / Property Translations* screen (2) appears.

Enter the remitter ID and the layout ID.Then continue entering data.

Save your entries.

Using a Reference to Create Product / Property Translations

To create a product / property translation record, at the *Product / Property Translations* screen, choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying Product / Property Translations

To change or display a product / property translation record, at the *Product / Property Translations* screen, choose *Execute* .

Select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

Meridian Translations

Meridian frequently changes their property numbers on incoming check information while the corresponding PRA cross reference information remains the same.

The property numbers sent are formatted with the first five characters identifying the property number, and the remaining characters comprise the contract and meter numbers.The property number does not change, while the contract and meter numbers do change.

To handle the situation, in the *Remitter Code* field, you could enter the first five characters of the stable property number followed by the word **MERIDAN** .

10.5 CDEX Company Product Cross Reference

Use

Use this transaction (▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Check Input* ❯ *Master Data* ❯ *CDEX Company Product Cross Reference* ◀) to create and maintain a cross reference from a CDEX product code (which is two characters) and a PRA product code (which is three characters).

10.6 CDEX Remitter Cross Reference

Use

Use this transaction (▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Check Input* ❯ *Master Data* ❯ *CDEX Remitter Cross Reference* ◀) to create and maintain a cross reference between a CDEX remitter number and a PRA remitter number.

10.7 Using the CDEX Workplace

Use

Use this transaction to do the following:

Load files that have been downloaded previously from CDEX

Review and validate these files

Based on these files, create checks for the *PRA Payment Posting Desktop* transaction

ⓘ

A file is displayed on a single line in the *CDEX Workplace* transaction. (A single line represents one check.)

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Check Input → Document Entry → CDEX Workplace*

To load CDEX files that have been downloaded previously from CDEX, choose *Load CDEX* . Then complete the resulting *CDEX Load* dialog box with one of the following options:

To copy the CDEX input file to a backup file and delete the original file, complete both the *Input File name* and the *Backup File name* fields.

To load the CDEX file without creating a backup file or deleting the original file, complete only the *Input File name* field.

To review the status of CDEX files, review the *Status* column at the *CDEX Workplace – Check View* screen.

i

A red light indicates that there are errors; you can review information about the reason for an error in the *Rej rsn* column.

To correct master data (for example if a remitter was not set up correctly), choose *Validate* after the master data has been corrected.

To create check(s) in the *Payment Posting Desktop* , select the line for the check and choose *Create* .

Result

After the system successfully creates a check, the system deletes it from the *CDEX Workplace* transaction and it becomes available in the PRA Payment Posting Desktop [page 371] for further processing.

10.8   PRA Payment Posting Desktop

Use

This transaction (▌▶ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Revenue Accounting* ❭ *Check Input* ❭ *Document Entry* ❭ *PRA Payment Posting Desktop* ❭) processes data for purchasers' payments and tracks the following:

- Property from which product was purchased
- Quantity of the product
- The month in which the product was purchased

Special Distribution

If there are multiple partners in a division of interest who are due proceeds based on to the percentage of their share in a property, *Check Input* supports the distribution of revenue from the check received among the partners according to the percentage of the property owned by each partner.

Features

The *PRA Payment Posting Desktop* transaction displays check details on the *Payment Posting Desktop – Worklist Screen* , including the following details:

- The *Ctrl Check Amt* column displays the user-calculated or CDEX-calculated total of a check's line items
- The *Calc Check Amount* column displays the system-calculated total of a check's line items.

> ⚠️ **Caution**
>
> The system cannot process a check if there is a difference between the control check amount and the calculated check amount. If there a difference exists, it is displayed in the *Amt Diff* column.

- An **X** in the *VL/RD* column indicates that the amount of the corresponding line item(s) of a check must be distributed among the partners in the division of interest.

> ℹ️ **Note**
>
> The system displays an **X** in this column even if only one of the lines needs distribution. (That is, an **X** in this column does not necessarily indicate that *all* of the line items should be distributed among the partners in the division of interest.)

- The *Check Status* column indicates the stage of the check throughout the life cycle of the check.

> ℹ️ **Note**
>
> When a check has a status of **46** (*Posted Fully*), it cannot be processed further.

- The *Dtl Recs* column displays the number of line items for a check.

Activities

You can carry out the following activities with this transaction:

- Display checks [page 372]
- Copy and change check line items [page 374]
- Change a value across line items [page 374]
- Import check line items from a spreadsheet [page 374]
- Enter checks manually [page 373]
- Value checks [page 374] (that is, carry out a trial run) so that you can review and verify check details in the *Combined Run* report before posting checks
- Write off suspended lines [page 374]
- Post checks [page 374]
- Delete checks [page 374]
- Schedule checks for background processing [page 374]
- Mark checks to be processed in mass [page 374]

10.8.1 Displaying Individual Checks

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Check Input → Document Entry → PRA Payment Posting Desktop*

Enter selection criteria to specify the set of checks that the system will retrieve and choose *Execute* .

The *Payment Posting Desktop – Worklist Screen* appears.

Select the line that corresponds with the check you would like to display, and then choose *Display* .

The *Payment Posting Desktop – Displaying Check* screen appears.

To review details about how a check was created, choose *Attributes* .

Review the status of the *Check Amount* according to the symbol adjacent to the *Check Amount* field. The system displays one of the following symbols:

An equal sign (=) if the check amount balances with the total of the line items

A less than sign (<) if the check amount is less than the total of the line items

A greater than sign (>) if the check amount is greater than the total of the line items

Review the status of check line items by noting the symbol displayed in the *Status* column.

ⓘ

The write-off symbol is visible only if the check has the status "booked partially".

Choose the following options as required:

To review information about the SAP documents that the system generates after a check is valued or posted, choose *Booked Documents* .

ⓘ

The resulting dialog box displays information about a cash batch, and if applicable, any Valuation documents generated to distribute revenue among partners in a division of interest.

To view line items that are relevant for Valuation/Revenue Distribution processing, choose *Aggregate key fields* .

The system then highlights the relevant line items.

To view line items in the order in which they were entered, choose *Undo aggregation* .

10.8.2 Entering Checks Manually

1. From the *SAP Easy Access* menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Check Input* ❯ *Document Entry* ❯ *PRA Payment Posting Desktop* ❳ .
   The *Payment Posting Desktop – Selection Screen* appears.
2. Choose *Create* .
   The *Payment Posting Desktop – New Check* screen appears.
3. Enter data as required and save your entries.

> ⓘ Note
>
> ○ The *Chk Layout* field layout is a required field because it controls the check format.
> ○ The system uses the following data to determine whether you are making duplicate entries for a check:
>   ○ Remitter number

- ○ Remitter sequence number
- ○ Check number

10.8.3 Maintaining Individual Checks

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Check Input → Document Entry → PRA Payment Posting Desktop*

Enter selection criteria to specify the set of checks that the system retrieves, and choose *Execute* .

The *Payment Posting Desktop – Worklist Screen* appears.

Select the line that corresponds with the check you would like to display, and then choose *Display* .

The *Payment Posting Desktop – Displaying Check* screen appears.

Choose the following options as required:

To change a check line item, select it and choose *Toggle Display or Edit Mode* .

To copy a check line item, select the line item and choose *Copy <object>* .

To write off a suspended line, choose *Write Off Suspended Line(s)* so that the amount will be posted to a write off account.

To change a value across multiple line items at one time, select a column and as many rows as required, highlighting the intersection of the column and rows. Then choose *Carry Out a Mass Change* . In the resulting *Enter Replacement Value* dialog box, enter a new value for the system to assign to each of the relevant rows.

To import line items from a spreadsheet, in the spreadsheet select the rows to be imported and choose the copy function in the spreadsheet. (By doing this you post the copied data to the clipboard.) Then, in the *Payment Posting Desktop – Editing Check* screen, choose *Import* to import the data from the clipboard to the screen.

⚠️

The data to be imported from the spreadsheet must be formatted with exactly the same columns as the columns used in the check layout.

10.8.4 Processing Checks

Use

Use the following options available in the *Payment Posting Desktop* transaction to process checks.

Prerequisites

Checks downloaded from CDEX have been processed through the CDEX Workplace [page 370] successfully, thereby making the checks available for processing in the *Payment Posting Desktop* .

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Check Input → Document Entry → PRA Payment Posting Desktop*

After entering selection criteria to specify the set of checks that the system retrieves, choose *Execute* .

The *Payment Posting Desktop – Worklist Screen* appears.

Select one or more checks to carry out the following options as required:

To carry out a trial run so that you can review and verify check details in the Combined Run report before posting a check, choose *Value* .

To view the Combined Run report, choose *Combined Run Report* .

To post checks, choose *Post* .

To schedule checks for background processing, choose *Schedule as a Background Job* .

To mark checks to be processed with the *Processing Checks in Mass* transaction, choose *In Mass Processing.*

ℹ️

When you choose *In Mass Processing* , the system does not automatically carry out mass processing for the checks. The system carries out mass processing of the checks only after you execute the Processing Checks in Mass [page 376] transaction.

To delete checks, choose *Delete* .

Processing a Single Check

From the *Payment Posting Desktop – Worklist Screen* , select a check and choose *Display* .

The *Payment Posting Desktop – Displaying Check* screen appears.

Choose *Process Check.*

The *Payment Posting Desktop – Specify Processing Options* dialog box appears.

Choose *Online* . Then choose *Continue* .

10.9 Processing Checks in Mass

Use

This transaction (▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Check Input* ❯ *Periodic Processing* ❯ *Processing Checks in Mass* ▌) processes a large number of checks during off-peak hours.

Prerequisites

The checks to be processed in this transaction have been marked for mass processing in the *PRA Payment Posting Desktop* .

Activities

On the initial *Incoming Checks – Mass Processor* screen, enter selection criteria to specify the set of checks to be processed.

> **i Note**
>
> You can use the *Created by User* field to specify the set of checks to be processed based on the user(s) who entered them.

10.10 Check Input Reports

Use

The following Check Input reports are available under the menu path ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Check Input* ❯ *Reports* ▌.

- **Incoming Check A/R and Prices Variance Report**
  This report provides a warning to the user that the unit price or net receivable calculated in Check Input processing is outside of the user-defined tolerance.
  You establish the net receivable tolerance in Common Table TBLCI016, and you establish the price tolerance by product code in Common Table TBLCI002.
  (The menu path for Common Table maintenance is ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Tools* ❯ *Common Table Maintenance* ▌).
- **Suspended Line Items Message Report**

This report provides information about Check Input line items that cannot be posted or processed successfully.

10.11 Reviewing FI Documents that Result from CI or CW Processing

Use

By using the *Job Maintenance* and *Display Document* transactions, you can review the FI documents that result from Check Input (CI) or Check Write (CW) processing and verify whether Check Input or Check Write has executed properly.

Procedure

1. At the SAP Easy Access menu, choose *Tools -> CCMS -> Jobs -> Maintenance* .
2. The *Simple Job Selection* screen appears.
3. In the *Job name* field, enter either **SAP_CHECKINPUT** for Check Input or **SAP_CHECKWRITE** for Check Write **.** Then choose *Execute* .
4. The *Job Overview* screen appears.
5. Select the required job and choose *Spool* .
6. The *Output controller: List of Spool requests* screen appears.
7. Select the spool and choose *Display* .
8. **Note the reference number .**
9. End the session or open another one and choose ▶ *Accounting* ❯ *Financial Accounting* ❯ *General Ledger* ❯ *Document* ❯ *Display* ❮ .
10. Choose *List* .
11. The *Document List* screen appears.
12. Enter the company code and in the *Reference key* field, enter the reference number that you noted in the *Job Maintenance* transaction. Then choose *Execute* .
13. The *Document List* screen appears with a list of documents that correspond with the company code and the reference number that you entered.
14. Double click on a line for the document you want to review.
15. The *Document Overview* screen appears with the accounts and corresponding amounts.
16. Double click on line items as required for more detailed information.

11 Payment Processing

Purpose

Payment Processing summarizes entries from the General Ledger and the Owners Payable subledger to the check stub level, and then determines whether the total amount is to be paid, and whether taxes are to be withheld.

The primary transaction in the Payment Processing component is the PRA Payment Processing [page 379] transaction (*Logistics → Production and Revenue Accounting → Payment Processing → Period Processing → PRA Payment Processing*). The *PRA Payment Processing* transaction is used to run payment processing jobs, and to review the status of completed jobs as well as any exception items.

There are two transactions that support the *PRA Payment Processing* transaction:

the Bank Details for Payment Processing [page 378] transaction (*Logistics → Production and Revenue Accounting → Payment Processing → Master Data → Bank Details for Payment Processing*), with which a user specifies the bank accounts to be used to make payments before running the *PRA Payment Processing* transaction

the Exception Reporting [page 383] transaction (*Logistics → Production and Revenue Accounting → Payment Processing → Reports → Exception list from payment runs*), which lists the reasons that a payment line or owner was not paid. This transaction is meant to be used after a user completes a payment run with the *PRA Payment Processing* transaction.

Features

Optimization

Payment Processing includes optimization features that support performance, infrastructure, and reliability.

For example, to prevent payment processing failure or rejects at latter stages of processing, a validation that verifies required account numbers in the Chart of Accounts is incorporated at the beginning of processing.

Also, to prevent the system from re-processing the entire set of owner records that are part of a Payment Processing job, the system processes one owner at a time. If processing for one owner fails, therefore, a user can restart processing and the system will pick up processing where it stopped for a particular owner.

11.1 Maintaining Bank Details for Payment Processing

Use

Use this transaction to enter the bank master data required for payment processing.

Procedure

At the SAP Easy Access menu, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Payment Processing* ❯ *Master Data* ❯ *Bank Details for Payment Processing* ❯ .

The *Bank Data Maintenance: Initial screen* appears.

In the *Company Code* field, enter the company code for which you will set up bank details.Then choose *Create* .

The *Bank Data Maintenance: Create* screen appears.

Enter the following data.

- In the *Bank ID* field, enter the code that identifies the bank from which payment will be generated.
- In the *Bank Name* field, enter the bank's name.
- In the *Bank Account* field, enter the bank account number from which payment will be generated.
- In the *Cash Account* field, enter the G/L account number to which the cash transactions are booked in PRA.
- In the *Clearing Account* field, enter the G/L account number to which electronic money transfers are booked in PRA.
- In the *Check Lot* field, enter the check lot number.
- Save your entries.

Result

The master data is ready for use in the PRA Payment Processing [page 379] transaction (▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Payment Processing* ❯ *Periodic Processing* ❯ *PRA Payment Processing* ❯).

11.2   PRA Payment Processing

Use

Use this transaction to run payment processing jobs, and to review the status of completed jobs as well as any exception items.

Prerequisites

In the *Business Associate* transaction within Ownership, the *Resident Cntry* and the *Resident Region* field on the *General Data* tab are completed for the relevant owner(s) to be processed. To access the Business Associate [page 15] transaction, choose *Logistics → Production and Revenue Accounting → Ownership → Business Associate*

In addition, the following entries are made in the *Business Associate* record as required.

Payment Frequency

To override the minimum payment amount, set the Pay Frequency to Pay Regardless.

Print Check First (indicator)

To indicate that an owner's check will be sorted to the top of the output files regardless of attachments or postage, select the *Print Check First* indicator.

Payment Block

To stop all royalty checks from being processed for an owner, set a payment block.

Payment Type

Use this field to designate how an owner is paid. Note that if the owner is paid by means other than a check, the payee will still receive a check attachment.

In order for the correct tax amounts to be withheld from owners' checks, state withholding tax rates must be maintained in the Withholding Tax Rate [page 424] transaction (*Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Tax Maintenance → Withholding Tax Rate*).

The minimum check amount is defined. To define the minimum check amount, use the *Activation for Specific Companies* Customizing activity by choosing *Industry Solution Oil & Gas (Production and Revenue Accounting) Global Settings Activate functionality Activation for Specific Companies* .

A check number range is defined for a check lot. To enter and maintain a check number range, use the *Configure Check Numbers* Customizing activity by choosing *Industry Solution Oil & Gas (Production and Revenue Accounting) → Revenue Accounting → Payment Processing → Configure Check Numbers*

Each company code is defined with a Federal Backup Withholding Tax Rate. You enter Federal Backup Withholding Tax Rates in the common table TBLRD050 for each company code (that is, the org. level 1 number).

The menu path for the Common Table is *Logistics → Production and Revenue Accounting → Tools → Common Table Maintenance*

The ID, description, and payment methods for the check lot are defined. To enter the check lot data, use the *Configure Check Lot* Customizing activity by choosing *Industry Solution Oil & Gas (Production and Revenue Accounting) → Revenue Accounting → Payment Processing → Configure Check Lot*

Bank master data required for the Payment Processing run is set up. To set up bank master data, use the Bank Details for Payment Processing [page 378] transaction (*Logistics → Production and Revenue Accounting → Revenue Accounting → Payment Processing → Periodic Processing → PRA Payment Processing*).

The accounting period for which you will run Check Write is closed. To close an accounting period, use the Accounting Period Close [page 454] transactionchoose *Logistics → Revenue Accounting → Journal Entry → Periodic Processing → Accounting Period Close*

Procedure

At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Payment Processing → Periodic Processing → PRA Payment Processing*

The *Parallel Payment Run* dialog box may appear if more than one payment run is being processed in the system.

Once you proceed past this message, the *PRA Payment Processing* screen appears.

Enter the following data.

In the *Run Date* field, the current date defaults. If required, enter another date to identify the payment processing job. (The date does not have to be the date on which the job was run.)

In the *Identification* field, enter an ID for the payment processing job.

In the *Check Date* field, review the date. This is the date that will be printed on the checks.

In the *Type of Run* field, specify whether the run is primary (that is, monthly) or secondary (secondary runs are executed as needed).

To generate checks of any amount, select the *Ignore all minimum pay amount* indicator.

i

When the *Ignore all minimum pay amount* indicator is not selected, the system only generates checks that are above the minimum pay amount. The system determines whether there is a minimum pay amount specified for the owner. (An owner's minimum payment amount is set in the Business Associate transaction's *Payment Data* tab: *Logistics → Production and Revenue Accounting → Ownership → Business Associate* .)

If there is not a minimum pay amount specified for the owner, then the system uses the default minimum payment amount that is set in the *Activation for Specific Companies* Customizing activity (*Industry Solution Oil & Gas (Production and Revenue Accounting) → Global Settings → Activate Functionality → Activation for Specific Companies*).

As needed throughout processing, choose the *Status* tab to review the status of the payment processing job. Choose *Refresh* to update the status.

Choose the *Parameters tab* . Then choose one of the following options.

Table 71:

Function	Option
To generate checks for all entities in a company	Select *Company*
To correct a check or write a check for an owner that has not received a check	Select *Owner*
To write a check for a property that was under booked or overbooked	Select *Property*

At the *Parameters* tab, data that corresponds with the company, owner, or property. Then enter the following data.

In the *Company Code* field, enter the company for which the system will generate checks.

In the *Bank ID* field, enter the code identifying the bank from which the payment for the check(s) is generated.

In the *Bank Account* field, enter the account from which the payment for the check(s) is generated.

In the *Cash Account* field, enter the general ledger account number to which PRA books cash transactions.

In the *Clearing Account* field, enter the general ledger account number to which PRA books electronic money transfers.

If required, choose the *Server* tab to specify the server on which the system runs the payment processing job.

Choose *Process Payment* .

ℹ

You can choose *Discard run data* if processing stops and you do not want to restart processing at the point where the processing stopped. In this case, you can choose *Discard run data* and start the payment run again from the beginning.

To restart a payment processing job, choose *Restart Payment Proc* .

ℹ

To prevent the system from re-processing an entire set of owner records that are part of a Payment Processing job, the system processes one owner at a time. If processing for one owner fails, therefore, you can re-start processing with the *Restart Payment Proc.* function and the system will pick up processing where it stopped for the particular owner.

Displaying Previous Payment Runs

To review the details of previous payment runs, on the *PRA Payment Processing* initial screen, enter the run date and identification. Then choose *PRA Payment Run → Display prev. runs*

ℹ

To delete all of the temporary data that was created during the payment run, choose *Clear Run Detail* .

Result

The *Master Payment Control Report* is available with details about what was paid, as well as a list of the journal entry batches that the system posted. You can access the report and the list of batches by choosing *System → Services → Jobs → Job Overview*

The system generates the Bottomline file, which contains both detailed and summarized line for owners entitled to payment. This file may be sent to a third party or used by a separate software package for check printing and mailing.

The system stores the Bottomline file in the DIR_HOME directory; the file name is a combination of the ID and run date that you specified.

If any payment lines or owner was not paid, you can review details with the Exception Report [page 383] You can access the *Exception Report* from within the *PRA Payment Processing* transaction by choosing *Environment → Exception Report* or by choosing *Logistics → Production and Revenue Accounting → Payment Processing → Reports → Exception list from payment runs*

11.3   Reviewing the Exception List from the Payment Run

Use

Use this report to review the reasons for which payment lines or owners were not paid.

Prerequisites

The payment run is completed. (For details about carrying out a payment run, see PRA Payment Processing [page 379] .)

Procedure

At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Payment Processing → Reports → Exception list from Payment run*

The *PRA Payment Processing – Exception items* screen appears.

ℹ

In addition to accessing the Exception Report from the SAP Easy Access menu, you can also access the report by choosing *Environment → Exception Report* .

Enter the following data.

In the *RUN_ID* field, enter ID for the payment processing run.

To limit the scope of the report further, enter the following data as required.

In the *RUN_DATE* field, enter the run date.

In the *OWN_NO* field, enter the owner number.

In the *OWN_SEQ* field, enter the owner sequence number.

Choose *Execute* . Then review the exception list.

12 Check Write

Purpose

The following Check Write transaction is available:

12.1 Outbound Bank Tape

Use

This transaction creates a file to be sent out to the bank for reconciliation purposes.

Procedure

At the SAP Easy Access menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Check Write* ❯ *Outbound Bank Tape* ❯ .

The *Treasury Check* screen appears.

To create the file and send it to the bank, choose *Execute* .

12.2 Reviewing FI Documents that Result from CI or CW Processing

Use

By using the *Job Maintenance* and *Display Document* transactions, you can review the FI documents that result from Check Input (CI) or Check Write (CW) processing and verify whether Check Input or Check Write has executed properly.

Procedure

1. At the SAP Easy Access menu, choose *Tools -> CCMS -> Jobs -> Maintenance* .
2. The *Simple Job Selection* screen appears.
3. In the *Job name* field, enter either **SAP_CHECKINPUT** for Check Input or **SAP_CHECKWRITE** for Check Write **.** Then choose *Execute* .
4. The *Job Overview* screen appears.
5. Select the required job and choose *Spool* .
6. The *Output controller: List of Spool requests* screen appears.
7. Select the spool and choose *Display* .
8. **Note the reference number .**
9. End the session or open another one and choose ▶ *Accounting* ❯ *Financial Accounting* ❯ *General Ledger* ❯ *Document* ❯ *Display* ◀ .
10. Choose *List* .
11. The *Document List* screen appears.
12. Enter the company code and in the *Reference key* field, enter the reference number that you noted in the *Job Maintenance* transaction. Then choose *Execute* .
13. The *Document List* screen appears with a list of documents that correspond with the company code and the reference number that you entered.
14. Double click on a line for the document you want to review.
15. The *Document Overview* screen appears with the accounts and corresponding amounts.
16. Double click on line items as required for more detailed information.

13 Accounts Receivable

Purpose

You use this function to manage accounts receivablebalances.

The accounts receivable balances are updated real time when respective Journal Entry (JE) postings take place.

This function allows you to view information on current and historical accounts receivable balances, create comments and categorize balances, transfer balances and write-off balances.

Integration

Accounts Receivable is tightly integrated with Revenue Distribution and Journal Entry.

Features

This function has the following processes:

- Update of receivable balances real-time during AR sub ledger postings
- Manage receivable balances through a user-friendly AR workplace
  - View current balances, historical balances, write-off history and transfer history
  - For current balances
    - Categorize all or portion of a balance
    - *Initiate* , *Cancel* and *Approve* manual write-offs
    - Mass approve manual write-offs
    - Drill down to the accounts receivable details
    - Transfer a detail check input (CI), balance (cash balance) with no limit on the transfer amount
    - Associate comments (capturing user and date) to a write-off, balance transfer or general AR balance key
- Maintain Responsibility IDs at AR remittance level
  - Mass reassign Responsibility IDs
  - Automatically update current balances with the new responsibility ID when it is changed
- Maintain configuration for automatic write-off for a company, account and age
  - Use amount or percent or both for write-off determination
- Age balances automatically on accounting period close
- Automatic write-off on accounting period close

13.1   Accounts Receivable Workplace

Use

You use this function to manage accounts receivablebalances.

The accounts receivable balances are updated real time when respective Journal Entry (JE) postings take place.

This function allows you to view information on current and historical accounts receivable balances, create comments and categorize balances, transfer balances and write-off balances.

Activities

- To display the *Accounts Receivable Workplace: Initial Screen* , go to the *SAP Easy Access* menu and choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Accounts Receivable → Real time AR Reconciliation → A/R Reconciliation Workplace*
  The following fields appear on the selection screen:

Table 72:

Field	Description
Company Code	The company of the person responsible for the outstanding balance.
Remitter	The person responsible for remitting payment on an outstanding accounts receivable balance.
Responsibility ID	The person responsible to track the payments for outstanding balances.
Sales Month	The production month/year for which the revenue transaction was processed.
Product (If included)	The specific product.
Property/DOI/Measurement Point	Radio buttons which indicate whether the accounts receivable balance was recorded at a property/division of interest (DOI) level or at a measurement point level.
Current Balances	Radio button to select/display current outstanding balances.
Historical Balances	Radio button to select/display historical balances.
Write-off History	Radio button to select/display write-off balance history.

Field	Description
Transfer History	Radio button to select/display balance transfer history.
Age	Allows you to limit your search to only those balances in which the difference between the due date and the current date is equal to, greater than equal to or less than equal to the selected age.
Balance >=	Allows you to limit your search to only those balances in which the current balance amount is greater than or equal to the amount entered in this field.
Status	Allows you to select balances for different write-off status (pending write-off, auto write-off, manual write-off (pending write-off, auto write-off, manual write-off (PW, AW)) .

- Enter the relevant data for the selection that you would like to carry out.
- Choose *Execute* .
- The corresponding *Accounts Receivable Balance* screen is displayed.
- Select a balance record and carry out the desired action (Add/Display Comments, Categorize, Initiate/Cancel/Approve Write-off).

> **i Note**
>
> Only cash balances (check input balances) can be transferred through balance transfer. The balance transfer journal entries (JE) are created with batch type 29.

13.1.1 Accounts Receivable Manual Write-Off Process

Purpose

You can write-off accounts receivable balances in RD. Writing-off means creating the offsetting entry, as well as a write-off record in the system.

You generally write-off amounts that you consider to be insignificant, and/or amounts that you consider to be too small to write to journal entries (JE) line item tables – because you do not want to fill the line item tables with unnecessary entries.

> **Example**
>
> A ssuming that for a specific property/division of interest (DOI), a remitter owes you $ 1,000, and has paid $ 990 of that, that $ 990 will be booked to your accounts receivable line item table on the credit side. The remaining $ 10 is booked to the debit side of the accounts receivable (A/R) account. If that amount – the $ 10 – is not significant, you can elect to write it off. The A/R write-off function allows you to do that. When you select a record (in this case, the $ 10) as a write-off, and write it off in the system, the system creates the

> reconciling difference (in this case, a $10 entry on the credit side of the A/R line item table would be created).

Balances can be written off with the following business key: company, remitter, property/DOI or measurement point, sales month and product code.

Process Flow

The Accounts Receivable Reconciliation Workplace provides you with a two-step process to write-off accounts receivable records:

- You can *Initiate Write-off* for the remitter balance that you want to write-off.
  On the *Accounts Receivable Current Balances* screen, you select a remitter balance to be written off. You mark the balance as *Pending Write-off* .
- After you have marked an AR record for write off and saved that record, a supervisor, for example, can then, in this step, approve it or delete it. This is done to avoid errors in the write-off process.
  In the *Accounts Receivable Current Balances* screen, you select the remitter balance that you selected in Step 1 and approve the write-off record (or you delete the write-off record).

> **i Note**
>
> A comment entry is required at every step of write-off, that is, to *Initiate* , *Cancel* and *Approve* .
>
> More than one record can be selected for mass write-off approval.Same approval comment will be recorded for all selected records for approval.
>
> If you agree that the specific record is to be written off, you must approve the write-off.
>
> If you do not agree that the record is to be written off, delete the write-off.

> **Example**
>
> Your accountant has entered a record of $ 400 for write-off, but you feel that that amount is too high to write-off. You will then delete/cancel the write-off.

Result

The write-off is either deleted or approved, and a journal entry is generated to reflect that.

The approval of a write-off generates the following journal entries with batch type 36:

- The offsetting entry for the receivable balance that you are writing-off.
- An entry to the write-off account indicating that you have written something off.

13.2 Accounts Receivable Responsibility ID Maintenance

Use

You use this function to maintain responsibility IDs for managing account receivable (AR) balances.

The people responsible for keeping track of the receivable balances at different accounts receivable remittance levels (measurement point or property/division of interest (DOI)) are assigned unique responsibility IDs.

Activities

- To display the *Accounts Receivable Responsibility ID: Maintenance* screen, go to the ▶ *SAP Easy Access Menu and choose Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Accounts Receivable* ❯ *Real TimeARReconciliation* ❯ *Maintain A/R Responsibility ID* ◀ .
- Create/Change or Display a responsibility IDs for a remittance level and *Effective From* date.
- You can also use the *List* option to *Display/Maintain* a list of responsibility IDs based on the selection criteria. You can also mass reassign responsibility IDs.

> **i Note**
>
> 💡
>
> The accounts receivable balances are automatically updated with the new/changed responsibility ID for the remittance level and effective date. When a responsibility IDs is deleted, the responsibility IDs for AR balance is updated as *Unidentified* .

13.3 Accounts Receivable Write-off Configuration Maintenance

Use

You use this to maintain the configuration for automatic write-off.

When accounts receivable balances remain outstanding for a considerable period, they are automatically written-off based on the configuration.

The write-off amount or write-off percent are defined for a company, account and write-off age. When the *Both Amount and Percent Needed in Write-off Determination* indicator is selected, both amount and percent are considered for write-off.

Activities

- To display the *Accounts Receivable Write-Off Configuration: Maintenance* Screen, go to the *SAP Easy Access* menu and choose ▐▶ *Logistics* ▶ *Production and Revenue Accounting* ▶ *Revenue Accounting* ▶ *Accounts Receivable* ▶ *Real Time AR Reconciliation* ▶ *Maintain A/R Write-Off Configuration* ▐.
- Create, change or display the write-off configuration for a company, account and age.
- Use the *List* option to Display/Maintain write-off configurations from the resulting list based on the selection criteria.

13.4 Accounts Receivable Aging and Auto Write-off

Use

You use this function to age the accounts receivable balances and carry out automatic write-offs during the accounting period close process.

During the monthly accounting period close, the following accounts receivable processes are performed:

- All outstanding old and current balances are aged by a month. The balances with future sales date are not aged till they become current.
- All receivable balances that satisfy the automatic write-off criteria are written-off and the corresponding reversal entries are posted.

> **i Note**
>
> The automatic write-off journal entries are created with batch type 70.

Activities

- To display the PRA *Accounting Period Close* screen, go to the *SAP Easy Access* menu and choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Periodic Processing → Accounting Period Close* .
- Select one or more companies and choose *Process Close* .
  The accounting period job is triggered which ages receivable balances, carries out auto write-off and closes the current accounting period.

14   Revenue Distribution

Purpose

Revenue Distribution allocates volume and value transactions received from the Valuation application component of PRA across DOI ownership, and does the following:

- Disburses funds to owners
- Generates accounting distributions
- Allocates bearer expenses to working owners
- Determines net payables for owners and records payable or income and expenses
- Processes prior period adjustments
- Maintains payment history
- Maintains 1099 (U.S. tax) information
- Allocates tax disbursements and marketing reimbursements to owners

The following is a representation of the data flow for Revenue Distribution:
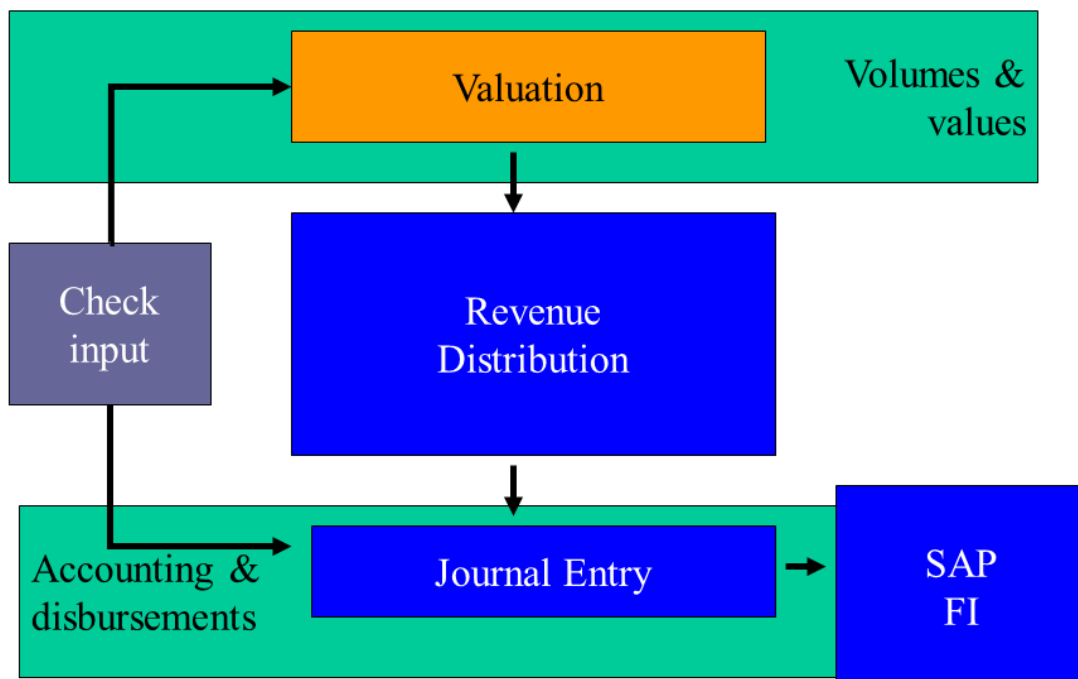
Within the Revenue Distribution module, the relevant processes are as follows:
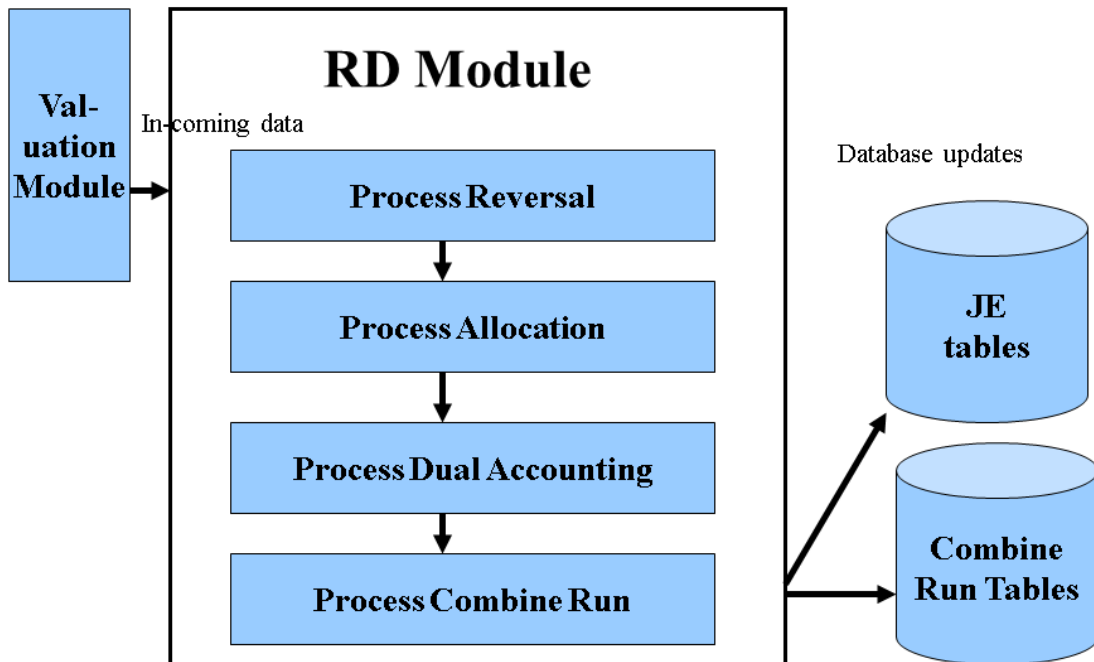
If data within RD is found to be "out of balance", no posting will be made to the database tables. For more information on the concept of "out of balance", please see the documentation on the Out-Of-Balance Report [page 409] .

Revenue distribution uses a file that is received from Valuation, containing processed transactions as input. Revenue Distribution then allocates total volume, value, deducts and taxes from Valuation to all owners in the division of interest, generates accounting distributions, and maintains payment history and 1099 (U.S. tax) information.

Revenue Distribution then summarizes and creates a journal entry file for the Journal Entry [page 428] subsystem, to be posted to the financial ledgers of SAP FI.

Revenue Distribution generates reports for results verification – which allows you to identify errors in processing, and "out-of-balances" (very rare situations in which the debits and credits are not equal).

The reports that are used in conjunction with RD are:

- Allocation Error Report (see: Using the Allocation Error Report in RD [page 407])
- Combined Run Report (see: Combined Run Report [page 353])
- Out-of-Balance Report (see: Out-Of-Balance Report [page 409])

After processing has been carried out, RD creates a Journal Entry transaction file, which is a data file that is used to send information on to the Journal Entry module for subsequent processing.

In addition to those main functions, Revenue Distribution also supports the following:

- Allocation of bearer expenses to working owners
- Determination of net payables for owners (gross revenue, minus deducts)
- Recording of payables, income, expenses, marketing payables and facility income
- Recording of accounts receivable (A/R) amounts
- Recording of payable taxes
- Distribution of operator payments

- Handling owner-level transactions and other situations that require special accounting actions. Examples of those transactions are: settlement diversity of owner transactions (transactions in which a non-working interest owner is paid on a different basis than that upon which volumes were sold), sliding scale owners (a form of settlement diversity transaction in which the decimal - net revenue interest of the owner can vary based on volume and/or values), tax-free owners (owners who, by agreement, are not required to pay state production and severance taxes), and marketing-free owners (owners who are not required to pay any marketing deductions, or certain types of marketing deductions)).
- Functionality for inputting and allocating state ad valorem taxes to owners in a DOI (see: Creating Ad Valorem Tax Recovery Records [page 425])
- Generation of accounting entries as a result of the allocations and special accounting processes performed
- Calculation of tax withholding amounts for federal, state, and non-resident alien taxes (state backup withholding for Colorado and Utah, etc.) (see: Maintaining Withholding Tax Rate Info [page 424])
- Calculation of interest on suspended or paid funds
- Processing of suspense releases based on owner suspense release data
- Processing suspense allocations based on ownership transfer data
- Utilization of system-wide minimum payment amounts
- Processing override options to system-wide minimum payment amounts maintained by owners in the business associate file
- Clearing out minimum suspense data at specified points in time
- Processing special payment control data based on information maintained by owner in the Business Associates Table ("print check first", "stop payment", and "payment method")
- "Print check first" – used when the check for an owner needs to be printed at the beginning of the check print job, due to special handing or other requirements
- "Stop payment" – used when it is desired to stop any payments from being made to an owner. This can be used in lieu of placing the owner in suspense on every DOI he has an interest in
- Functionality for entering comments or messages to be printed on owner check statements (comments or messages can be printed for all owners, a specific owner, all owners in a property, all owners in a DOI, or all owners in properties in a specific state)
- Generation of checks and statements for those owners being paid by check
- Generation of statements only for owners being paid by other means (wire transfer, etc.), or for owners whose revenue is being offset against joint interest expenses
- Provision of the ability to reprint owner statements, if necessary
- Provision for the input of manual check data and generation of appropriate accounting entries (see: Entering Royalty Check Information Manually [page 420])
- Provision for the ability to void checks either back into payables or into legal suspense
- Provision of the ability to generate replacement checks (whereby the original check is automatically voided)

- Maintenance and update of a check register
- Maintenance of 1099 (U.S. tax) data, and manual adjustment of the 1099 data (the user can manually adjust the data) (see: Displaying Owner 1099 Information [page 423])
- Provision for automatic write-off of accounts receivable balances that are within a user-defined amount, by product
- Generation of transactional data to be provided to participating owners through CDEX
- Provision of the capability to manually select accounts receivable balances to be written off, which are outside the automatic write-off amounts. A separate approval screen for manual write-off is provided for control purposes (see:)
- Provision of the ability to transfer accounts receivable amounts generated by the check input application across remitters, remittance levels, product codes, and sales dates. That is used in cases in which the data has been entered erroneously in the check input application, and has already been processed into the subledgers
- Processing of prior period notifications (PPNs) received from the Valuation application component by extracting and reversing original entries processed. The Valuation application component sends the re-entry or corrected transactions back to Revenue Distribution
- Provision of an option for processing prior period transactions against either current ownership in the DOI, or against the ownership that exists as of the sales month or the prior period transaction (that is, historical ownership)
- Extraction and reporting of owner-payable data that is "escheatable" under state escheat laws (which vary from state to state)
- Provision of search functionality for all Journal entries created from a specific valuation transaction. That includes both DOI and owner-level information.
- Provision of search functionality for check detail, 1099 tax data, negative payables, and legal suspense data (see: Displaying Owner Check Details [page 419] , Displaying Owner 1099 Information [page 423] , Displaying Negative Payable/Suspense Browse Information [page 427])
- Generation of various types of reports, including: accounts receivable reports, income analysis reports, taxes payable analyses, legal suspense reports, royalty payable reports, owner payment exception reports, and audit and control reports of the allocations and other processes it carried out
- Sending of information to the Combined Run Report and the Journal Entry (JE) System

Integration

Revenue Distribution receives transaction batch data (as a file) from the Valuation component (or from direct input in RD) in PRA, and after processing occurs in RD, the data is then sent to the Journal Entry component of PRA, and on to SAP Core FI (General Ledger).

14.1 Revenue Distribution Allocation

Use

Revenue Distribution allocation allocates total volume, value, and deducts, as well as taxes from PRA Valuation to all payable owners in a division of interest (DOI).
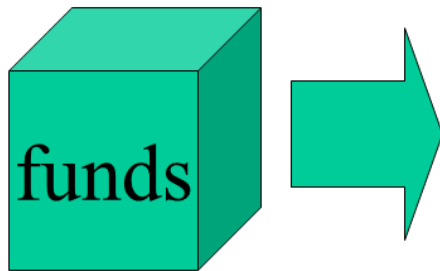
funds ➡
- **Normal sales entries**

- **Purchases**

- **Well/facility expense**

- **Royalty recoupment**

- **Accounting**

It also does the following:

It allocates tax and tax reimbursements, and marketing and marketing reimbursements to owners.

It determines net payables for owners and records payables or income and expenses.

It records marketing payable or facility income, or reduces A/R (accounts receivable) amounts

It generates the accounting distribution required

It records taxes payable or reduces A/R or pays an operator

RD allocation uses DOI information from Ownership and data from Valuation in the allocation process. RD then distributes the revenue to the respective owners, based on the ownership information, and the volume and value involved.

The data flow is as follows:

SAP Oil & Gas (PRA - Production and Revenue Accounting)
Revenue Distribution

RD Allocation data flow

RD creates summarized data and sends it on to JE

Valuation data → RD → JE
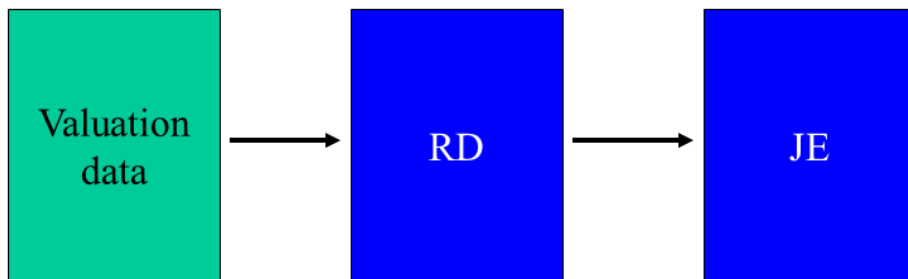
The valuation data is processed from Valuation selections through RD and the creation of journal entries is done at a network/product code/sales date level.

In addition, RD allocation sends data to the combined run report.

ℹ

Revenue Distribution receives its data directly from Valuation. The RD module processes the batch data received from Valuation, and distributes it to DOI owners. Later on, you can run reports to view details of specific revenue distributions. RD allocations generates reports for results verification and identification of errors and out-of-balances.

RD Allocation is one of the two main processes that run in RD, the other is RD Reversals [page 408]

Ownership information is retrieved using the property/DOI and product code/sales data from the Valuation transaction. If the VL transaction is a contract-level transaction, the entire DOI ownership is retrieved. If the VL transaction is a producer-level transaction, ownership information for the producer and carried and royalty owners born by him is retrieved (the owners are retrieved and processed in the following order for contract level transactions: royalty owners, in order of their BA numbers, carried owners – if any, non-affiliated working owners – if any, affiliated working owners – if any, working owners who are the processing company – if any. Owners are retrieved and processed in the following order for producer-level transactions: royalty owners borne by the producer – in order of their BA numbers, carried owners carried by the producer – if any, the producer himself.

The " subtraction method" is used to allocate amounts to owners. The subtraction method formula is:

Table 73:

(Amount – amount already allocated) x an interest percentage / (total interest to be allocated – interest already allocated)

Owner net payable amounts are calculated for royalty owners, and journal entries are recorded for them. Information from the DOI and VL transaction is used to determine the correct account number. Non-affiliated royalty owners receive royalties payable or legal suspense entries. Affiliated royalty owners receive income, tax expense, marketing expense and/or intercompany reimbursement entries.

Working and carried owners pick up any bearer amounts from their bearer group(s). Bearer amounts include tax, tax reimbursements, marketing, marketing reimbursements not paid by/allocated to the royalty owners, recoupable marketing amounts paid by the royalty owners, entitled differences and settlement differences from the royalty owners.

Owner net payable amounts are calculated for carried owners and statistical journal entries are recorded for them. Information from the DOI and VL transaction is used to determine the correct account number.

Working owners pick up their portion of amounts accumulated by the carried owners. Owner net amounts are calculated and journal entries are recorded. Information from the DOI and VL transaction is used to determine the correct account number. Non-affiliated working owners receive royalties payable or legal suspense entries. Affiliated working owners receive income, tax expense, marketing expense and marketing reimbursement entries, as well as several different expense entries for entitled and settlement differences.

Marketing amounts are posted as either marketing payable or facility income or they are used to reduce the accounts receivable amount, depending on who provided the marketing service. Information from the VL transaction is used to determine the correct account number. The marketing amounts used are based on the total allocated to the lease ownership.

Tax amounts are posted as either taxes payable, royalties payable to the operator, or a reduction of the accounts receivable amount, depending on who is responsible for remitting the tax amountss to the government. Information from the DOI accounting data and VL transaction is used to determine the correct account number.

Table 74:

How to calculate an owner's net amount
An owner's net amount is calculated as:
value
+ tax reimbursements
+ marketing reimbursements
- tax deductions
- marketing expenses
- bearer expenses

Table 75:

How to calculate an affiliated owner's income amount
An affiliated owner's income amount is calculated as:
value
+ tax reimbursements
+ bearer tax reimbursements
Marketing costs and reimbursements are booked separately using a different account category.

Table 76:

How to calculate the offsetting debit amount
The accounts receivable/purchases/well expense etc. amount is calculated as:
allocated value
+ allocated tax and marketing reimbursements
- allocated external marketing not booked as payable nor recouped by working owners
- tax remitted by the purchaser

Owner pay methods

Owner pay methods are established for each owner on the DOI owner maintenance screen (see also: Maintaining Division of Interest Owners [page 34]). The possible values are:

- Pay– Identifies that the owner will be paid on value. If the owner is a non-affiliated owner, the owner then receives payment in the form of a royalties payable credit. If the owner is an affiliated owner, he receives an income credit offset by tax expense, marketing expense, settlement expense, and bearer differences, if applicable.

- Suspense– Indicates that the owner is in legal suspense. A credit to Legal Suspense will be recorded for the owner (see also: Carrying Out a Legal Suspense Subledger Query [page 458] .

- Balancing factor– Indicates that the owner is "taking in kind". Volumes and values are allocated, but the amounts are not reflected in the journal entries.

Revenue Process (Code)

The revenue process code indicates the source of revenue transactions to be processed against the DOI. The possible revenue processes are:

- System valued– The transaction is processed through PRA Production, Contractual Allocation and Valuation using production volumes (system valued is usually used for company-operated properties).

- Check input– A Valuation transaction is created from the data entered (by a user). The transaction originates from the input of check stub data in the PRA Check Input module (see Check Input [page 364]). Taxes may be re-calculated. Revenue Distribution records revenues and payables and debit receivables. Check input also simultaneously creates a journal entry for the credit and debit entries.

- Settlement statement– The transactions originate from the input settlement statement data in the Valuation module. A Valuation transaction is created from the input data, which is then sent to RD.

Other determinants of Revenue Distribution allocation processing (note: the following fields all refer to the DOI Accounting screen)

Table 77:

Tax amount	The tax amount field when the system source code is CI. The default value of the field is "net of exempt owner". RD allocations can allocate taxes to owners based on a gross tax amount or net tax amount. The tax amount field tells RD allocations what the tax amount represents so it will be correctly allocated to the owners.
Tax reimbursement	The tax reimbursement field when the system source code is CI. The default value for this value is "net of exempt owner". RD allocations can allocate tax reimbursements to owners based on a gross amount or net amount. The tax reimbursement field tells RD allocations what the tax amount represents, so it will be correctly allocated to the owners.
Current/historical	The current/historical field is used to indicate whether the owners of record on the sales date or the current accounting period are processed by RD allocations, both for original allocations and PPAs. The default value for this field is "current accounting period". The operating company will use "current accounting period" generally. An exception to this might be for the settlement of a lawsuit (in practice, "historical" is almost never used).
Entitled/actual	The entitled/actual checkbox interacts with the Ent/Act/Set payment basis entered on the Maintain DOI Owners screen (Maintaining Division of Interest Owners [page 34]) to determine if an owner is to be paid on the basis of entitled production, actual sales, or settlement diversity.
Normal RTF (normal recording time frame)	The normal recording time frame represents the relationship between the production date and the accounting period. Valid values are "Accounting month equals production month", "Accounting month equals production month +1", etc.
Summarize to DOI	The summarize to DOI flag is used to sum the Sales, Payable, and Accounts Receivable entries to the property/DOI level from the well completion or the well completion/tract DOI level. The default is "summarize to DOI" when no value is entered. If set, it will reduce the amount of transactions coming from Valuation to Revenue Distribution and result in a more summarized combined run report.

Severence tax types (this is a screen tab on the DOI Accounting screen)	Severence tax payment flags are maintained on the DOI Accounting Data Maintenance screen (Defining Tax and Revenue Attributes for a DOI (DOI Accounting) [page 45]). The tax payment flags are not an indication of whether payment of severence taxes is required. They are not an indication of who is responsible for remitting tax payment amounts to the tax authorities. Severence tax amounts are either input or calculated in E&P modules prior to the RD allocation process.
Remitted by	The *Remitted* field indicates if the processing company is responsible for paying (remitting) the corresponding severence tax type. Values are: "by producer" = the processing company is responsible for remitting the tax; "by purchaser" = the purchaser is responsible for remitting the tax; "not applicable" = the tax type is not applicable for the property/DOI and, therefore, should not be calculated by the system; "to operator" = the taxes are to be remitted to the operator rather than the taxing authority.
Reporting	Indicates on which tax report the taxes are to be reported: "Report as producer", "report as purchaser", "report as both", "neither" (operating company not responsible for paying or reporting but taxes will be calculated) or "not applicable" (don't calculate tax).
Operator (taxes payable operator)	This field is used to identify the operator to whom the tax remittance is being made. The field is required if the remitted field indicates "by operator" or if the Remit to operator checkbox on the *Ad Valorem Recovery* screen is selected. If entered, the BA must be a valid Business Associate and have a remitter business associate type.

 Example

This example is based on a typical RD situation, with a division of interest, and several owners: WI 01, WI 02, RI 01, and RI 02 (working interest owners and royalty interest owners). The first example involves a normal situation in RD, and the second example includes some deducts, such as an owner who is marketing-free.

Division of Interest (DOI)

Table 78:

Owner	GRI	NRI	BG
WI 01			

Owner	GRI	NRI	BG
WI 02			
RI 01			2
RI 02			1

Valuation totals:

Volume = 100 BBLs (barrels)

Value = $1000

Deducts = $ 50

Taxes = $ 150

The following is an example of allocation in RD, without any special conditions:

Table 79:

Owner	Volume	Value	Deducts	Taxes	Net
WI 01	40	400	20	60	320
WI 02	30	300	15	45	240
RI 01	20	200	10	30	160
RI 02	10	100	5	15	80
Total	100	1000	50	150	800

Note: volume is barrels, value is USD.

14.1.1 RD Allocation Examples

The following are examples of RD allocation:

Example 1: Pay and suspense

DOI Information

Table 80:

Owner	NRI	Pay code
RI1	0.0625	Pay
RI2	0.0625	Sus
WI1	0.4375	Pay
Company A	0.4375	Pay

Assume a contract level transaction with volume of 100 @ $ 10.00/unit = $ 1,000 to allocate.

Allocation to owners using the subtraction method (for a description of the subtraction method, see Revenue Distribution Allocation [page 395] **): :**

Table 81:

RI1	(1000.0 − 0.00) x 0.0625 / (1-0.0000) = 62.50
RI2	(1000.0 − 62.50) x 0.0625 / (1 − 0.0625) = 62.50
WI1	(1000.0 − 125.00) x 0.4375 / (1 − 0.1250) = 437.50
Company A	(1000.00 − 562.50) x 0.4375 / (1 − 0.5625) = 437.50

Accounting entries (journal entries) :

Table 82:

Company	Account	Owner	DR	CR
003	R/P	RI1		62.50
003	Legal Susp.	RI2		62.50
003	R/P	WI1		437.50
003	Income	Company A		437.50
003	A/R		1000.00	
			1000.00	1000.00

Example 2: Producer Level

DOI Information

Table 83:

Owner	NRI	Pay.Cd.	Br.Grp.
RI1	0.0625	Pay	01
RI2	0.0625	Susp	01

WI1	0.4375	Pay	
Company A	0.4375	Pay	

Bearer Group

Table 84:

Bearer	Br Pct
WI1	0.5
Company A	0.5

Assume a producer level transaction with volume of 50 @ $ 10.00/unit = $ 500.00 to allocate. Assume WI1 is taking in kind under a TIK (take in kind) contract, and disbursing their own royalty.

Allocation to owners using the subtraction method :

Table 85:

RI1	(500.00 − 0.0) x 0.03125 / (0.5 − 0.000000) = 31.25
RI2	(500.00 − 31.25) x 0.03125 / (0.5 - 0.03125) = 31.25
Company A	(500.00 − 62.50) x 0.4375 / (0.5 − 0.06250) = 437.50

Accounting entries :

Table 86:

Company	Account	Owner	DR	CR
003	R/P	RI1		31.25
003	Legal Susp	RI2		31.25
003	Income	Company A		437.50
003	A/R		500.00	
			500.00	500.00

Example 3: Effect of Balancing Factor

DOI Information

Table 87:

Owner	NRI	Pay Code

RI1	0.0625	Pay
RI2	0.0625	Susp
WI1	0.4375	Balancing
Company A	0.4375	Pay

Assume a contract level transaction with volume of 100 @ $ 10.00/unit = $ 1,000.00 to allocate.

Allocation to owners using the subtraction method

Table 88:

RI1	(1000.00 − 0.00) x 0.0625 / (1 − 0.0000) = 62.50
RI2	(1000.00 − 62.50) x 0.0625 / (1- 0.0625) = 62.50
WI1	No allocation
Company A	(1000.00 − 562.50) x 0.4375 / (1 − 0.5625) = 437.50

Accounting entries :

Table 89:

Company	Account	Owner	DR	CR
003	R/P	RI1		62.50
003	Legal Susp.	RI2		62.50
003	Income	Company A		437.50
003	A/R		562.50	
			562.50	562.50

Example 4: Processing Affiliated Owners

DOI Owners

Table 90:

Owner	NRI	Pay Code
RI1	0.0625	Pay
RI2	0.0625	Susp
Affiliate	0.4375	Pay
Company A	0.4375	Pay

Assume a contract-level transaction with volume of 100 @ $ 10.00/unit = $ 1,000.00 to allocate.

Accouting entries:

Table 91:

Company	Account	Owner	DR	CR
003	R/P	RI1		62.50
003	Legal Susp	RI2		62.50
003	Inter Co A/P	Affil.		437.50
003	Income	Company A		437.50
003	A/R		1000	
			1000	1000

Note that the following entries, recorded on the affiliated company's books, may be suppressed.

Table 92:

Company	Account	Owner	DR	CR
256	Income	Affil		437.50
256	Inter Co A/R		437.50	
			437.50	437.50

Processing an Affiliated Purchaser

DOI Information

Table 93:

Owner	NRI	Pay Code
RI1	0.0625	Pay
RI2	0.0625	Susp
WI1	0.4375	Pay
Company A	0.4375	Pay

Assume a contract level transaction with volume of 100 @ $ 10.00/unit = $1,000 to allocate. Assume the purchaser is an affiliated company, but not the processing company, and that the contract is not a settlement type contract nor a direct/indirect supply type contract.

Accounting entries :

Table 94:

Company	Account	Owner	DR	CR

003	R/P	RI1		62.50
003	Legal Susp	RI2		62.50
003	R/P	WI1		437.50
003	Income	Company A		437.50
003	Inter Co A/R		1000.00	
			1000.00	1000.00

Note that the following entries, recorded on the affiliated company's books, may be suppressed.

Table 95:

Company	Account	Owner	DR	CR
256	Purchases		1000.00	
256	Inter Co A/P			1000.00
			1000.00	1000.00

14.1.2 Using the Allocation Error Report in RD

Use

Use this report to display transactions that were rejected during the Revenue Distribution allocation process.

This provides you with reject messages, that you can then use to apply corrections to master data set-up.

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In order to use this report, you have to know the relevant file number (the relevant file number here is RDBQ5454).

Procedure

At the SAP Easy Access menu, choose Logistics → *Production and Revenue Accounting* → *Reporting* → *List Viewer* → *Revenue Distribution* → *Revenue Distribution* → *Daily* .

Result

The system now displays a list of control and report transaction files that had errors.

14.1.3 RD Reversals

Use

The main function of reversals in RD is to reverse journal entries previously recorded in the financial system.

As transactions are successfully processed through the Valuation module, reversal notifications are generated for all prior period transactions. The reversal notifications contain the following key information: property, DOI, product code, sales date, network, and optionally well/well completion or measurement point. The well/well completion or measurement point will be blank if the "summarize to DOI" checkbox is selected on the DOI Accounting Maintenance screen.

The generation of reversal notifications occurs in the Valuation summaryprocess. At that point, all VCR (valuation cross-reference) established at the unit level have been allocated to the tracts. Therefore, all notifications are sent to RD at the tract level.

The RD reversals process searches for journal entries with key data matching the reversal notification key. The volume type on the selected JEs is inspected. A determination is made about whether or not chain of title is to be followed for the journal entry to be reversed (see also: Displaying Chain of Title Records [page 43]). Chain of title will be followed only if the journal entry is an owner JE – i.e. has a BA number. When chain of title is followed, the numeric amounts on the journal entry are broken up by the percentage of interest transferred to each new owner and the sign of the journal entry is reversed. When chain of title is not followed, the original journal entry is simply reversed and posted.

When the new transaction from Valuation is processed through RD allocations, it will create journal entries which will be offset by those created by the RD reversal process. When those journal entries are netted together, the result is net adjustments.

RD reversals is an automatic process that:

● Uses a reversal notification file (batch) from Valuation as input
Summarizes and creates a journal entry file for the Journal Entry subsystem, to be reversed from the financial ledgers
Generates reports for results verification and identification of errors and out-of-balances
The Valuation reversal file contains key information on transactions successfully processed through Valuation and sent to Revenue Distribution
The RJE records are used to create reversal entries on a file and sent to the Journal Entry module for posting

The data flow for RD reversals is as follows:
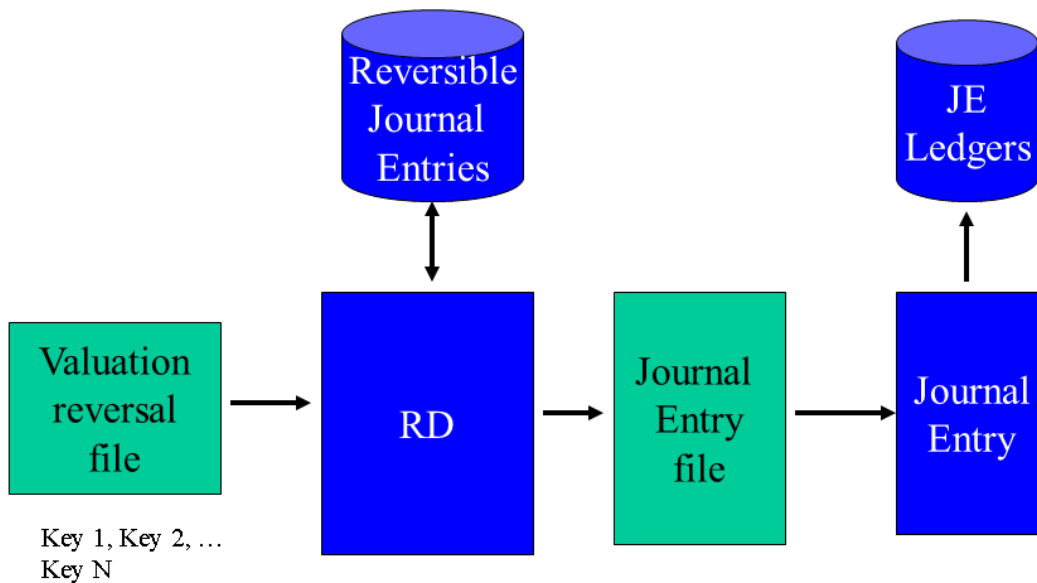
ℹ

Next to allocations, reversals is the other main processing function within Revenue Distribution.

Integration

RD reversals receives its data from Valuation in PRA, and sends the data on as a file to Journal Entry.

14.1.4 Out-Of-Balance Report

Use

The Out-Of-Balance Report is a report in PRA Revenue Distribution, which runs automatically concurrent with the Revenue Distribution allocation process. It is used to check the balances in transactions, and to search for and display any transactions, in which there was an error, in which the debit and credit totals are not equal to each other. The report will then provide you with the keys that are required for looking into the issue further.

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The situation described above – one in which there was an error of the debit not being equal to the credit, should not occur on a routine basis.

Activities

The report runs automatically in RD, but can be displayed under *Logistics → Production and Revenue Accounting → Tools → List Viewer → Revenue Distribution → Revenue Distribution → Daily* .

Relevant file number = RDBQ573

14.2 RD Periodic Processing

Purpose

RD periodic processing contains a group of reports that allow you to query RD tables, and to use the transactional data in those tables to carry out subsequent processes in RD.

It supports the following transactions:

- **Creation of a production payment report** – you can run a report that lists balances owed to a specific owner, as well as the amounts already paid to that owner. (see: Creating a Production Payment Report [page 411]).
  Carrying out of a funds transfer – you can transfer funds contained in the Legal Suspense Line Item Table to a pay table such as the owner payable table, for example, when the status of an owner changes (see: Carrying Out a Funds Transfer [page 412]).
  Check clearing – You can use this to set the check status of checks in the Check Register to "cleared", when you receive a file from a bank with data on checks that have cleared the bank. (see: Running the Check Clearing Job [page 412]).
  Ad valorem – Ad valorem is a tax based on transactions, and is sent to you as a bill from the local government authority. You can run a job here that allocates all ad valorem records across a property/DOI and that posts the relevant journal entries for it. (see: Processing Ad Valorem Tax Records [page 413]).
  1099 Report – you can run a report that lists the history of 1099 tax payments for owners. (see: 1099 Report [page 414]).
  Void / cleared check purge – you can use this to delete all records in the Check Register that have a status of "void" or "cleared".(see: Purging Void / Cleared Check Records [page 414]).
  Escheat processing – you can use this to pay suspended payment amounts for an owner to the state, when the owner is in escheat (see: Escheating Payment Amounts [page 415]).
  Void / manual check – you can use this to manually void check records in the Check Register (see: Manually Voiding Check Records in RD [page 416]).
  Outbound CDEX processing – you can use this to run a job that picks up mass check data and check detail data and sends it to CDEX (Check Data Exchange Consortium) for processing (see: Using Out-Bound CDEX in RD [page 417]).

Prerequisites

The assumption here before you run RD periodic processing is that transactions have occurred in RD over a period of time.

Process Flow

You run these processes whenever you find the necessity of doing so.

14.2.1 Creating a Production Payment Report

Use

Use this to run production payment processing in RD.

Production payment in Revenue Distribution is a report that displays what amount is payable against a starting balance that is owed to some owner. It displays the remaining balance (the outstanding balance). It also displays a list of records of what you have paid a partner or owner. That helps you track disbursements.

Balances are entered in Ownership in PRA. For example, there could be a starting amount of $ 100,000 entered in Ownership. In Revenue Distribution, you can create a production payment report, which lists the starting balance, and the amounts disbursed in RD against that balance, usually per month. The remaining balance is also listed. That is the production payment report. It allows you to track – on a monthly basis – what you have paid an owner with respect to a starting balance.

You can set that up in RD so that it covers more than one property / DOI.

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Once the balance has been paid in full, the type of ownership interest can change in Ownership.

Procedure

- From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Periodic Processing → Production Payment Report* .

The *Production Payment Report* screen is displayed.

- Select *Run* (the *Execute* icon).

14.2.2 Carrying Out a Funds Transfer

Use

Use this to run a job that transfers funds from the Legal Suspense line item table to a pay table (such as the Owner Payable table).

When the owner pay code for an owner changes, it can become necessary to transfer funds that were recorded in the Legal Suspense line item table into a pay table such as the Owner Payable table, so that the owner can be paid.

For example, if there is a royalty owner who is owed money, but the payments have been recorded in the Suspense table for some reason, and the pay code for that owner changes, all those records for that owner in the Suspense table can now be transferred to a pay table.

This process triggers a job that pulls the records from the Legal Suspense table and transfers them to pay tables, after the pay code for the owner has changed. It also offsets the Legal Suspense table.

A check is then issued for that owner in the next Check Write cycle.

You can transfer funds within the same owner, or transfer funds from one owner to many owners.

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This process can also be run in reverse – the records from the Owner Payable table can be transferred to Legal Suspense.

Procedure

From the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Periodic Processing → Funds Transfer.

The Funds Transfer screen is displayed.

At the *Funds Transfer* screen, to kick off the job, select *Run* .

14.2.3 Running the Check Clearing Job

Use

Use this to run a background job that pulls in a file of checks that have "cleared" a bank, and matches those records with check records in the Check Register, and then sets the check status of those check records in the Check Register to "cleared".

Oil companies typically write hundreds or thousands of checks per month, which are then sent to banks for processing. On a periodic basis, the bank creates a data file with data on the checks that have "cleared" the bank, and sends it as a file to the oil company.

This job pulls in that file into RD, and matches the check records to those in the Check Register, and when found, sets the check status for each matched record to "cleared".

Procedure

From the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Periodic Processing → Check Clearing.

The *Check Clearing* screen is displayed.

1. Select *Execute* .

Result

RD matches the file data with the Check Register and changesthe check status of the relevant checks to "cleared".

14.2.4 Processing Ad Valorem Tax Records

Use

Use this to run a background job that takes ad valorem records and allocates them across a property/DOI and creates and posts the relevant journal entries for them.

Ad valorem is a tax amount paid to a state authority, usually a local governmental authority. The state authority sends your company a bill for ad valorem on a periodic basis (per month, etc.), the bill contains the amount owed in ad valorem tax. The tax is calculated based on the value of transactions.

When you trigger this background job, the job takes the ad valorem records entered on the Ad Valorem table, and allocates them across the property/DOI and creates and posts the relevant journal entries for them.

Procedure

- From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Periodic Processing → Ad Valorem* .

The *Ad Valorem* screen is displayed.

Select *Run* (the Execute icon).

Result

The system runs a background job that takes ad valorem records in the Ad Valorem Table and creates journal entries for them and posts those journal entries to JE.

14.2.5 1099 Report

Use

Use this to create a report that lists the history of payments made to owners and partners for 1099 tax.

The 1099 Report functionality takes records entered in the OSTA Table (the Owner Paid Cumulation Table - the table that contains records summarizing payments made to owners), which receives its data from Checkwrite, and creates a 1099 Report for a specific year.

For example, an owner might contact you, requesting the 1099 record for a specific year. You can use this report to print out that type of information.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Periodic Processing → 1099 Report* .
2. The *1099 Report* screen is displayed.
3. Enter the relevant data for your search.
4. Select *Execute* .

The system will display a report of 1099 data based on your search.

14.2.6 Purging Void / Cleared Check Records

Use

Use this to purge (delete) check records in the Check Register.

This report reads all check records in the Check Register that have a status of "void" or "cleared" and purges (deletes) them. It also purges all the "child" table entries associated with them. You can manually void a check in RD too.

This function is used to "clean up" the RD table, when there are many records in the table that you no longer need.

Procedure

1. From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Revenue Accounting Revenue Distribution Periodic Processing Void / Cleared Check Purge*

The *Void / Cleared Check Purge* screen is displayed.

Enter the relevant data.

Select *Execute* .

14.2.7 Escheating Payment Amounts

Use

Use this to remove suspended payment amounts for a specific owner who is in escheat, and pay those amounts to the state.

Escheat is a legal status that means – reversion of some property to the state, when no owner can be found. There are situations in which an owner is to be paid in Revenue Distribution, but that owner cannot be located, because the owner is deceased, the owner address cannot be found, or for any other reason. Escheat also covers payments to owners – if the owner cannot be found to pay, the payment amounts then revert to the state.

The escheat status of an owner is defined in the business associate record for that owner (see: Creating a Business Associate [page 15]). An owner can be flagged as being "in escheat".

If an owner is flagged as in escheat, the payments to that owner are written to the Legal Suspense Line Item Table. Those amounts are not paid out, rather, they accumulate and are held in that table. If the funds are in suspense for a specific period of time – for example, two years, they can be in escheat – meaning that they will be then paid to the state, when no owner can be found. If the funds have been in escheat for too long, you then have to pay them to the state.

The background job that runs here runs when owners have funds in suspense. This job collects the monies that have been in the system but not paid out for the escheatable owners. It takes the monies from suspense and moves them to escheat – which means that it debits Suspense and credits Escheat (the Escheat account).

The escheat job removes the records from the Legal Suspense table and writes them to Journal Entry tables (JE line item tables). The legal suspense is offset (balanced, an offsetting entry is made of it to another table). The job also writes entries to the Check Register. You thus have a history of what you just did.

You must then remit the amounts escheated to the state. For example, you can escheat all records for an owner that have been in suspense for at least two years, for example.

This process allows you to run a report and display a list of all records that are in escheat for an owner.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Periodic Processing → Escheat Processing* .

The *Escheat Processing* screen is displayed.

1. In the *Beginning Check Number* field, enter the first check number that you would like to write to the Check Register.
2. Select *Run* (the Execute icon).

The system writes the number of escheated records, beginning with the check number that you entered in the Beginning Check Number field, to the Check Register.

Example

For example, if you have 5 escheat check records in suspense (for example, for 5 separate owners), starting with Check Number 100, you enter 0000000100 in the *Beginning Check Number* field, and when you select *Run* , the system writes those five check records: 100, 101, 102, 103, and 104 from the suspense table to the Check Register.

14.2.8 Manually Voiding Check Records in RD

Use

Use this to manually "void" check records in the Check Register.

Checks are written from Checkwrite into the Check Register table. You can flag individual checks so that they are "void". That is done if you want to reissue that check, or if the check came back (as "returned"). If you have issued a check, and that record is in your Check Register, but the physical check comes back as never having 'cleared' (it was never cashed), you then have an unnecessary record in your Check Register. You can use this function to remove unnecessary records of that kind. One reason that you would want to do that is to clear your Check Register so that it does not fill up with unrequired data.

When you run this periodic processing job, the job sees that the check status is now "void", so it updates the check status to void. It then records journal entries to: debit (to cash) and credit (to Owner Payable). The original journal entries that were created when the original check was written are also now reversed. The money is put back into 'Cash', and the payable is put back into 'Payable'. The original amount will now be in Owner Payable.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Periodic Processing → Void / Manual Check* .

The *Void / Manual Check Batch Run* screen is displayed.

1. There are two ways to proceed:

Table 96:

To...	Do the following...
Have the job start from the beginning...	Leave the *Starting Step* field blank.
Have the job will start with a specific entry...	Make an entry in the *Starting Step* field.

1. Select *Execute* .

The system runs the job.

14.2.9 Using Out-Bound CDEX in RD

Use

Use this to run a job that picks us mass check data and check detail data, and sends it to CDEX.

Large oil companies that have mass check data often use a consortium called "CDEX" (Check Data Exchange) to process their checks and check details. The details are given by the oil company to CDEX, with information on who (which company or owner) the check is to go to. CDEX then sends a file to that company. That company uses that file, which obviates you having to send mass quantities of data with check details to the company.

At the business associate level in Ownership, specific owners are flagged as being "CDEX owners".

If there are checks on the Check Register, when the outbound CDEX job is run, it picks those up (often, it picks up the entries since the last time you transmitted) – along with the check details, and creates a file. The file is sent to CDEX.

Procedure

*   From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Periodic Processing → Outbound CDEX* .

The *Outbound CDEX* screen is displayed.

*   Select *Run* .

14.3 Displaying Owner Check Information

Use

Use this screen to view check information for an owner. You can also use it to create and maintain void check and replacement check transactions, and to reprint check stubs.

The manual/void check transaction job uses this information to create the appropriate Journal Entries and update the check register for each transaction.

Table 97:

Void check dialog box
Allows you to void a check that has already been issued to the current owner. Within this dialog box, you indicate the sub-ledger to which the returned check amount should be applied and the reason for the voided check.
Replacement check dialog box The void check was replaced by this check number. Here, you tell the system that, after creating a manual check.

Procedure

At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Owner Checks → Owner Check.

The *Owners Check: Initial Screen* is displayed.

On that screen, enter the relevant data for your search: the owner that it applies to, the check number, check status, and check date.

An explanation of the fields on the *Owners Check: Initial Screen* is as follows:

Table 98:

Field	Description
Company	The company responsible for processing the check
Owner ID	The business associate who will receive the check
Check number	The specific check that was paid to the owner
Check date	The date on which the check was written
Check status	The current disposition of the check. Valid options for checks that are outstanding are "normal" or "manual", while "void" or "net out" are other possibilities

Select Find Records.

The system produces a list of records based on your selection criteria.

14.4 Displaying Owner Check Details

Use

Use this to view all of the detail information that corresponds to a line on the owner's check stub.

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This screen is for display (list) purposes only, you cannot create/save, etc. from this screen.

Other Deducts dialog box – Breaks all of the other possible deductions down to an individual level so that you can see the deduction amount that is associated with each type of deduction. The fields and values are populated automatically, and all of the fields are display only.

Taxes Dialog box – Lists all of the tax types that apply to the state in which the current property /DOI is located, and it shows the amount of tax that is associated with each tax type. These fields and values are populated automatically (by the system), and all of the fields are display only.

Procedure

1. At the SAP Easy Access Menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Owner Checks → Owner Check Detail.
   The *Owner Check Detail* : *Initial screen* is displayed.
2. Enter the data that is relevant for your search.

The explanation of the fields on the *Owner Check Detail: Initial Screen* is as follows:

Table 99:

Fiel d	**Descriptio** n
Compan y	The company that issues the check
Owne r	The business associate number for the owner in the property, as well as the interest type and the interest sequence. The interest type provides the specific type of ownership interest that the owner holds (royalty interest, working interest, etc.) and the interest sequence indicates the occurrence of the interest type within the property/DOI
Check numbe r	The specific check that was paid to the owner. This allows you to view the information from the check stub at a more detailed level

Check dat e	The date when the check was issued
Legen d	Indicates a payment/deduction type or special payment reason. This information is passed through the RD allocations process and put into Journal Entry for use in the check stub information
Accounting perio d	Identifies the accounting month used when booking Journal Entries in the JE financial system
Property/DO I	The property for which the owner interest is being paid
Sales mont h	Identifies the production month for which the revenue transaction was processed
Product	Identifies the specific product that is associated with the various values and costs entered on this screen

Select Find Records.

14.5 Entering Royalty Check Information Manually

Use

Use this to manually enter new check transactions.

This is a standard report that can be used to display a list of checks that have been paid (issued) to an owner. You can create a manual check to reflect new checks issued to an owner after the Void / Manual check process has run, and a check has been voided.

The information entered here is processed by the manual/ void check transaction job, which will then generate the appropriate accounting entries for each manual check.

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Owner Checks → Manual Royalty Check.
   The *Manual Royalty Check: Initial Screen* is displayed.
2. On the Manual Royalty Check: Initial Screen, select Create.
   The *Manual Royalty Check – Create* screen is displayed.

An explanation of the fields on that screen is as follows:

Table 100:

Field	Description
Company	The company responsible for processing the check
Approved	Set this flag if you want the current manual check entry to be ready for processing in the manual/void check transaction job. This flag allows you to enter an incomplete set of data without completing the check validation process, because the validation process will only be carried out if approval is checked. The entry is validated by summing the net value amounts that currently exist for the check, and adding that total to the displayed owner net value for the current entry; and if the total owner net value for the entire check equals the entered check amount, the current entry will be accepted and marked as approved for processing.
Owner	The payee of the check (the party paid). The owner ID that you enter here must be a valid business associate in E&P
Bank ID	The bank number from which the check was issued
Bank account	The bank account from which the check was issued
Check number	The specific check issued to pay an owner
Check date	The date on which the check is issued to an owner
Check amount	The value (amount) of the check
Property/ DOI	The property whose product generates the disbursement amount
Sales month	The production date of the royalties payable information for the relevant manual check
Product	The product
Comment sequence	Represents the order in which comments have been added for the current company, owner, property/ DOI, sales month, product, and legend combination. '01' indicates the first set of comments that has been added for the current manual entry information
Legend	A payment/deduction type or special payment reason. The default value is blank, which represents the majority of the records, but some of the valid reasons can be: "lawsuit settlement", "contract buyout/buy down", and "extraction tax"

Field	Description
Override Account ID	Identifies the account number that the manual/void check transaction job will use in place of the regular account number when it is booking royalties payable entries for the current manual check. Note: This field cannot be used if there are values entered for any of the other deduction type entries
Lease ... gross volume	The total volume that has been produced and sold for the well. This value must be an integer if the product is either gas or NGLs (natural gas liquids)
PVR (plant volume reduction)	The volume of natural gas liquid that is lost when processing gas through a plant is called the plant volume reduction, or PVR
Lease ... gross value	Shows the total value of the sale of the product before any taxes and/or deductions. All applicable tax and marketing reimbursements must be included in this value
Lease ...transportation	Indicates the deduction from the lease gross value that the owner can take for transportation costs
Other marketing	The amount that the owner can deduct from the lease gross value for all other marketing costs associated with the selected product
Severance tax	The amount of tax that will be withheld from the lease gross value for the current product
Owner ... disbursement decimal	The percentage of interest the owner holds for a specific contract. The values range from -1.00000000 to 1.00000000
Owner ... DOI decimal	The percentage of interest the owner holds in the current property/ DOI. The valid values range from –1.00000000 to 1.00000000
Owner gross value	The owner's share of the sale of the product at an individual owner level, before taxes and deductions. All applicable owner-level tax and marketing reimbursements must be included in this value
Owner ... transportation	The owner's share of the total lease-level transportation deduction
Owner ... other marketing	The owner's share of the total lease-level marketing cost deduction for the selected product

Field	Description
Owner … severance tax	The owner's share of the total lease-level tax that will be withheld on the product

To enter additional deductions, select *Other Deductions* . A dialog box is displayed, from which you can select from a number of deduction types (such as "excess royalty reimbursement", "legal expense", "crude oil excise tax", as well as various state taxes, such as Colorado state tax, and Utah state tax).

1. Enter your check data.
2. Save your data by choosing *Save* .

14.6 Displaying Owner 1099 Information

Use

Use this to display an owner's year-to-date 1099 tax information (for any year that you specify).

The year-to-date values are the sum of the amounts from the owner's check detail and any adjustments that are entered in the adjustment column. The check write jobs (regular checkwrite, manual checks, and void checks) generate and/or update these values.

Procedure

At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Owner Checks → Owner 1099 Information.

The *Owner 1099 Info: Initial Screen* is displayed.

On that screen, enter the relevant data for your search.

An explanation of the fields on the *Owner 1099 Info.:Initial Screen* is as follows:

Table 101:

Field	Description
Company	Must be a valid company for the owner. If no company is selected, the information displayed will be summed across several companies in the event that the owner's checks were issued by several different internal companies
Year	The tax year for which the 1099 information is required. This field will default to the current year if you do not enter a year

Owner ID	Identifies the business associate for whom the 1099 information is being gathered
Interest Type	Identifies the owner interest type to which the 1099 information applies. If no interest type is selected, the displayed information will be summarized across all the interest types
State	Identifies the state to which the tax adjustments and 1099 information apply. If no state tax is selected, the displayed information will be summarized across all of the states where the owner holds properties which have interest

1. Select Find Records.
   The system displays a list of records based on your search criteria.

14.7 Maintaining Withholding Tax Rate Info

Use

Use this to establish and maintain withholding tax rate information for both state taxes and non-resident alien withholding taxes.

These are specific withholding tax rates. A rate may have to be withheld from a check (for example, if there is no proper tax ID).

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Tax Maintenance → Withholding Tax Rate.
   The *Withholding Tax Rate: Initial Screen* is displayed.
2. Select *Create* .
   The *Create Withholding Tax Rate: Overview* screen is displayed.
3. Select either *State* (U.S. state), or *Foreign Owner* . Based on your selection, the screen will now display various fields for data entry.

The following is an explanation of the fields on the *Withholding Tax Rate: Initial Screen* :

Table 102:

Fiel d	Descriptio n

State or *Foreign owne* r	The *state* or *foreign owner* radio buttons allow you to indicate whether the withholding tax rate that is established will apply to state-based taxes or to non-resident alien taxes
Stat e	Identifies the state to which the tax rate will apply. In order for the tax to be deducted for a property/DOI, the state withholding tax rate must be established
Tax typ e	Identifies the tax to which the withholding rate applies. Once you have selected a state, the field will be populated with all the tax types that are applicable in that state. In order for a tax amount to be calculated for a tax type, a state withholding tax rate must be entered for the selected tax type
Interest typ e	Identifies the owner interest type to which the tax rate will apply. All owner interest types that are subject to the tax must be established on this screen
Effective from dat e	The start date, when the information becomes effective
Effective to dat e	The end date, after which the information is no longer valid

Save your record.

14.8 Creating Ad Valorem Tax Recovery Records

Use

Use this to maintain ad valorem tax data at the DOI/Product/Sales month level. This allocates property tax across the DOI. You can also select transactions that should be processed by the allocate ad valorem tax job.

ℹ

Ad valorem means "according to value". Ad valorem tax is assessed on the *value* of goods or property (property tax), not on the weight, quantity, etc.

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Tax Maintenance → Ad Valorem Tax Recovery.
   The *Ad Valorem Tax Recovery: Initial Screen* is displayed.

2. There are two ways of proceeding:

Table 103:

On the *Ad Valorem Tax Recovery: Initial Screen* , Select *Create* .   The system displays the *Create Ad Valorem Tax Recovery: Overview* screen.   Enter the relevant data on the DOI/ product, and the ad valorem amount that applies; for the receivable value, select either *estimated* or *actual* , and then select *Save* .
Alternatively, you can view ad valorem tax data for a DOI/product/sales month.   To do so, on the *Ad Valorem Tax Recovery: Initial Screen* , enter the data for the DOI, product, and sales month, and then select *Find Records* .   The system lists ad valorem records for the DOI/product/sales month.

An explanation of the fields on the *Create Ad Valorem Tax Recovery: Initial Screen* (and on the *Ad Valorem Tax Recovery: Overview* screen) is as follows:

Table 104:

Fiel d	**Descriptio** n
Property/ DO I	Identifies the property to which the ad valorem taxes apply
Major produc t	The product which is subject to the ad valorem taxes from the specified property/ DOI
Sales mont h	The production month for which the transaction is processed
Ad valorem tax amoun t	The amount of ad valorem tax that is being charged to the property/DOI for the specified major product and sales month. If the state bills the owner for taxes, this amount can be entered on this screen, and a batch process will allocate that amount to the owners of the property/DOI
Receivable valu e	The *receivable value* radio buttons indicate whether the ad valorem tax amount is an estimated (accrued) value or an actual receivable value
Processe d	Indicates whether the current transaction should be processed by the Allocate Ad Valorem Tax job or not. Set it to have that job process it.
Remit to operato r	This flag indicates whether the ad valorem tax job amount should be remitted to the operator for the corresponding DOI, instead of remitted to the relevant state or federal agency

Result

An ad valorem tax record is created or displayed (depending on what you selected) for the DOI/product.

14.9 Displaying Negative Payable/Suspense Browse Information

Use

Use this to display a list of all negative payables and all suspended amounts that are due a given, selected owner.

A negative payable situation can arise, for example, when one party has paid the other party too much, and will then get money back from that owner. Thus, it is called a "negative payable".

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Revenue Distribution → Suspense → Negative Payable/Suspense.
   The *Negative Payable/ Suspense Browse: Initial Screen* is displayed.
2. On the *Negative Payable/ Suspense Browse: Initial Screen* , enter the owner (Owner ID) for which you would like to display the list of negative payables and suspended amounts.
3. Select either *All* , *Invoiced* , or *Uninvoiced* .
4. Select Find Records.

Result

The system displays a list of negative payables and suspended amounts for the owner.

15   Journal Entry

Purpose

Journal Entry is a set of processes that takes files with records representing financial transactions in PRA, edits the data in the files, and posts the files to JE accounts. Journal Entry provides common journalization, posting, inquiry, extraction, and purging functions to all other SAP PRA application areas and PRA line item tables. The ultimate goal of JE is to have financial data saved in tables, representing financial transactions that have taken place in PRA.

Whereas Revenue Distribution reads journal entries, Journal Entry as a module only **posts** the journal entries. Processes within Journal Entry call JE to obtain the relevant account. There are over forty processes in PRA that call Journal Entry.

JE provides the following functionality:

- Journal entry collection
- Journal entry maintenance
- Journal entry editing
- Journal entry posting
- Journal entry queries (ABAP Reports on Journal Entry line item tables)
- Journal entry extraction
- Journal entry purging (deletion of data that is no longer required)

A journal entry in PRA, in addition to carrying the net financial debit or credit, can include other data such as gross and net volumes, decimals, owners, and purchasers. The specific fields that are included are dictated by the JE line item table field definition in the relevant module.

Every journal entry must be linked with a batch (unique batch ID). A batch is simply a collection of individual journal entries, to be treated as one unit for processing. Batch numbers must be assigned sequentially for each accounting period for each company and batch type. For purposes of the Revenue System (RD, JE, etc.), a batch represents a set of journal entries to be processed as a unit.

In order to be processed in JE, a batch (collection of journal entries) must be in balance (meaning: debits must equal credits and control totals must equal the corresponding accumulated totals).

The Journal Entry application component is used to maintain account information (accounting detail data) for all accounts used in automated or manual processes within PRA, thus completing the upstream business processes incorporated in PRA. It also supports the ability to enter and process manual journal entry batches (see: Manual Journal Entry [page 444]).

Journal Entry represents the **accounting and disbursement side** (what accounting entries are made) of PRA, whereas Valuation represents the volumes and values side (what volumes are involved, and how are they valued). Revenue Distribution [page 392] serves as the interface between the volumes and values side, and the accounting and disbursement side.

The Journal Entry module supports:

- Master data requirements

- Manual entry of journal entries (manual processes support the entry of accounting entries by an assigned group (batch)). Controls, edits and validations are used to check the manual entry processes in JE. JE allows for the manual correction or write-off of accounting detail lines that failed posting. You can also copy and reverse manual entries.
- Automated processing and financial integration

There are **two main components** of the Journal Entry module:

- **The Chart of Accounts**
- **Accounting detail posting rules** – Features of which include: distribution/ assignment at multiple levels for account category, division of interest, and owner), detail type designation (for example: AR, AP, RD), and reconciliation (purge) rules, which remove offsetting balances

All journal entries created in PRA, whether entered manually or generated in other systems/application components, are edited and posted into the line item tables by the Journal Entry component. The purpose of the line item tables is to store the journal entry data according to account type (financial transaction involved).

The following Journal Entry line item tables exist:

- Miscellaneous Line item table
- Inter-company Line item table
- Owner Payable Line item table
- Legal Suspense Line item table
- Statistical Line item table
- Income Line item table
- Expense Line item table
- Tax Payable Line item table
- Accounts Receivable Line item table
- Accounts Payable Line item table

(Note: for a full list of and description of all the line item tables in JE, see: Journal Entry Line item tables [page 433] **)**

The following represents the process flow for Journal Entry:
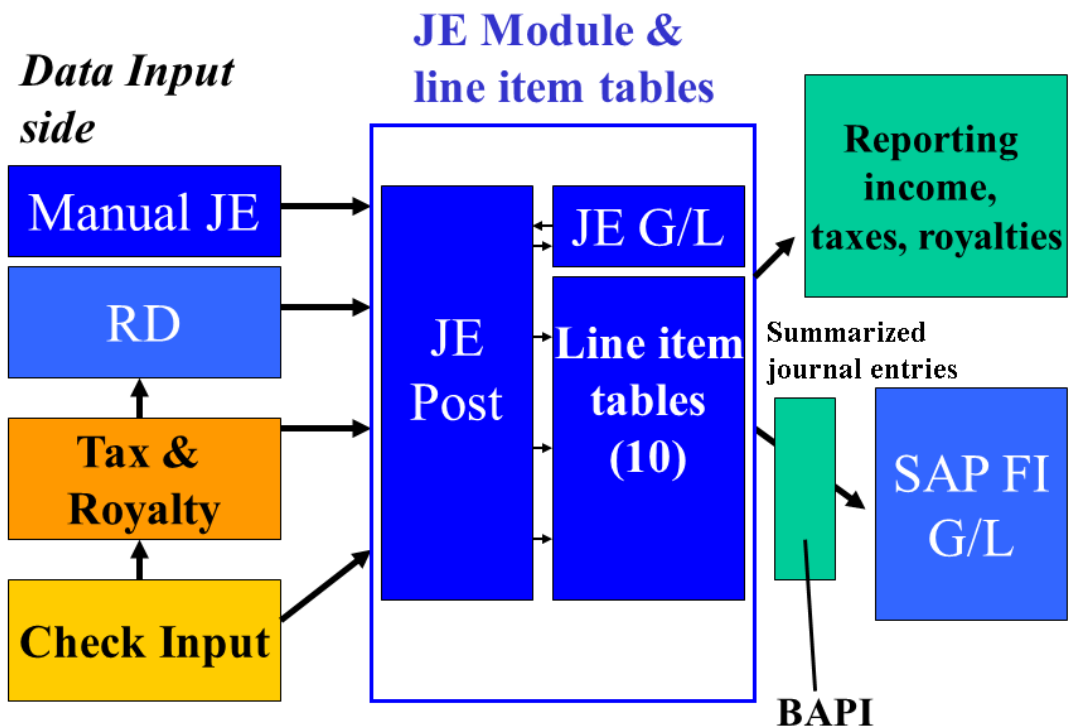
Journal entry automated processing:

- Gathers all available entries
- Performs edits and validations
- Posts accounting detail to line item table detail ledgers
- Posts summarized accounting detail to SAP financial components (there is an SAP FI integration job that summarizes JE transactions for posting in FI). JE volumes can be sent to the SAP FI Module for all JE accounts.

Features

Journal Entry encompasses the following:

- Maintenance of a **chart of accounts** for all accounts that are used in PRA processing.
- Maintenance of identification of the **keys for purging account data** on either a routine or periodic basis. Asset and liability accounts are purged based on net account balances. Income and expense accounts are purged based on a defined time period.
- Maintenance of **default account numbers** that are used in PRA processing, when certain types of accounting entries are made (for example, the default account used to book royalty payables). In many cases, default accounts can vary based on other characteristics of the type of entry being made, such as product, interest type, entity type, etc.

- Provides the ability to establish account numbers that override the default accounts. The override accounts are set up to be used at either a DOI or DOI/owner level. The DOIs or DOI/owners to which the overrides apply are maintained in the DOI accounting data application component.
- Provides the capability to enter **manual batches of journal entries** , with appropriate controls such as batch controls and journal entry edits and validations.
- **Edits and validates all journal entries** , whether they originate in manual journal entry batches, or have been generated automatically by other PRA application components.
- Provides the ability to **track journal entries that have failed the edit and validation process** . Rejected journal entries can be corrected online, and can also be written off.
- Processes journal entries that apply to future accounting periods. Other PRA application components cannot utilize these entries until the future accounting period becomes the current accounting period.
- Provides the ability to flag manual batches so that they will be automatically reversed in the next accounting period.
- Provides the ability to copy manual journal entry batches, with an option to reverse the signs of the entries, if desired.
- Provides a search and display function that queries the various line item tables maintained by the Journal Entry component.

The following table provides an overview of some of the main concepts used in Journal Entry, along with a description of each concept:

Table 105:

Account number	Represents the account number of a group of journal entries.
Account type	The type of journal entry that the account represents. Examples of account types include owner payable, expense, income, etc.
Company	The processing company, to whose books the account will be posted (journalized).
Accounting Category	A four-character code identifying a group of account numbers.
Accounting Period	Identifies the accounting month in which the batch is to be entered. The accounting period must be open to be accepted. Three accounting periods will be open at any given time (to include the current month plus two).
Batch number	Used to uniquely identify a group of journal entries. The system sequentially assigns batch numbers by batch type.
Batch type	A code used to classify batch information. Examples are: Reversal, write-off, and void checks. Batch types are designated as reversible and non-reversible, for use in the Revenue Distribution automated reversal processing. All batch types, except type 42 are non-reversible, and will not be processed by the automated reversal procedure.

Account number	An account number is a ten-character reference number used to identify a journal entry. It is set up in account maintenance.
Account category	An account category identifies a group of account numbers. For example, taxes payable is an account category. Within this category, several taxes payable account numbers exist that refer to a specific account such as taxes payable – gas and taxes payable – oil.

The account categories are defined in common table TBLRV016. This table is a static list of all account categories used by SAP PRA. |
| Account category attributes | There are several attributes that are used to uniquely identify the account numbers within an account category. These attributes are defined on the Accounting Category transaction (see:

Creating Account Category Information [page 440]). For each account category defined on common table TBLRV016, an entry that describes the distinguishing characteristics of the accounts within the category must be made in this transaction. |
| Account number determination | Several areas of PRA generate journal entries. Account numbers are assigned to these entries using the values of the required account category attributes found on the PRA transaction being processed. The tie between the values of the required attributes and the specific account number is made on the Account Entry Control transaction (see:

Using Account Entry Control [page 442]). |
| Default account number | If the combination of values found on the PRA transaction does not exist on the Accounting Entry Control transaction, a default account number is used. The default account numbers are listed by category on common table TBLRV066.

A default account number report is generated by each PRA program that attempts to assign an account number to a journal entry but cannot, and therefore, uses a default account number. |

Integration

JE contains system interfaces with the following PRA application areas:

- Division order in Ownership (used for validation)
- Revenue Distribution/Disbursement
- Check input processing

15.1 Journal Entry Line Item Tables

Definition

PRA contains a General Ledger and ten line item tables. A line item table is a table containing journal entries specific to a particular function. The PRA JE posting process (see: The JE Posting Process [page 448]) posts to ten separate line item tables. The determination in the system of which journal entries will be posted to which line item table is made based on the account type assigned to the journal entry.
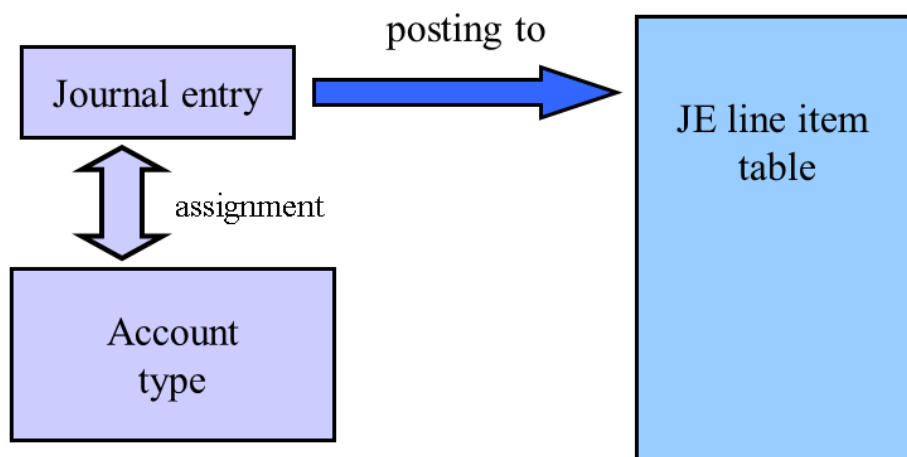
It is important to note that every posting in JE always has two accounts that are posted to:

- The JE General Ledger (header information), and
- A line item table (detail information)
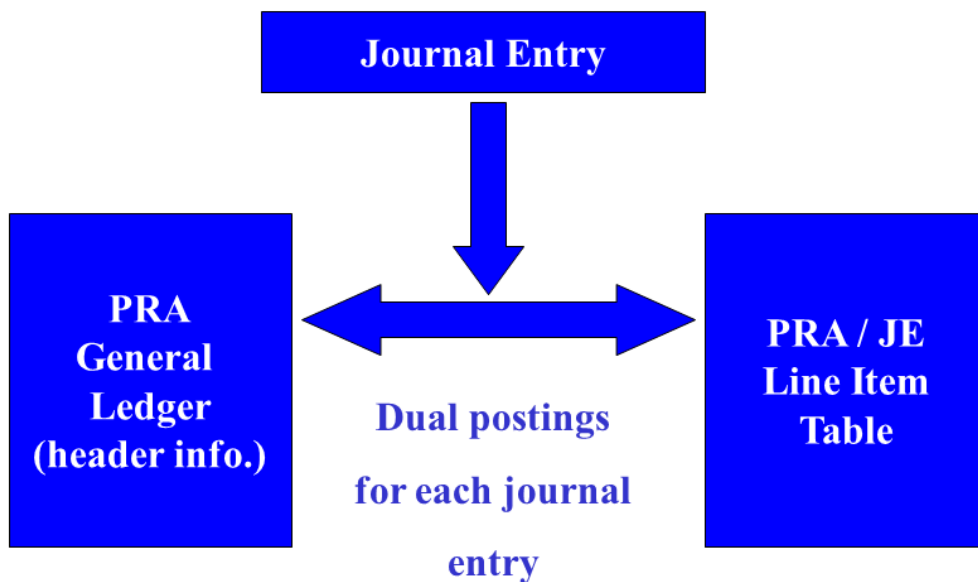
The account type determines which JE line item table the journal entry will be posted to.

JE has the following line item tables (the technical name of the table is provided here if you want to view the table itself) :

Table 106:

Line item table name	Line item table description
Miscellaneous (Table OIUH_RV_MSSL)	Used by various RD reporting processes
Inter-company (Table OIUH_RV_ICSL)	Used for accounting between companies. Used in automatic billing situations (as opposed to situations in which a check is sent). Used when an affiliate is an owner in a DOI to which the processing company is distributing revenue. The affiliate's share of sales, tax expense, marketing expense, etc. is recorded in separate accounts on the affiliate's ledgers, and a payable entry for the net amount is recorded to an account in the Inter-Company Payable category on the processing company's ledgers. The entry represents money that must be distributed to the affiliated owner by the processing company.

Owner payable (Table OIUH_RV_OPSL)	Used for RD check-write, royalty reporting, RD reporting, Check Input, Negative invoicing, RD transfer of suspense balances, and Tax and Regulatory Reporting.
Legal suspense (Table OIUH_RV_LSSL)	Used for RD reporting and the RD transfer of suspense balances. Legal suspense is used when recording net payable amounts to non-affiliated owners who are in legal suspense.
Statistical (Table OIUH_RV_STSL)	Used for statistical purposes only. Most commonly used to record amounts that would have been paid to carried owners, or to the Minerals Management Service (MMS), when there is a 'take-in-kind' situation.
Income (Table OIUH_RV_INSL)	Used by the RD accrual process, used for the Income Analysis Report, the Sales/Accrual Report, and the Sales History. Income is an affiliated owner's share of sales, plus tax reimbursements; it is recorded to accounts in the income category. The share of revenue distribution to an affiliated owner in the DOI. The net amount is recorded on the processing company on the affiliated owner's behalf.
Expense (Table OIUH_RV_EXSL)	Records an affiliated owner's share of marketing costs or tax.
Tax payable (OIUH_RV_TPSL)	Actual tax amounts that have been calculated in the Valuation module of PRA. It represents the amount payable to state or local taxing authorities. Used for RD reporting and taxes payable write-off processing.
Accounts Receivable (Table OIUH_RV_ARSL)	Amount to be received from the purchaser in connection with a sale when the purchaser on the contract is non-affiliated.
Accounts Payable (Table OIUH_RV_APSL)	External marketing charges when the service is not provided by the purchaser or an affiliated company.

ℹ

The JE line item table is sometimes represented by the concept of "account ID" in some JE transactions. For example, in the manual journal entry transaction, the account ID refers to the JE line item table that you are posting to.

15.2 JE Account Master Data Creation

Purpose

Before you can use Journal Entry for your transactional data, you will have to set up the accounts that you want to use – which are master data.

The purpose of setting up master data in JE is to define the relevant accounts and account ID – account category links, so that for a specific situation, the relevant account can be found for a specific posting situation.

There are various accounts that can be set up in Journal Entry. You first have to set up the SAP FI (Financial Accounting module) accounts in the FI Chart of Accounts (FI General Ledger). Then, you set up your PRA accounts – the accounts that you intend to use to post journal entries to. You can set up numerous accounts representing differing account types, and you can even set up accounts per customer and/or product (for example, an account based on federal entity and condensate as the product type, and a separate account based on state as the entity and condensate as the product).

⚠️

You cannot run anything on the Revenue Accounting side of PRA unless you first set up the relevant accounts that you will be using.

The overall master data creation process of creating the accounts is illustrated below:
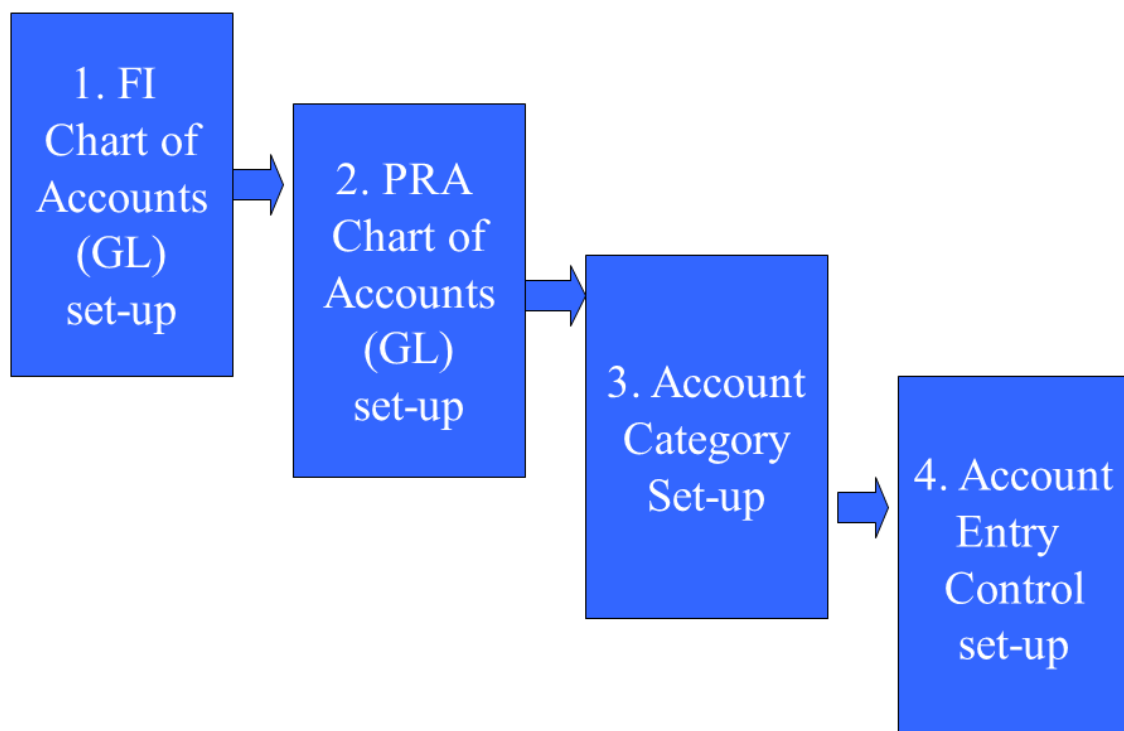
Prerequisites

You have to first have created your accounts in SAP FI before you can begin creating accounts for JE. For more information on that, refer to the documentation on SAP FI General Ledger .

Process Flow

1. You create your FI Chart of Accounts in Core SAP FI (or: it is already set up for your company).
   You create your PRA Chart of Accounts (see: Creating PRA Accounts as Master Data (Chart of Accounts) [page 437])
   You set up accounting category information in customizing (see: Creating Account Category Information [page 440]).
   You set up account entry control information – which ties accounts to account categories (see: Using Account Entry Control [page 442]).

After your accounts have been set up as master data, you can begin to create journal entries.

The accounts that you set up in the PRA Chart of Accounts have to be valid accounts in the FI Chart of Accounts.

15.2.1 Creating PRA Accounts as Master Data (Chart of Accounts)

Use

Use this to create the PRA Chart of Accounts for your company. The PRA Chart of Accounts are the individual accounts that you will be using in Journal Entry in PRA when you post journal entries.

The PRA Chart of Accounts is that part of your company's FI General Ledger accounts, which you will use in Journal Entry. It represents the accounts that will be available for transactional journal entries. For example, you might have 50 accounts in your company's FI General Ledger, and from that, you choose to use 20 accounts in your PRA Chart of Accounts.

The creation of your Chart of Accounts is sequential – you create one account after another. The accounts that you set up have to first be in SAP FI (in the FI Chart of Accounts – the FI General Ledger).

You tie an FI account ID with an account in PRA. The "account type" represents the type of account – based on what type of data will be saved to the table or account.

You create a new record in PRA, which defines an account ID from FI, which is created as a specific account type in PRA (account type = owner payable, royalties payable, etc.). You create each individual account here, and you can create one after the other, until you have all your accounts created. The account type determines which type of journal entries will be posted to the account (for example, if you set up an account from FI as an owner payable account, it will only post owner payable entries during transactional JE processing).

The graphic below illustrates this process: you define accounts that have already been set up in SAP FI as accounts that you intend to use in PRA Journal Entry. (Generally, only a portion of the total FI GL accounts will be used as PRA accounts).
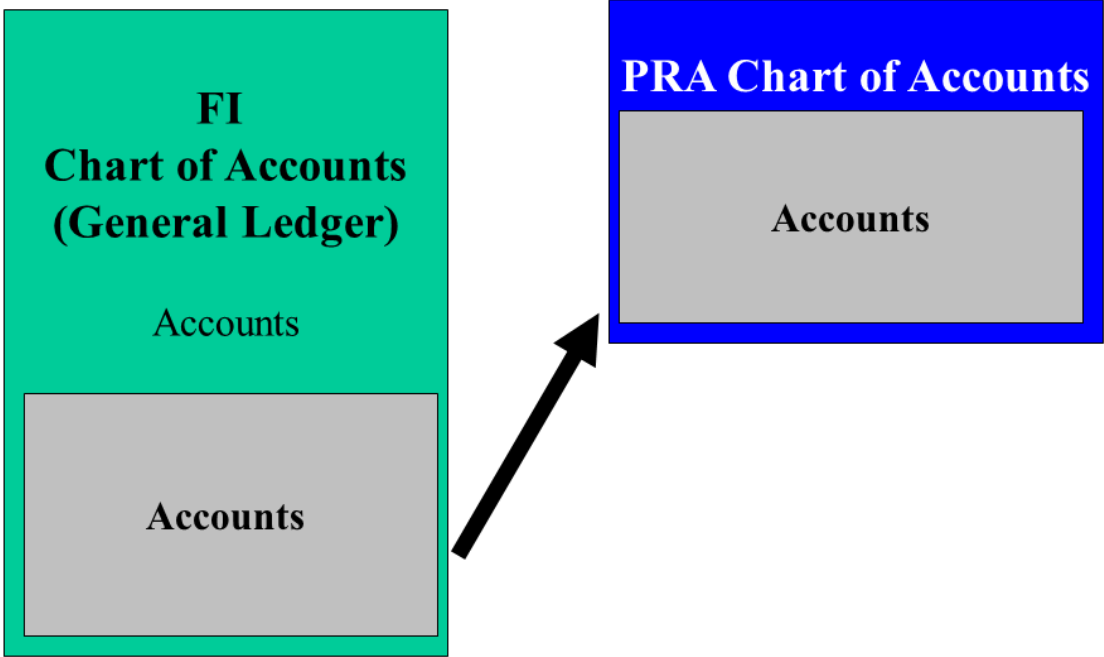
You create a new account per company code. The FI account ID will be the same as the PRA account ID (when you enter the account ID here, validations run to make sure that that account already exists in FI). The account type determines the type of journal entries that will be posted to the account (in the example below, Owner Payable), and determines the line item table in JE that the data will be posted to.

New PRA Account:

Company Code: 101
FI Account : 123456
PRA Account : 123456
Acct.Type : Owner Payable

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Master Records → Account Maintenance.
   The *Account Maintenance* screen is displayed.
2. Select *Create* .
3. On this screen, you are taking an account that already exists in FI for your company, and defining it as an account within PRA. In the *Account ID* field, enter an account that already exists in FI. Now, in the *Account Type* field, select the type of JE account that you would like the account to be. Also enter the relevant company code in the *Company* field. This will create the account for this company code.

4. Choose *Save* .

ℹ

It is important that if you are creating a record here, that you always set the *Active* flag on this screen. That indicates to the system that this account maintenance record is to be an active account. The only situation in which you would deactivate it is if you want to deactivate an already existing account – to set the account to 'inactive' – in effect turning off that account for data entry.

Result

A new account is created and added to the Chart of Accounts in JE. This defines an existing FI account as a new JE account. The type of journal entries that this new account will receive during transactional journal entry is defined by the account type that you define here.

15.2.2 Creating Account Category Information

Use

Use this to set the account category attributes for your account ID.

Journal entries use the account category to assign every line item to a JE account.

Here, you set up which account types can post with the account category. An account category can have more than one account type.

ℹ

This area is part of customizing.

You define the category attributes that will be used on the Account Entry Control screen (as fields).

Each journal entry that is used in PRA is linked with an account category. Here, you set the account parameters for the accounts category. This in effect allows you to create more specific accounts in PRA, based on the same account ID / accounting category record.

By setting one of the category attribute flags, you indicate that the selected attribute will then be used on the Accounting Entry Control screen to help assign unique account numbers to a category for each value of the attribute. These requirements must be set up for an accounting category on this screen before the Accounting Entry Control screen can be used.

An account category identifies a group of account numbers. For example, Taxes Payables is an account category. Within that category, several Taxes Payable account numbers exist that refer to a specific account such as Taxes Payable – Gas and Taxes Payable – Oil.

ℹ

The account categories are defined in common Table TBLRV016. That table is a static list of all account categories used by PRA. Updates to that table cannot be carried out without changes to the PRA programs that use them.

Accounting category attributes – There are several attributes that are used to uniquely identify the account numbers within an account category. These attributes are defined in *the Accounting Category* transaction (see path below). For each account category defined in common table TBLRV016, an entry that describes the distinguishing characteristics of the accounts within the category must be made in this transaction.

For example, if separate taxes payable account numbers exist for each product code, product code would be marked as a required field in the above transaction (*Accounting Category*) for the taxes payable account category.

If taxes payable is not enough to distinguish the taxes payable account numbers, then each required attribute would be set to Y in that transaction.

Several areas of SAP PRA generate journal entries. Account numbers are assigned to those entries using the values of the required account category attributes found on the PRA transaction being processed.

The tie between the values of the required attributes and the specific account number is made on the Account Entry Control transaction (see: Using Account Entry Control [page 442]).

If the combination of values found on the PRA transaction does not exist on the Account Entry Control transaction, a default account number will be used. The default account numbers are listed by category in common table TBLRV066. A default account number report is generated by each PRA program that attempts to assign an account number to a journal entry but cannot, and therefore, uses a default account number.

Prerequisites

You first have to have set up an account and an account category in JE, and link the accounts to a category.

Procedure

1. Within Customizing, choose SAP Reference IMG, and then: Industry Solution Oil & Gas (PRA) → Revenue Accounting → Journal Entry → Configure Accounting Category .
   The *Accounting Category: Initial Screen* is displayed.
2. On the Accounting Category: Initial Screen, enter an Accounting category and an Accounting type and then select Create.
   The *Create Accounting Category* screen is displayed, with all the possible category attributes as flags at the bottom.
3. You can now set the category attributes that you would like to use with this account ID / accounting category record. When you select a flag here, the corresponding field on the *Account Entry Control* screen will then require an entry (exception: completing the Affiliated Company field in the Account Entry Control transaction is optional).

15.2.3 Using Account Entry Control

Use

Use this to define account attributes and link them to a specific accounting category. This allows you to create more than one account per account category.

You can create a new account, differentiated by the parameters you set in account category customizing:

- State
- Entity Type
- Product
- Interest Type
- Contract Type
- Volume Type
- Severance Tax Type
- Marketing Cost Type
- Property Interest
- Affiliated Company

This transaction ties an account ID to an account category – differing by the available parameters that you already set up for this account category (within customizing for accounting category).

For example, it allows you to create a different account for the same account ID / account category, but based on such differentiators as entity type and product. The differentiators were already set up in the accounting category transaction in customizing.

The data that is defaulted on this screen is from Account Category Customizing (see: Creating Account Category Information [page 440]).

The data on this screen will be defaulted from Account Category Customizing, and will display the account category attributes that were defined for the account ID / account category combination.

This transaction is to be used once (for each account) to set up the data as master data.

New PRA Account:

Company Code: 101
FI Account : 123456
PRA Account : 123456
Acct.Type : Owner Payable
Acct. Category:
Entity Type: Federal
Product: Condensate

New PRA Account:

Company Code: 101
FI Account : 123456
PRA Account : 123456
Acct.Type : Owner Payable
Acct. Category: ---
Entity Type: State
Product: Condensate

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Master Records → Accounting Entry Control.
   The *Account Entry Control: Initial Screen* is displayed.
2. On the *Account Entry Control: Initial screen* , enter the relevant data and select *Create* .
   The system displays the *Account Entry Control – Create* screen.
3. On that screen, enter the relevant data and either *Default* , *Property/DOI Override* , *or Owner Override* .
4. Select *Save* .

15.2.4 Creating an Account Category Override by DOI or Owner

Use

Use this to override the usual account category search method, instead indicating an override account that you would like the system to use. This is used to override the usual account assignment for a specific owner/DOI, etc.

This allows you to override the usual account search in JE for a specific account category, either by property/DOI, or owner for a specified major product and effective date.

Procedure

1. At the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Master Records → DOI Owner Accounting Entry Code* .
   The *DOI Owner Accounting Entry Code: Initial Screen* is displayed.
2. On that screen, select *Create* .
   The *DOI Owner Accounting Entry Code – Create* screen is displayed.
3. The first decision that you should make here is whether you want to override for an owner or a DOI. Select either *Property/DOI* or *Owner* .
4. Next, enter the account category, major product, and property/DOI. *The Override Account* is the account that you would like to use instead of the usual account. Select *Enter* .

> **i**
>
> You are in essence telling the system here - do not use the account that is in the *Default account* field, but rather, use the account that is in the *Override account* field.

The bottom of the screen – which contains fields that have account category data - is for informational purposes only.

15.3 Manual Journal Entry

Purpose

The usual way that journal entries are processed in JE is that they are automatically processed from the PRA application areas such as Valuation, Revenue Distribution, and Check Input (see: The JE Posting Process [page 448]).

There are situations, however, in which you will want to manually enter journal entries. Those situations are the following:

- If a journal entry is required but is not automatically processed in PRA
- When timing does not allow the running of the SAP PRA process to enter or adjust the amounts
- When standard accrual or workpaper type entries are required
- When a journal entry rejects due to an error during the journal entry batch process
- As a correcting entry, or as an adjusting entry (you have posted 100 to a line item table, and should have posted 120, so you now manually enter a value of 20, etc.).

Process Flow

1. On the *JE Batch Control* screen, you create a batch with batch control data (see: Creating a Batch Control Record [page 445]).
2. On the *JE Detail* screen, you create manual journal entry detail information for that batch (See: Entering JE Detail Information for Manual Journal Entry [page 446]).

Of the two methods listed above: batch control processing and manual journal entry, both are batch functionality. The distinction is that batch control processing involves system-generated batches, and manual JE is not system-generated. When you create batch control information, the system automatically assigns a batch number, when you save that data. In manual journal entry, you manually enter the journal entry information and save your record.

15.3.1 Creating a Batch Control Record

Use

Use this to create a batch control record for manual journal entry.

Before you create a manual journal entry, you first have to create a batch control record. Whenever you want to manually enter journal entries in JE, you first have to set up the batch control information, and then create the manual journal entry detail information for that batch. You use batch control to set up a batch for manual processing, to which detail information will be added in a subsequent step (see: Entering Journal Entries Manually [page 446]).

You use this to approve and select journal entry batches for processing. Control totals are used to ensure that data has been entered correctly and that all the proper accounting procedures have been met before a batch can be selected for processing.

ⓘ

A batch may be changed or deleted only if its status is "work unapproved".

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Document Entry → JE Batch Control.
The *Batch Control: Initial Screen* is displayed.
2. On the Batch Control: Initial Screen, select Create.
The system now displays the *Batch Control – Create* screen.
3. Enter the relevant company (in the *Company* field) to which the journal entry will be posted. Enter the relevant accounting period (in the *Accounting Period* field) for the manual journal entry batch, as well as the total amount ($) that the manual journal entry batch will represent (you enter that in the *Debit Amount* field).In the *Number of entries* field at the bottom of the screen, enter the total number of detail entries you plan to enter on the JE Detail screen (Manual Journal Entry screen). In the *Statistical Amount* field, enter the number that you would like to enter as "statistical". In the *Type* field, enter the type of batch that you would like to create. (The *Calculated* column will display the total amounts that have been entered at the JE Detail level in that step).
4. Choose *Save* .
5. The system will now assign a batch number to this batch (the system finds the next sequential batch ID number and uses it). The system-generated batch ID will now be displayed in the *Batch ID* field.

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The *Copy/reverse* dialog box allows you to create a new journal entry batch or to reverse the current batch.

Result

The batch control data is created for manual journal entry. You can now enter the detail information for the batch on the *JE Detail* screen.

15.3.2 Entering JE Detail Information for Manual Journal Entry

Use

Use this to create the JE Detail data for a manual journal entry batch. Based on the account ID, you enter detail information here and create the journal entry.

This is done immediately after you have created the batch control record (see: Creating a Batch Control Record [page 445]). The data that you enter here is tied to the batch control record, and provides detailed information on the batch that you are creating for manual journal entry.

You can use this to create new journal entries manually, and to display, change, and delete existing journal entries.

⚠️

The information that is entered on this screen will ultimately be used for 1099 tax reporting, and since different fields may be required, depending on the account ID and assigned account category, you should be careful that all the necessary data has been entered to ensure accurate and complete reporting to the U.S. federal government.

Prerequisites

- You have to have the authorization to maintain manual journal entry information.
- You have batch data entry type security for the batch number being entered.

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Document Entry → JE Detail.
   The *Manual Journal: Initial Screen* is displayed.
2. On the *Manual Journal: Initial Screen* , there are three ways that you can proceed, depending on what you want to do:

Table 107:

To...	On the Manual Journal: Initial Screen...
Create a new JE record	Enter the relevant data (for descriptions of the individual fields, see below) and select *Create* . The *Manual Journal – Create* screen is displayed. From there, enter the relevant data, and choose *Save* to save your new record.
Create a new JE record, with reference (you copy an existing record, which you are using as a template or reference for creating your new record).	Enter the relevant data (*company code* , *Account ID, Batch ID, Line number* , etc.) and then select *Find Records* . From the list that is displayed on the subsequent screen, choose an item (a row) and select *Copy* . The system will use the attributes of the record you chose in creating the new record. Now make any changes that you would like to, and choose *Save* to save your record.
Change, display, or delete existing records	Enter the data for your search and then select *Find Records* . From the list on the next screen, you can select a record and then select *Change* . You now can change or delete the record. After that, choose *Save* .

The *company* , *accounting period* , and amounts will be the same on the *JE Detail* screen as they were on the *JE Batch Control* screen for the batch that you are creating, because you are supplying the detail information for the batch here.

With respect to the fields on the *Manual Journal: Initial Screen* :

Company – Is required for the system to know which company this applies to.

Account ID – Must be entered to determine which fields allow data to be entered on the screen. These fields are determined by the account type as originated in the Account Maintenance transaction. On this screen, you are entering a journal entry for this account ID.

Transaction amount (net amount)- Is the total dollar amount for the journal entry that you are creating. It is a required entry. It will be used to determine if the batch balances with the control totals on the *Batch Control* screen.

You do not have to enter either *Well completion* or *Measurement point* . Those are optional.

1. Choose *Save* .
    The amount that you entered in the Transaction amount field will now be defaulted into the *JE Batch Control* screen and be displayed in the *Batch Control Totals* screen area.
    The *Calculated* Totals on the *Batch Control Totals* screen have to equal the *Entered* amounts for that line, before the batch can be selected and processed without errors.
    The batch will now have a status of "ready for processing".

15.4 The JE Posting Process

Use

The purpose of JE posting is to take a batch, validate it for consistency, and create FI documents and post those entries in various line item accounts needed for subsequent business processing.

JE Posting is a process that with a few exceptions runs behind the scenes (without user dialog) and is the heart of Journal Entry. It receives journal entry data (representing financial transactions) from the PRA modules (Valuation, Revenue Distribution, etc.), and summarizes them in batches and posts them to the PRA JE line item tables and to SAP FI. JE Posting is the link between the journal entries coming from PRA applications and the FI documents and JE line item table items that are created.

All application areas of PRA that create financial transactions call the Journal Entry system and use it. The sender (source) of the data is the various application areas of PRA (Revenue Distribution, Checkwrite, Check input, etc.).

The JE Posting Module is automatically called by the various PRA application areas. For example, whenever you create a Valuation, Revenue Distribution, Checkwrite, Check Input, Tax and Royalty, Owner Suspense, or Accounts Receivable document, the JE Posting Process is automatically triggered.

There is an exception to that, however – the JE stand alone Posting Mode. It is used to manually trigger JE Posting for ad hoc processing needs like manual journal entry and reject corrections. For more information on that area, see: .

The following is a graphical representation of the data flow for JE posting:

JE DATA FLOW & JE POSTING
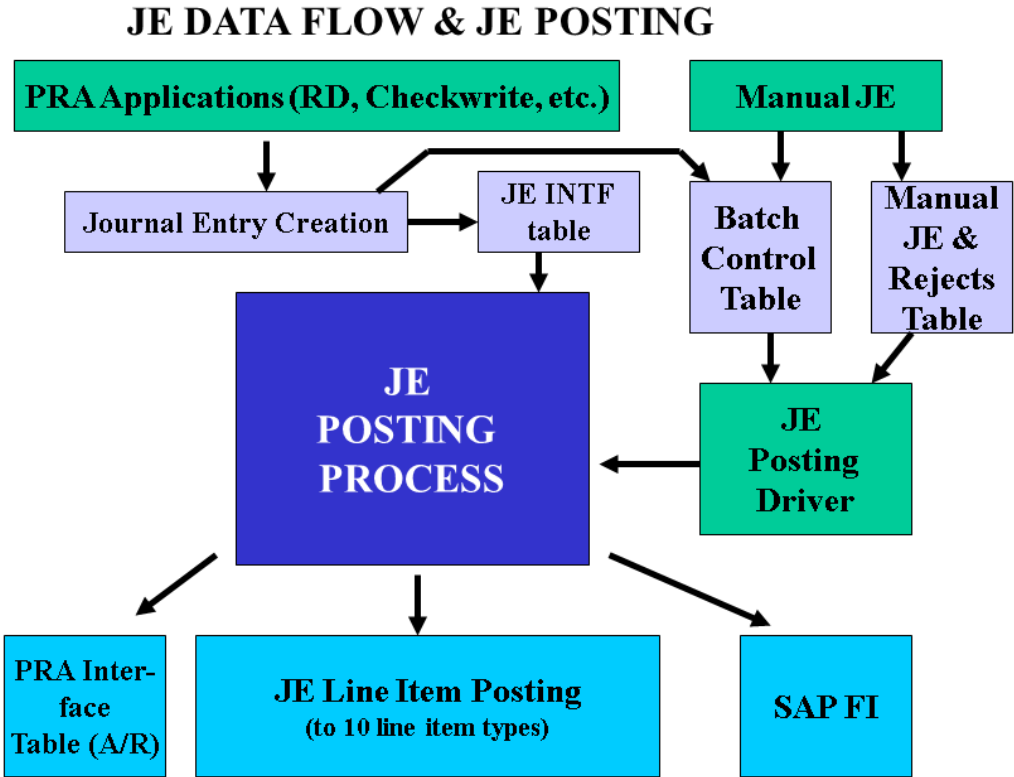
Whenever journal entries are posted, the data for each journal entry is posted to two separate tables: the JE General Ledger, and JE line item tables (one of the ten line item tables, based on what type of financial transaction is involved).
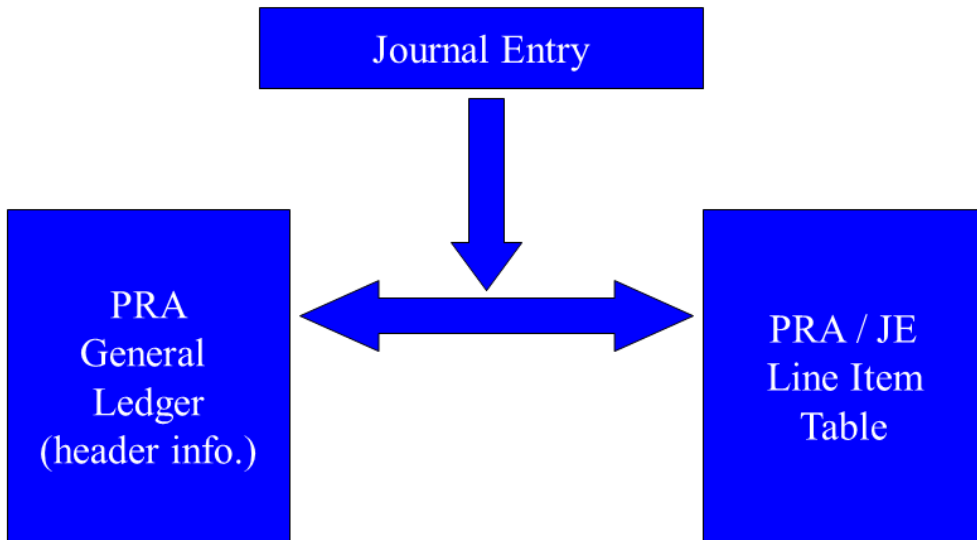
Features

JE Posting can handle three kinds of batches:

Table 108:

Batch	Description
Original posting	Original posting is the case when JE receives a batch number (a set of two or more JE records) to be posted for the first time.
Reject reprocessing	Reject reprocessing occurs when JE posted the original batches and some line item failed validation and was rejected. Those entries are stored in a JE table (Manual JE & Rejects Table) which is corrected through the Manual Journal entry screen. Once the problem has been fixed, it is sent again for posting through the stand-alone JE posting driver.

Batch	Description
Write-off	Write-off processing happens when the user decides to discard the rejected line item instead of correcting the error.

The following functions are supported:

- Validations are carried out on the journal entries (checks are carried out on the journal entries with respect to: master data, data integrity, and checks if the fields are filled).

- Any errors in journal entries are written to an error table (Manual JE and Rejects Table). From there, you can use the Running JE Posting in Stand-Alone Mode (JE Posting Driver) [page 452] to manually trigger JE Posting, after any corrections have been made via the Manual JE function.
- The formatting of accepted journal entries for input into the JE subledgers and SAP FI ledgers
- The updating of the A/R interface table with receivable line items

When the batch is accepted, the set of line items for the batch is summarized on a company code, accounting period, batch number, and account number and FI document line items are formatted and posted to FI through a BAPI call.

The ultimate function of the JE Post process is to post journal entries (summarized financial transactions) to line items accounts in JE (the line item tables) and to post to SAP FI. JE Posting helps you carry your financial transactions to financial statements in FI.

Each journal entry has two entries: a header and a line item. The header entry is posted to the PRA General Ledger, and the item is posted to a JE line item.

- The system assigns a batch number to each batch.
- Each process calls the JE post directly, thus eliminating the need for JE post batch jobs.
- Reconciliation between postings in FI and batch number in PRA exists
- JE reports (The Accepted Journal Entry Report, and the Rejected Journal Entry Report) can be executed at any time for any JE post run
- A new JE post process can be run even if the previous post process failed
- A BAPI is used as an interface to post to SAP FI.
- A staging table (JEINTF) is used in the JE Post Process.

If a batch run fails, the system will roll back the work so that it does not post to FI and the subledgers.

Integration

FI customizing affects JE Posting.

15.4.1 Running JE Posting in Stand-Alone Mode (JE Posting Driver)

Use

You can use this to manually trigger the JE Posting Process.

You can do that, for example, after corrections have been made to JE rejects using Manual JE. You then manually trigger JE Posting in order to post the batches that you have made changes to.

JE posting is usually an automatic, "behind-the-scenes" process that runs without any user interaction. In general, the JE Posting Process pulls data from the PRA Modules and creates PRA line items and SAP FI entries (see: The JE Posting Process [page 448]).

There is an exception, however, and that is manual triggering of the JE Post Process. You use this if there is an error in the JE Post (for example, you might have an incorrect account number that you want to correct). That might occur, for example, when there is an error at a line item level – resulting in a "reject" at that line. The error is then sent to the Manual JE and Rejects Table in Journal Entry.

However, the corrections are not automatically processed. You have to use the JE Standalone Driver to retrigger the JE Posting Process.

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Please see the graphic within the documentation on The JE Posting Process [page 448] . The graphic illustrates where in the overall JE Post Process the stand-alone posting driver function fits in.

Procedure

1. From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Revenue Accounting Journal Entry Periodic Processing JE Posting* .

The *Program ROIUH_JEPOST_DRIVER – Standalone JE Posting* screen is displayed.

Enter the data that you would like to re-post: Company code, accounting period, and batch number.

Select *Execute* .

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If you do not enter anything in the fields, and then select Execute, the system will display all the available batches (brand new batches, and all batches that contain rejected entries).

The system will produce a message that states, "Job started successfully. Jobname: ...."

15.5 Carrying Out a Query of Accepted Journal Entries

Use

Use this to run a report in JE that lists all accepted journal entries.

Normally, in JE, journal entries are posted to JE line item tables, and the data remains there. You may, however, want to put the accepted (posted) journal entries into a form in which they can be listed and then printed together. "Posted" or "accepted" means – posted to SAP FI and to a line item table. This report lets you do that – it lets you run a report of all posted journal entries so that you can print them out.

You can post a batch and then use this to obtain a list of all the journal entries that were posted within that batch, which you can then print out.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → JE Posting Reports → Posted Journal Entries Reports* .

The *Accepted Journal Entries Report* screen is displayed.

1. There are two options for proceeding:

- Just select Execute (without entering any data). The system summarizes all batches together into one list. Enter data in the fields (batch number, etc.) for a more targeted report query. For example, if you know what the batch number is, you can run a report that produces a list just for that batch.

Result

A list is produced, showing all of the posted (accepted) journal entries.

15.6 Carrying Out a Query of Rejected Journal Entries

Use

Use this to run a report on journal entries which have been rejected – not posted successfully .

It can occur that in JE, there are journal entries that are not posted, for a variety of reasons. Normally, those rejected entries are simply saved in reject tables in JE. You may, however, want to run a report on the tables and then put the rejected journal entries into list form, in order to print them out. This function allows you to do that.

For example, you might run a batch through JE, posting the journal entries to JE line item tables. Then, you might want to run a report on that batch to list all journal entries that were not posted (rejected) for that batch.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → JE Posting Reports → Rejected Journal Entries Report* .

The *Rejected Journal Entries Report* screen is displayed.

1. There are two options for proceeding:
   - Select *Execute* (without entering any data in the fields). That will produce a list of all batches, summarized in one list.
   - Enter data in the fields to narrow down your search. For example, you can enter the batch number. Select *Execute* . The system displays a list of non-posted journal entries based on your search.

Result

The system produces a list of rejected (non-posted) journal entries.

15.7   Carrying Out the JE Monthly Accounting Period Close

Use

Use this to carry out a Journal Entry Monthly Accounting Period Close.

Journal Entry is based on accounting periods – journal entries are processed per accounting period. This process closes the current accounting period, and is usually a month-end close.

When you run this transaction, the system displays all the current open accounting periods for all the companies and company codes, along with a flag for each open accounting period. You can set the flag for each period, which means that you want to close that accounting period for journal entry, meaning – no journal entries will be able to be processed for that period after that (for example, if you close November, journal entries will only be able to be entered for December).

You will usually run this at the end of the month, when you want to close accounting periods for that month. You can close the accounts for a single company code for a specific month, while leaving another company code open for that month.

⚠️

Before you run this, it is important to realize that once you close an accounting period in JE, you cannotreopen it later. Please consider the effects of running this transaction before you run it. It is a good idea to only run it at the end of the month, and only after thinking about the effects that it has.

Procedure

From the SAP Easy Access menu, choose LogisticsProduction and Revenue AccountingRevenue AccountingJournal EntryPeriodic ProcessingAccounting Period Close.

The *PRA Accounting Period Close* screen is displayed.

That screen displays all open accounting periods for all company codes, with a flag next to each.

Select the periods that you would like to close by flagging each one.

Select *Process Close* .

15.8 JE Line Item Table Queries

Purpose

Journal entries are stored in Journal Entry line item tables. Those line item tables can be queried, for example, if you want to do an analysis of the records in the table. Or, you might want to find out, for example, how much you owe a specific owner for a specific period, in which case you would run a query on the Owner Payable line item table for a specific owner.

You can query the following JE line item tables:

- The General Ledger
- Miscellaneous
- Inter-company
- Owner Payable
- Legal Suspense
- Statistical
- Income
- Expense
- Tax Payable
- Accounts Payable
- Accounts Receivable

15.8.1 Carrying Out a General Ledger Query

Use

Use this to view the various records that have been entered into the Journal Entry General Ledger.

The JE General Ledger is a "parent record" that carries key information supporting a detailed line item entry to each JE line item record. Whenever you have an entry in JE, the entry consists of the parent and the "child" (G/L and line item table). For example, when an entry is made, the header information (property, DOI, sales date, etc.) is posted to the G/L, and the details (gross booking, interest, etc.) are posted to the line item table. There is always that 1:1 relation between G/L and line item table.

The General Ledger contains the following fields:

- Company
- Batch ID
- Accounting Month
- Account ID
- Well completion or Measurement point
- Product
- Sales Month
- Property/DOI
- Network
- Purchaser

Procedure

1. At the SAP Easy Access Menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Accounting Ledgers → General Ledger Query.
   The *General Ledger Query: Initial Screen* is displayed.
2. On that screen, enter the relevant data for your search, and either *Well completion* , *Measurement point* , or *None* .
3. Now select *Find Records* .
   The *General Ledger Query screen* is displayed, with a list of records that correspond to your search.

15.8.2 Carrying Out a Miscellaneous Line Item Table Query

Use

Use this to view all of the Journal entries whose account type is "miscellaneous".

The Miscellaneous Line Item table is Table OIUH_RV_MSSL. It is used for various RD reporting processes.

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line Items (by Account Type) → Miscellaneous.
   The system displays the *Miscellaneous Subledger Query: Initial Screen* .
2. Enter the data for your query and then select *Find Records* .
   The system produces a list based on your search criteria.

Explanation of the subsequent dialog boxes:

Owner tax dialog box – shows the owner's share of all taxes that apply to the current miscellaneous Journal entry.

Gross tax dialog box – shows the property level total tax amount for each applicable tax type for the current miscellaneous Journal entry.

Other Deductions Dialog – Shows the property level total deductions for each applicable deduction type for the current miscellaneous Journal entry.

15.8.3 Carrying Out an Inter-Company Line Item Table Query

Use

Use this to view all of the Journal entries whose account type is "inter-company".

The Inter-company Line Item Table is Table OIUH_RV_ICSL). The table is used for accounting between companies. It is used in automatic billing situations (as opposed to situations in which a check is sent). It is used when a affiliated company is an owner in a DOI to which the processing company is distributing revenue. The affiliate's share of sales, tax expense, marketing expense, etc. is recorded in separate accounts on the affiliate's ledgers, and a payable entry for the net amount is recorded to an account in the Inter-company payable category on the processing company's ledgers.

The entry represents money that must be distributed to the affiliated owner by the processing company.

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line Items (by Account Type).
   The *Inter-company Subledger Query: Initial Screen* is displayed.
2. Enter the relevant data for your search, and then select *Find Records* .

The system produces a list of records based on your search criteria.

15.8.4 Carrying Out an Owner Payable Query

Use

Use this to view all of the Journal Entries whose account type is "owner payable".

Owner Payable is a line item table that is used in RD Check Write, Royalty Reporting, Check Input, Negative Invoicing, RD transfer of suspense balances, and Tax & Regulatory Reporting. The technical table name of the Owner Payable table is OIUH_RV_OPSL).

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line Items (by Account Type) → Owner Payable.
   The *Owner Payable Subledger Query: Initial Screen* is displayed.
2. On the *Owner Payable Subledger Query: Initial Screen* , enter the relevant data for your search.
3. Select Find Records.

The system produces a list of records based on your search criteria.

15.8.5 Carrying Out a Legal Suspense Query

Use

Use this to view all of the Journal Entries whose account type is "legal suspense".

The Legal Suspense Line Item Table is used for RD reporting and the RD transfer of suspense balances. Legal suspense is used when recording net payable amounts to non-affiliated owners who are in legal suspense. The technical table name of the table is OIUH_RV_LSSL).

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line Items (by Account Type) → Legal Suspense.
   The *Legal Susp. Subledger: Initial Screen* is displayed.
2. On the *Legal Suspense Subledger: Initial Screen* , enter the relevant data for your search and then select *Find Records* .

Explanation of dialog boxes:

Owner Tax dialog box – The owner tax dialog shows the owner's share of all taxes that apply to the current legal suspense Journal Entry.

Gross Tax dialog box – shows the property level total tax amount for each applicable tax type for the current legal suspense Journal entry.

Other Deductions dialog box – Shows the property level total deductions for each applicable deduction type for the current legal suspense Journal entry.

15.8.6 Carrying Out a Statistical Query

Use

Use this to view all of the Journal Entries whose account type is "statistical".

This is used for statistical purposes only. It is most commonly used to record amounts that would have been paid to carried owners, or to the Minerals Management Service (MMS), when there is a 'take-in-kind' situation. The table is OIUH_RV_STSL).

Procedure

At the SAP Easy Access menu, choose LogisticsProduction and Revenue AccountingRevenue AccountingJournal EntryReporting Line Items (by Account Type).

The *Statistical Subledger Query: Initial Screen* is displayed.

Enter the relevant data and select *Find Records* .

Explanation of subsequent dialog boxes:

- Owner Tax dialog box– Shows the owner's share of all taxes that apply to the current "statistical" journal entry.

- Gross Tax dialog box– Shows the property level total tax amount for each applicable tax type for the current "statistical" Journal entry.

- Other Deductions dialog– Shows the property level total deductions for each applicable deduction type for the current "statistical" Journal entry.

15.8.7 Carrying Out an Income Line Item Table Query

Use

Use this to view all of the Journal entries whose account type is "income".

Income is an affiliate's share of sales, which are recorded to accounts in the income category. The Income line item table is used by the RD accrual process, and used for the Income Analysis Report, and the Sales History.

Income is an affiliated owner's share of sales, plus tax reimbursements; it is recorded to the accounts in the income category.

The share of revenue to an affiliated owner in the DOI. The net amount is recordedon the processing company on the affiliated owner's behalf.

The income table is OIUH_RV_INSL.

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line Items (by Account Type) → Income.
   The *Income Subledger Query: Initial Screen* is displayed.
2. On the *Income Subledger Query: Initial Screen* , enter the relevant data for your search and then select *Find Records* .

Explanation of subsequent dialog boxes:

Owner Tax Dialog box – shows the owner's share of all taxes that apply to the current income journal entry.

Gross Tax dialog box – shows the property level total tax amount for each applicable tax type for the current income Journal entry.

15.8.8 Carrying Out an Expense Line Item Table Query

Use

Use this to view all Journal Entries whose account type is "expense".

The Expense table contains records that record an affiliated owner's share of marketing costs or tax. The table name is OIUH_RV_EXSL).

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line items (by Account Type) → Expense.
   The *Expense Subledger Query: Initial Screen* is displayed.
2. On the *Expense Subledger Query: Initial Screen* , enter the relevant data for your search and then select *Find Records* .

Explanation of subsequent dialog box:

Gross Tax dialog box - Shows the property level total tax amount for each applicable tax type for the current expense Journal entry.

15.8.9 Carrying Out a Tax Payable Query

Use

Use this to view all of the Journal entries whose account type is "tax payable".

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line Items (by Account Type) → Tax Payable.
The *Tax Payable Subledger Query: Initial Screen* is displayed.
2. On the Tax Payable Subledger Query: Initial Screen, enter the relevant data, and either Well Completion or Measurement Point, and then select Find Records.

The system produces a list of records based on your search criteria.

Explanation of subsequent dialog box:

Gross Tax dialog box – shows the property level total tax amount for each applicable tax type for the current "tax payable" Journal entry.

15.8.10 Carrying Out an Accounts Payable Query

Use

Use this to view all of the Journal entries whose account type is "accounts payable".

The Accounts Payable line item table contains records that represent external marketing charges when the service is not provided by the purchaser or an affiliated company. The table is OIUH_RV_APSL.

Procedure

At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line Items (by Account Type) → Accounts Payable.

The *Accounts Payable Subledger Query* screen is displayed.

1. Enter the relevant data for your search, and either *well completion* , or *measurement point* .
2. Select Find Records.

15.8.11 Carrying out an Accounts Receivable Line Item Table Query

Use

Use this to view all of the Journal entries whose account type is "accounts receivable".

The Accounts Receivable line item table contains records of amounts to be received from a purchaser in connection with a sale when the purchaser on the contract is non-affiliated. The table is OIUH_RV_ARSL).

Procedure

1. At the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Reporting → Line Items (by Account Type) → Accounts Receivable. The *Accounts Receivable Subledger Query: Initial Screen* is displayed.
2. On that screen, enter the relevant data for your search and then select *Find Records* .

15.9 JE Line Item Purge

Purpose

The JE Purge (line item purge) is a batch process that deletes entries from the line item tables and moves them to the Historical Archive Table. You select one of two possible purge processes:

- Annual Purge (see: Carrying Out a JE Annual Purge [page 464])
- Offset Purge (see: Carrying Out an Offset Purge [page 466]).

You "purge" line items to get rid of line items that are no longer needed. There are two types of purge: the offset purge and the annual purge. The offset purge is used to purge offsetting entries before a specified accounting date close, and the annual purge is used to purge all entries for a specific time frame.

The JE annual purge and JE offset purge can be scheduled to be run as background jobs using transaction SM36, or started via the SAP Easy Access menu. You can use transaction SM37 to monitor it.

The following graphic illustrates the archiving process within the purge process in JE :

JE Line Item Table

Record

1. JE line item record is copied into historical table

Historical Archiving Table
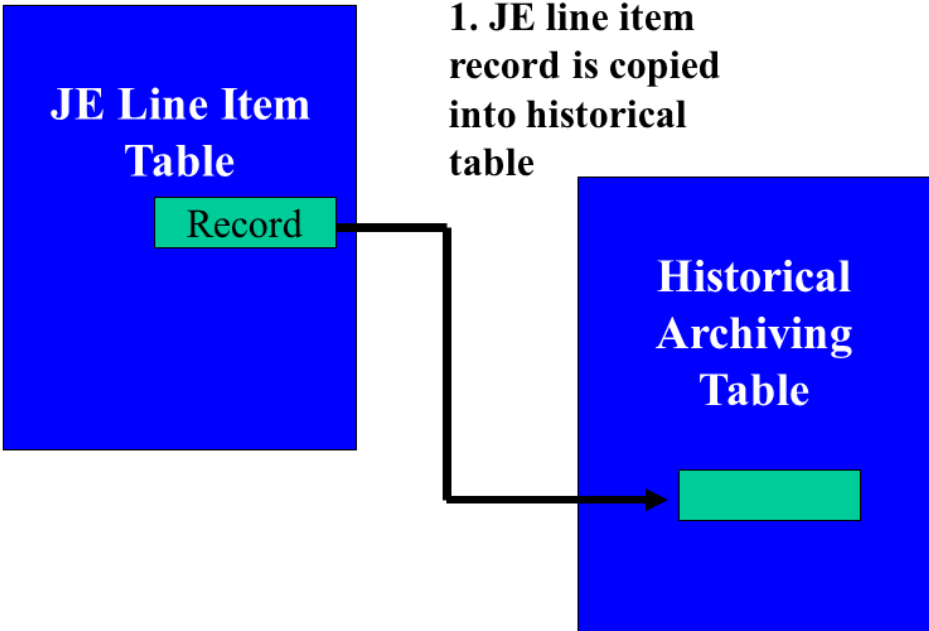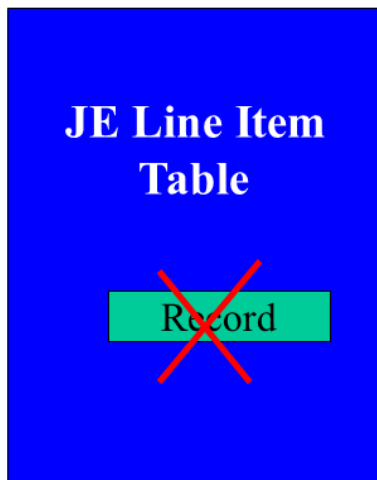
2. JE Line Item Table record is deleted from the JE line item table

You can set this up in Customizing under *Industry Solution Oil & Gas (PRA)* → *Global Settings* → *Activate configurable edits* .

15.9.1 Carrying Out a JE Annual Purge

Use

Use this to carry out annual purges of JE line item tables.

The JE Purge is a batch process that deletes entries from the JE line item tables for the date range that you specify (everything earlier than the accounting period date), and either deletes them with no archiving, or moves them to the Historical Archive Table.

The purge selects entries from General Ledger and JE line item tables joined on the system number, and deletes all entries before the accounting period date that you enter.

You can select the annual purge, which in general is used to purge all line items in a JE line item table at the end of the year. The purpose is to clear out the line item tables so that new data can be entered into them.

However, the term "annual" does not mean that you can only run it once or at the end of the year. You can run this purge more than once per year, as you see fit.

The purge process removes all the entries before the cut-off date that you enter (usually the end of the year, but it does not have to be). The cut-off date is the accounting period date.

The annual purge can be used for the following JE line item tables:

Accounts Payable

Expense

Income

Intercompany

Miscellaneous

Statistical

You can also decide what is to happen to the deleted entries. There are two options:

The deleted line item is deleted permanently, without being saved anywhere

The deleted line item is automatically saved to an archive table (the Historical Archive Table)

You define in Customizing which of those two options will pertain to your system. If you do not set it in Customizing, the first option will apply – that is, the line items will be deleted without being saved to a historical archive table. That is the default set-up. If you want the deleted entries to be archived, you have to set that in customizing.

Prerequisites

The only real prerequisite is that your JE line item tables have reached a point that you would like to clean them out by deleting line items.

Procedure

From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Revenue Accounting Journal Entry Utilities JE Annual Purge*

The *JE Annual Purge Process* screen is displayed.

In the *Accounting Period Cutoff Date* field, enter the date that you would like to use as a cut-off. The system will use that date and delete all JE line items that were posted before that date.

To trigger the purge, select *Execute* .

Result

The JE annual purge process is kicked off, and all JE line items before the accounting period cut-off date are deleted.

Example

For example, you could choose:

- As the accounting period: 01/01/2001,

- And delete all entries for the Accounts Payable line item table.

Here, the system would select all entries based on your search, and copies the entries into an archiving table (if you customized it that way). Then, the system deletes those same entries from the Accounts Payable line item table.

15.9.2 Carrying Out an Offset Purge

Use

Use this to purge offset entries to line item tables in Journal Entry.

The offset purge clears (deletes) royalty/owner payable, accounts receivable, legal suspense, and taxes payable line items, where the line items have been offset with the appropriate clearing entries. JE line item table entries can be first copied to the relevant Historical Archive Table before they are then deleted from the line item table.

Parameters set in customizing (one per line item table) are used to determine whether data should be archived before it is deleted from the line item table.

At the end of the day when all entries are 'posted', the net open amount for a defined purge key should summarize to a zero balance and the detail contained in the zero balance has to be moved off the JE line item table to the Historical Archive Table (each line item table has its own historical archive table, and there is a General Ledger archive table). The purge key is a pre-defined combination of columns in GL and line item table.

JE offset purge can be run on demand for different line item tables and company codes.

Offset purge applies only to the following JE line item types:

- Accounts receivable
- Legal suspense

- Owner payable
- Taxes payable

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Utilities → JE Offset Purge* .

The *JE Offset Purge Process* screen is displayed.

1. On that screen, there are several flags that you can set: *accounts receivable* , owner payable, *legal suspense* , and *taxes payable* . You can run the purge process by company code for one or more of those JE tables. Select your criteria for what you would like to purge.
2. To trigger the offset purge process for that criteria, select *Execute* .

15.10 Loading External Data into JE

Use

Use this to load JE batches that originate outside of the PRA system into the PRA system.

The batch is in external file form. All entries in the input file will be assigned a single batch number and will take values for company code, accounting period, and batch type from the user input when the program is executed.

Prerequisites

The following requirements have to be met to load external data into JE:

- The batch types must be types: 04, 40 ("company batch load"), or 41 ("company batch load – non-reversible"). Those batch types will be automatically selected and approved if no errors are detected.
  An external file must be used
  The external file should be created as a binary file and adhere to the layout defined in Include program ROIUH_JEBD0014.
  The file has to reside on an application server and its complete name including path should be given as input.

Procedure

1. From the SAP Easy Access menu, choose Logistics → Production and Revenue Accounting → Revenue Accounting → Journal Entry → Utilities → Load JEINTF rec for Batch Type 40 & 41.
   The *Program ROIUH_LOAD_JEINTF – To Load JE Interface Batch Types 04, 40 & 41* screen is displayed.
2. Enter the Input file name (and other relevant data) in the fields.

3. Select *Execute* .

Result

The batch number assigned by the PRA system, and whether the batch is balanced or not .

16 Contracts and Pricing

Purpose

The Contracts and Pricing application area in Production Revenue Accounting (PRA) supports the maintenance of contracts and related marketing costs, pricing terms, and prices for the sale of products including crude oil, condensate, and natural gas.

Contracts

Contracts are used by the Product Control, Contractual Allocation, and Valuation application areas.There are different contract types, and for each one there is a unique template that is used to enter contract data into the system.The contract contains header and item-level data, and the item-level data includes pricing at a measurement point or well completion level.

Pricing

Pricing functions capture the pricing data required to value oil and gas sales, and are also used to set up formulas, oil price postings, and gravity pricing adjustment tables.Pricing functions can be used for fixed as well as formula-based pricing.Key features of the pricing functions include:

- Complex formulas, including highest, average, and lowest multiple price indices or bulletins
- Surcharges and bonuses
- Equal Daily Quantity (EDQ) pricing
- COPAS or daily pricing
- Multiple currencies
- Multiple units of measure
- Pricing at various levels: contract material, contract/material/measurement point, or contract/material/ well completion
- Effective-dated pricing

Integration

Contracts and Pricing is integrated with the following application areas.

Table 109:

Integrated with Application Area :	Description of Integration
Production	Plant processing in Production requires a processing agreement from Contracts & Pricing.
Contract Allocation	Contractual Allocation (CA) references contract numbers and marketing representatives during processing.

Product Control	Product Control uses marketing representatives specified in sales contracts.
Valuation	Valuation requires a contract record in order to create a valuation cross reference.Also, Valuation uses pricing master data to calculate the gross price for marketing charges.

16.1 Creating a Contract

Use

Contracts are used by the PRA Production, Product Control, Contractual Allocation and Valuation application areas. There are different contract types, and for each one there is a unique template that is used to enter contract data.

Prerequisites

A valid customer master record exists for the customer to be referenced in the contract.

Procedure

1. At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Contracts and Pricing* ❯ *Contracts* ❯ *Create Contract* ◀ .
2. The *Create Contract: Initial Screen* appears.
3. Enter the contract type and choose *Enter* .
4. **i**
   The contract type determines which fields in the transaction are required. To review a list of contract type descriptions, see Contract Types [page 471] .
5. If you do not want the system to assign a number automatically for the contract, enter an alphanumeric code for the contract in the **Contract** field.
6. At the *General* , *Contamination* , *Dates* , and/or *Service* tabs, enter data as required. At the *Service* tab, enter data as required for conditions related to transportation or services, such as separating a gas product.
7. Save the contract.

16.2 Contract Types

Table 110:

Contract Type	Description
Affiliate Gas Purchase	Compliment to Gas Sales to Affiliate - Transported contract type.
Casinghead - Purchase	Utilized for plants that will be allocated through plant networks. Utilized to indicate a purchase for the lease (well). Settlement is made to the lease and is offset to the plant.
Company Operated Gathering Agreement	Utilized for company-operated gathering agreements.
Gas Purchase	Utilized for wet gas purchase behind a plant.
Gas Sales	Type of contract most commonly used for conventional gas sales. The transaction is processed through Revenue Distribution.
Gas Sales To Affiliate - Transported	"Settlement Contract" utilized by companies with sales to affiliates. It allows them to pass volumes and values between the Revenue and Marketing systems. It utilizes the netback price provided by the Marketing system.
Gas Sales to Affiliate -Non-Transported	"Settlement Contract" utilized by companies with sales to affiliates. It allows them to pass volumes and values between the Revenue and Marketing systems. It utilizes the netback price provided by the Marketing system.
Gathering Agreement	Utilized for outside-operated gathering systems and is available for Valuation reserve word processing.
Long-Term Off Lease Sales	Utilized by marketing for off-lease sales.
Miscellaneous Gas Sales	Utilized for sales to company facilities that will not be contractually allocated (e.g., irrigation gas). May be used by Marketing, Revenue, or Plants.
NGL Purchase	Utilized for products purchased for resale.
NGL Sales	Utilized for NGL sales at the tailgate of the plant (cross reference at the gas plant measurement point) or for NGL sales at the well/lease (cross reference valuation point).
NGL TIK	Utilized for TIK NGL sales contracts. Transactions are **not** be processed through Revenue Distribution.

NGL TIK - Valued	Utilized for TIK NGL sales contracts. Transactions are processed through Revenue Distribution in order to value marketing costs.
Non-Interest Gas Sales	Utilized for the gas sales of other working interest owners when the operating company is making settlement on their behalf.
Oil Buy/Sell	Contract which includes both a purchase and a sales transaction. May be used in conjunction with the Oil/Condensate Lease Indirect Supply contract type for leases, or it may be used alone when no lease transactions are involved.
Oil Exchange	Utilized for contracts where similar products are exchanged and no money changes hands except for an agreed-to differential.
Oil Futures - Purchase	Includes purchase contracts from NYMERC Market. Processed in the same manner as the Oil Purchase contract type.
Oil Futures Sale	Includes sales contracts from NYMERC Market. Processed in the same manner as the Oil Sale contract type.
Oil Purchase	Utilized for the outright purchase of crude/condensate from lease and non-lease locations.
Oil Sale	Utilized for the outright sale of crude/condensate from non-lease locations.
Oil/Cond - TIK	Utilized for owners who have TIK oil contracts. These transactions are processed through Revenue Distribution.
Oil/Cond Lease Direct Supply	Utilized for purchases when the operating company takes delivery of the crude oil at the lease location and retains ownership.
Oil/Cond Lease Indirect Supply	Utilized for the purchase of crude oil when the operating company purchases at the lease and resells to a third party at the lease for transportation. Must be used with the Oil Buy/Sell contract type.
Oil/Cond Outright Sale	Utilized when the operating company sells proprietary, and/or third-party, oil/condensate from the lease to a third party.
Other Owner Spot Sales/TIK	Utilized for owners who have TIK spot sales contracts. These transactions are **not** processed through Revenue Distribution.

Other Owner Spot Sales/TIK - Valued	Utilized for other working interest owners TIK spot sales contracts when the other owner is responsible for marketing costs. These transactions are processed through Revenue Distribution in order to value the marketing costs.
Other Owner/TIK - Non-Valued	Utilized for conventional TIK gas sales contracts entered into by other working interest owners in company-operated properties. These transactions are **not** processed through Revenue Distribution.
Other Owner/TIK - Valued	Utilized for conventional TIK gas sales contracts entered into by other working interest owners in company-operated properties. These transactions are processed through Revenue Distribution for the purpose of valuing marketing costs.
Percent Proceeds - Gas Sale	Utilized for leases passing through non-interest or non-operated plants which do not go through the plant allocation. Also utilized for unprocessed gas sold at the lease where the operating company receives a percent of the proceeds.
Processing Agreement with TIK Rights	Utilized for processing agreements when the lease has TIK rights on NGLs. Plant residue and NGLs to be marketed by the lease owners under related sales contracts.
Processing Agreement without TIK Rights	Utilized for processing agreements when the lease does NOT have TIK rights on NGLs. Residue is marketed by the lease owners under related sales contracts. NGLs are marketed by the plant under separate sales contracts.
PVR Sales	Utilized by Marketing for PVR make-up gas from a straddle plant.
Residue Purchase	Utilized by plants for residue purchases.
Selling under JOA	Utilized when not selling under the operating company's own contract.
Service Provided	Utilized when service is provided. Similar to the Service Received contract type.
Service Received	Utilized when service is received. Terms used by revenue to deduct costs from the lease and create a payable to the contract party on the service agreement.
Spot Purchase	Generally utilized by the marketing group for third party gas purchases.
Spot Sales	Utilized for gas spot sales by revenue, plants, and/or marketing.

Storage Agreement	Utilized to define cost terms for gas in storage. Accessed by the reserve words.
Straddle/3 rd Party Agreement	Utilized for the agreement between the pipeline and the plant for third party processing.
Third Party Keep Whole Gas Purchase	Utilized for wet gas purchase agreements at a plant.
Transfer	Utilized by Marketing to transfer the Netback Price calculated at a market center during one pricing cycle over to the next pricing cycle as the Weighted Average Sales Price for the same market center. These transactions are never valued or journalized.

16.3   Approving Contracts or Reviewing a List of Contracts

Use

Use this transaction to:

- retrieve a list of contracts and review the associated details
- approve contracts

Procedure

1. At the SAP Easy Access screen, choose ▌ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Contracts and Pricing* ❯ *Contracts* ❯ *List Contract* ▌.
2. The *Contract List Processing* screen appears.
3. Enter data as required and choose *Execute* .
4. The *Contract List Processing* screen appears with a list of contracts that matches the criteria you entered on the first screen.
5. Review the details of the list.
6. To approve a contract, click a row to select the contract in the row, and then choose *Approve* .

16.4   Setting the Currency for Valuation Calculations

Use

Use this transaction to make certain settings so that the system uses a *condition type currency* (for example, US$ which is for US dollars, 6 decimals) when processing volumes through Valuation, while the system uses

the *company/contract currency* (for example USD, which is for US dollars, 2 decimals) for document and reporting purposes.

By making the settings described in this procedure, the system uses the *condition type currency* for calculating the value before any rounding is done using the *company/contract currency* .

Procedure

Enter transaction code VOK0.

The *Maintain Pricing* screen appears.

Choose *Condition type Condition types Definition*

The *Change View Conditions: Condition Types Overview* screen appears.

Select the condition type to be maintained. Then choose *Details* .

The *Change View Conditions: Condition Types Details* screen appears.

ⓘ

The currency that corresponds to the condition type that you select is the currency that will be used for calculating the value. The systems then calculates the value using the currency of this condition type before using the *company/contract currency* (for example, USD) for document and reporting purposes.

In the *Control data 2* section, verify that the *Currency conv.* and *Qty conversion* indicators are selected.

If they are not selected, select them as required and then choose *Save* .

16.5 Pricing Functions

Use

Use the following procedures as required in order to enter data that is necessary for the system to calculate pricing.

Entering a Fixed Price Condition [page 476]

Entering Pricing for EDQ, COPAS, Metered Sales Oil, Natural Gas [page 476]

Entering Multiple Bulletins Pricing [page 478]

16.5.1 Entering a Fixed Price Condition

Procedure

From the *SAP Easy Access* menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Contracts and Pricing* ❯ *Contracts* ❯ *Pricing Terms* ❯ *Create Condition* ▐ .

The *Create Condition Records* screen appears.

Enter **EP01** to enter fixed pricing data. Then choose *Enter* .

The *Key Combination* dialog box appears.

1. Select the level to which the condition record will apply (either measurement point or well completion, if applicable), and choose *Enter* .
   The *Create Fixed Price Condition (EP01): Fast Entry* screen appears.
2. Enter data as required.

> **i** Note
>
> - In the *Rate* field, enter the price.
> - In the *Unit* field, enter the currency.
> - In the *Valid on* field, enter the date that the condition becomes effective.
> - In the *Valid to* field, enter the date through which the condition is effective.

3. Save your entries.

16.5.2 Entering Pricing for EDQ, COPAS, Metered Sales Oil, Natural Gas

Prerequisites

For gas and oil formula-based conditions, pricing configuration is complete for the following:

The posting company in the *Define Posting Co., Gravity ID, & Scale Definition and Default Codes* Customizing node

Quotation data in the *Define Quotation Data (Link to Downstream Functions)* Customizing node

For oil formula-based conditions in which you specify values, pricing configuration must be complete for:

The gravity ID, the scale definition, and default codes at the *Define Posting Co., Gravity ID, & Scale Definition and Default Codes* Customizing node

Procedure

From the *SAP Easy Access* menu, choose *Logistics* → *Production and Revenue Accounting Contracts and Pricing Contracts* → *Pricing Terms* → *Create Condition*

The *Create Condition Records* screen appears.

EnterEP00to enter a formula-based condition. Then choose *Enter* .

The *Key Combination* dialog box appears.

Select the level to which the condition record will apply (either measurement point or well completion, if applicable), and choose *Enter* .

ℹ

When Valuation processes the pricing information, it attempts to retrieve a price first at the contract/well completion level, then at the contract/measurement point level, and finally at the contract level.

The *Create Formula Price Condition (EP00): Fast Entry* screen appears.

Enter data as required.

ℹ

In the *Valid on* field, enter the date on which the condition becomes effective.

In the *Valid to* field, enter the date through which the condition is effective.

Select a material number and choose *Details* .

The *Create Formula Price Condition: Details* screen appears.

Enter the floor and ceiling gravity and/or rates. Then go back.

The *Create Formula Price Condition (EP00): Fast Entry* screen appears.

Choose *Maintain formula* .

The *Conditions Create: Formula Terms* screen appears.

ℹ

By choosing *Repository Proposal* , you can select an existing formula and use it again.

Enter a formula description and complete the *A v B rule* field.

In the *Industry* Terms field, select an industry term. To verify and/or overwrite the industry term values, choose *Calc Rules* .

The *Maintain Conditions Create calculation rules* screen appears.

ℹ

The industry term values that appear are maintained in Customizing under *Industry Solution Oil & Gas (Production and Revenue Accounting)* → *Contracts and Pricing* → *Industry Terminology to Calculation Rule Mapping*

In the *A Term* section of the screen, enter data as required.

ℹ

In the *Quotation no.* field, enter a quotation number, which represents a posted price on which you can base contracts. (After you choose a quotation number, the system completes the *QtSrc* and *Typ* fields.)

In the *Rule* field, enter a rule, which determines the use of the calculation factors in the *Factor 1* and *Fact 2* fields, as well as any surcharge specified in the *Surcharge* field.

In the *Fact 1* and *Fact 2* fields, it is possible to enter negative values in order to calculate differentials. It is also possible to enter a negative value in the *Surcharge* field.

Save your entries.

16.5.3 Entering Multiple Bulletins Pricing

Prerequisites

For gas and oil formula-based conditions, pricing configuration must be complete for:

The posting company at the *Define Posting Co., Gravity ID, & Scale Definition and Default Codes* Customizing node

Quotation data at *the Define Quotation Data (Link to Downstream Functions)* Customizing node

For oil formula-based conditions in which you specify values, pricing configuration must be complete for:

The gravity ID, the scale definition, and default codes at the *Define Posting Co., Gravity ID, & Scale Definition and Default Codes* Customizing node

Procedure

From the *SAP Easy Access* screen, choose *Logistics → Production and Revenue Accounting Contracts and Pricing Contracts → Pricing Terms → Create Condition*

The *Create Condition Records* screen appears.

EnterEP00 to enter a formula-based condition. Then choose *Enter* .

The *Key Combination* dialog box appears.

Select the level to which the condition record will apply (either measurement point or well completion, if applicable), and choose *Enter* .

ℹ

When Valuation processes the pricing information, the system attempts to retrieve a price first at the contract/well completion level, then at the contract/measurement point level, and finally at the contract level.

The *Create Formula Price Condition (EP00): Fast Entry* screen appears.

Enter data as required. Then select a material number and choose *Details* .

The *Create Formula Price Condition: Details* screen appears.

Enter the floor and ceiling gravity and/or rates. Then go back.

The *Create Formula Price Condition (EP00): Fast Entry* screen appears.

Choose *Maintain formula* .

The *Conditions Create: Formula Terms* screen appears.

ⓘ

By choosing *Repository Proposal* , you can select an existing formula and use it again.

Enter a formula description and complete the *A v B rule* field.

Enter the item number and quotation group. Then enter the quotations (which represent the bulletins) to be used.

Enter the item number and quotation group.

Then enter the quotations (which represent the bulletins) to be used.

Choose *Accept* and save your entries.

16.6   Execute a Pricing Report

Use

Use this report to review conditions associated with a condition type or a range of condition types.

Procedure

1. At the SAP Easy Access screen, choose ▐▶ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Contracts and Pricing* ❭ *Pricing Terms* ❭ *Execute pricing report.* ❭
   The Execute Pricing Report screen appears.
2. *Enter EP in the Pricing Report field and choose Execute .*
   The Pricing Report screen (2) appears.
3. *Enter selection criteria for the report as required, such as the contract number(s) and the condition type(s). Then choose Execute .*
   The Pricing Report screen (3) appears.
4. *Review the details of the conditions records.*

16.7 Creating and Maintaining a CO2 Removal Fee Record

Use

Use this transaction to create or maintain CO2 removal fees that are incurred when a gas plant has to remove CO2 from a gas product that is being processed through the plant. Normally, the originating property injects CO2 into the well in order to produce more products from the well, but since CO2 dilutes the product quality, it must then be removed from the gas.

In exchange for removing the CO2, the gas plant retains a certain amount of the resulting product based on the flat rate established in this transaction.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Contracts and Pricing → Contracts → Other Terms → CO2 Removal Fee Processing*

The *CO2 Removal Fee Processing: Initial Screen* appears.

Choose *Create* .

The *Create CO2 Removal Fee Processing: Maintenance View* screen appears.

Enter data as required, including rate per unit of measurement that determines the removal fee in the *Rate per Unit* field.

If applicable, enter the portion of the fee that is tax deductible in the *% Fee Deduct* field.

To base product volumes on a measurement point, enter the data as required for a measurement point.

i

If measurement points are not entered, product volumes are based on all volumes from the company / venture / division of interest.

Further, the measurement that you specify here identifies the measurement point against which the total fee for removing the product will be assessed and is tied to the property/DOI from which the product originated.

Save your entries.

Using a Reference to Create a CO2 Removal Fee Processing Record

To create a CO2 Removal Fee Processing record with reference to an existing record, at the *CO2 Removal Fee Processing: Initial Screen* , enter data as required. Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a CO2 Removal Fee Processing Record

To change or display a CO2 Removal Fee Processing record, at the *CO2 Removal Fee Processing: Initial Screen* , enter data as required. Then choose *Execute*

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

16.8   Creating and Maintaining Contract Marketing Costs

Use

Use this transaction to create and maintain marketing costs at the contract, contract / measurement point, or contract / well completion level. Marketing costs are the costs involved in taking a product to market.

This transaction can be used to capture marketing costs for multiple materials.

Prerequisites

The relevant contract includes the following required base contract information:

venture

an approved division of interest

either a well and well completion or a measurement point, if applicable

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Contracts and Pricing → Contracts → Other Terms → Contract Marketing Costs*

The *Contract Marketing Costs: Initial Screen* appears.

Choose *Create* .

The *Create Contract Marketing Costs: Maintenance View* screen appears.

Choose one of the following.

Options for Entering Marketing Costs

Table 111:

Action	Follow on function
To enter data for a contract	Choose *Contract*
To enter data for a contract and well completion combination	Choose *Contract / WC*
To enter data for a contract and measurement point combination	Choose *Contract / MP*
To enter data for a contract, well completion, and measurement point combination	Choose *Contract / WC /MP*

Enter the contract number and the material number.

To establish a deduction or reimbursement amount, complete the following:

select either deduction or reimbursement for the *Deduction Reim* field

enter an amount per measurement unit in the *D/R Rt* and the corresponding basis for measurement in the *Basis* field.

ℹ

The rate is a rate per volume. It specifies the amount per measurement unit that the system multiplies by the volume in order to obtain either the deduction or reimbursement amount in Valuation.

⚠

The rate must be used in a marketing reserve word before it can be used in Valuation.

a deduction or reimbursement percentage in the *D/R Pct* field

ℹ

The percentage specifies the actual deduction or reimbursement amount that the system will use.

⚠

The percentage must be used in a marketing reserve word before it can be used in Valuation.

a fixed amount in the *D/R Fixed Amt* field

Enter other data as required, including the venture and division of interest data representing the plant that will be credited with the associated marketing cost.

Save your entries.

Result

After the required marketing cost reserve word(s) are entered in the valuation formula(s), the Valuation batch process performs the actual deduction or reimbursement in order to carry out the marketing cost calculation.

16.9 Creating and Maintaining Tax and Royalty Reimbursement

Use

Use this transaction to create and maintain both contract tax reimbursement terms and exceptions related to the settlement of certain government royalties and taxes between the seller and the purchaser.

Prerequisites

The relevant contract includes the required base contract information.

Procedure

At the SAP Easy Access screen, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Contracts and Pricing* ❯ *Contracts* ❯ *Other Terms* ❯ *Tax and Royalty Reimbursement* ▐ .

- The *Tax and Royalty: Selection Screen* appears.

Choose *Create* .

- The *Tax and Royalty: Create* screen appears.

Choose one of the following.

Options for Entering Tax and Royalty Reimbursements

Table 112:

Action	Follow-on function
To enter data for a contract	Choose *Contract*

Action	Follow-on function
To enter data for a contract and well completion combination	Choose *Contract / WC*
To enter data for a contract and measurement point combination	Choose *Contract / MP*
To enter data for a contract, well completion, and measurement point combination	Choose *Contract / WC /MP*

Enter the following data as required.

- In the *Major Product* field, enter the product code.
- In the *Effective from* field, enter the date on which the data becomes effective.
- In the *Excess ryl prc* field, enter the percentage (based on price per measurement unit) that the purchaser reimburses the seller for any excess royalty that the seller is obligated to pay.
- If the contract is to be viewed for excess royalty provisions, choose *Excess Royalty* .
- In the *Country* field, enter the country code.
- In the *Primary geo loc* , enter the state.
- Enter the name / type of severance tax.
- In the *Total Reimb Cd* field, specify whether the contract reimbursement code is total or incremental.
- In the *Tax Rate Dt* field, specify when a new tax becomes valid in relation to a contract.
- In the *Tax %* field, specify the percentage of the tax based to be reimbursed by the purchaser.It is the value that Valuation uses to calculate the reimbursement.(This applies when the tax is based on a percentage of the price per measurement unit.)
- Save your entries.

Result

The tax and royalty reimbursement data is available for the Valuation batch process, which performs the tax and royalty reimbursements.

Using a Reference to Create a Tax and Royalty Reimbursement Record

To create a tax and royalty reimbursement record, at the *Tax and Royalty: Selection Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Tax and Royalty Reimbursement Record

To change or display a tax and royalty reimbursement record, at the *Tax and Royalty: Selection Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

16.10 Creating Formulas

Use

Use this transaction to create formulas to be used when creating pricing conditions.

Procedure

At the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Contracts and Pricing* ❯ *Pricing* ❯ *Formula Repository* ❯ *Create* ❯ .

The *Create Formula* screen appears.

Enter an ID for the formula, and other data as required.Then choose *Enter* .

The *Formula Create: Formula Terms* screen appears.

Enter a description of the formula in the *Formula Description* field.Then enter data as required in the *A B rule* field, which determines how the A and B terms are individually used or combined to calculate the overall formula value.

Complete the *A Term* and *B Term* sections of the screen, which contain the formula terms that are used according to the A B rule.

Use the following fields to define the A and B terms.

> ℹ **Note**
>
> To copy details from an existing formula, choose *Repository proposal* .

Table 113:

Field	Purpose
Item number	To copy data for an existing line item to a new line, replace an existing item number with a new number.Data for the existing line item is then copied to the line with the new number.In this process, data for the existing line item remains unchanged.

Field	Purpose
Quotation group	Used to group quotations for complex pricing schemes, including average, highest, or lowest.
QtSrc	Determines the source of the quotation, such as Platt's or Reuters.
Typ (quotation type)	Classifies the type of quotation used, such as high, low, or average. For example, if a market data provider externally calculates the EDQ price for oil on a specific day, the quotation type is EDQ.
Quotation no. (quotation number)	Identifies the quotation number.
Quotation description (Text)	Description of the quotation.
Rule (item calculation rule)	This field controls how the *Factor 1, Fact2, Surcharge,* and quotation value are combined to calculate the value of that line.
Factor 1 (Calculation factor 1)	The value entered in this field is used together with the value in the *Fact2* field to calculate the line item value according to the rule you have defined.
Fact 2 (Calculation factor 2)	The value entered in this field is used together with the value in the *Fact1* field to calculate the line item value according to the rule you have defined.
Surcharge	Applied surcharge/discount
Curr. (Surcharge currency)	Currency of the surcharge, which may be different than the currency of the price quotations.
PerUn (Surcharge per unit)	Measurement unit which is used for the surcharge. For example, a surcharge can be applied to every 10 US Gallons.
UoM (Surcharge unit of measure)	Unit of measure used for the surcharge. For example, Kg, BBL.
ExTy (Exchange rate type)	It is possible to define various exchange rate types, which determines what kind of exchange rate is used.

Continue entering terms as needed for each line item.

Save the formula terms.

16.11 Maintaining Price Postings

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Contracts and Pricing → Pricing → Prices → Maintain*

The *Determine Work Area: Entry* screen appears.

Enter data as required to select one quotation. Then choose *Enter* .

The *Change View Price Posting Maintenance: Overview* screen appears.

To add a new entry, choose *New entries* .

The *New Entries: Overview of Added Entries* screen appears.

Enter the quote date, bulletin number, and price.

ⓘ

The gravity scale does not need to be entered, because it defaults based on the pricing configuration.

Save the price posting.

16.12 Maintaining Gravity Scales

Use

Use this transaction to add gravity scales for crude oil postings.

Procedure

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Contracts and Pricing → Pricing → Gravity Scales → Maintain Gravity Scales*

The *Change View Gravity scales: Overview* screen appears.

Choose *New entries* and enter the following data as required.

In the *Src.* field, enter the posting company.

In the *Grv* field, enter the gravity scale code, which is the posting company ID of the gravity scale.

In the *From* column, enter the effective from date. In the *To* column, enter the effective to date and in the *Base* column enter the base gravity. Then enter the density type.

Save the gravity scale.

Select the gravity scale and choose *Gravity scale items* . Then choose *New entries* and enter the following data.

i

See the example below for an overview illustrating how multiple gravity scale values could be entered.

In the *Type* column, indicate whether the gravity scale value is above or below a certain amount.

i

To indicate a range of values, enter from in the *Type* field and then complete the *From* and *To* fields.

If applicable, enter a flat rate in the *Flat Rate* column.

In the *Incr. Rate* column, enter the dollar incremental rate.

In the *Grv. Incr.* column, enter the gravity increment.

Save the entries.

Review the *Change View Gravity scales: Overview* screen to determine the status of the gravity scale.

i

A green light indicates a complete gravity scale record.

Example

Sample Gravity Scale Values at the Change View Gravity scale items: Overview screen

Table 114:

sclpos	Type	From	To	Flat Rate	Incr. Rate	Curr.	Per.	UoM	Grv. incr.
1	above	45		0.000	0.050	US3	1	BB6	0.1
2	from	40	45			US3	1	BB6	
3	below		40	0.000	0.150-	US3	1	BB6	0.1

17   Regulatory Reporting

Purpose

The Regulatory Reporting application area is used to produce volumetric reports based on production data.These reports are used to meet the requirements of many state and federal agencies.

Some reporting features are listed below.

Trial Reports

If you need to run a trial report, you can run a report as often as required in order to extract data from the system again. You can execute both current and amended reports on a trial basis.

Prior Period Adjustments

The system includes any relevant prior period adjustments (PPAs) when calculating amounts that are due. You can produce an amended report when PPAs result from (a) volumes or values that were reported incorrectly, or (b) incorrect master data assignments, such as when a property is assigned to the wrong lease.

The List Viewer

After processing a report, the system generates reports in the form of flat files in the List Viewer as well as journal entries.

You can print some reports, or flat files, directly from the List Viewer. For other reports you must download data from the List Viewer as a *.txt* file and then merge the data with the appropriate Microsoft Word template to create the report.

See also:

Downloading and Printing Oil & Gas Reports in MS-Word

17.1   The Production Regulatory Reporting Framework

Purpose

The Production Regulatory Reporting Framework tool is the central reporting tool for reporting production volume data to U.S. federal and state agencies.

Federal and state agencies collect the reports for statistical, tax, regulatory, and environmental reasons. Production regulatory reporting is based on well completions volumes, or on measurement point volumes.

You can do the following with the Framework:

Create the required master data for reporting – This entails creating a Regulatory ID for each well completion (or measurement point) that you are reporting on (see Creating Master Data for Regulatory Reporting [page 493]).

Generate production regulatory reporting – this involves pulling the relevant production volumes together from PRA-Production (see Generating Reporting Data for Regulatory Reporting [page 495]).

View report history – You can view reports and report data that have already been created (see Displaying Reporting Data [page 497]).

View changed well completion records – View records that were changed as a result of a prior period adjustment (see Displaying Reporting Data [page 497]).

A distinction should be made between generating the reports in the ERP system and actually submitting the reports to the relevant federal or state agency.

- "Generating the report" in the SAP system means: pulling together all the relevant production reporting data within the SAP system, and creating reports that are then stored on the database as production records, which can then be used to submit the physical (or electronic) report to the state agency.
- "Submitting the report" means, you use the ERP data and send an electronic or paper report to the agency, based on the ERP report data that you have generated.

> ℹ **Note**
>
> SAP provides software for generating the report, but report submission occurs outside the SAP system. The actual filing of the report can be done either electronically, or by paper, depending on the specific state agency requirement. Most states now expect filing to be done electronically, however.

Most entity data that you need (wells, well completions) will already exist in PRA-Production.

State reporting:

Table 115:

Report name	Documentation link
TexasH-10	Texas Form H-10 [page 502] , Creating Master Data for the Texas H-10 Report [page 505] , Generating Reports for Texas H-10 Reporting [page 507]
ArkansasForm 7	Using The Arkansas Form 7 Report [page 511]
Oklahoma Form 1004	Using Oklahoma Form 1004 [page 524]
Wyoming	
North Dakota Reports	Using the North Dakota Reports [page 520]
Louisiana OPG/R5D and WR1 Reports	Using the Louisiana OGP/R5D Report (New) [page 517] Using the Louisiana WR1 Report [page 518]
California Report OG110	Using California Report OG110 [page 514]

Federal reporting:

> **i Note**
>
> MMS reporting (Minerals Management Service): For a complete description of MMS reporting and all the requirements associated with it, please refer to the *MMS Production Reporting Handbook*(an MMS publication).
>
> The MMS also has extensive information on its web site that you can access for more information on filing MMS reports.
>
> - Wells previously reported on MMS 3160 are now on the OGOR reports. On the master data records, there is now a well / MMS operator number assignment, a well / (agency or MMS) lease assignment, a disposition / metering point assignment, and a volume type and product to disposition code or adjustment code assignment.

Federal reports that you can run with the Framework:

MMS-PASR (Production Allocation Schedule Report) – for federal offshore production regulatory reporting.

Prerequisites

You will first have to make the relevant customizing settings in the IMG for production regulatory reporting.

You can make those settings in customizing under: ▶ *SAP Reference IMG* ❯ *Industry Solution Oil & Gas (PRA)* ❯ *Production Tax and Regulatory Reporting* ❯ *Regulatory / Production Reporting* ◀. There are four IMG activities, which are used to do the following:

- Set up which regulatory agencies and reports will apply
- Set up which customizable fields you want to use,and what values those fields will have on the Report master data set-up screen, and the attributes of those fields.
- The reporting levelthat you are going to use (company code, or company code plus organizational levels)
- The output options– how you want the report data to be output.

For a complete description of how to customize this area, please refer to the IMG documentation for each IMG activity listed above.

17.1.1 Maintaining Operator and Contact Information

Use

Use this to create operator and contact master data, which is required for production regulatory reporting.

Before you can submit production regulatory reports to state agencies (or federal agencies), you will have to first maintain the operator and contact information. This master record is set up per report, state, and reporting unit of your company. You create one record per agency and report, and the record identifies the relevant operator of the lease, and internal contact person in your company, who will serve as a contact with respect to the state agency.

Procedure

1. From the SAP Easy Access menu, choose *Logistics à Production and Revenue Accounting à Production, Tax and Royalty Reporting à Production Regulatory Reporting à New Regulatory Reporting à Maintain Operator and Contact Information*

The *Display View "Regulatory Reporting Operator and Contact Xref": Details* screen is displayed.

On that screen, select *change/display* , and then *New Entries* . In the *Rep.Agency* field, enter the relevant agency that you will be reporting to.

In the *RegReport* field, enter the relevant report that you will be submitting (the report and state for which you are creating the operator and contact information).

In the *Company (ORG1)* field and *Reg.Level* fields (2,3,4), enter the reporting level that is relevant for the reporting operator and contact.

ⓘ

Note that the relevant reporting level will already have been set up for your company in customizing (in the IMG under: *Industry Solution Oil & Gas (PRA) à Global Settings à Maintain Organizational Levels*). For example, if, in customizing, you have defined that reporting will be at org.level 3, on the operator and contact screen, you would enter the relevant company code, the relevant org.level 2 number, and the relevant org.level 3 number.

In the *Regulatory Reporting Operator and Contact Xref* screen area, you enter the relevant operator and contact information for the specific report:

Table 116:

Operator Code	Enter the code that the agency sent you, which represents your organization; the organization that is submitting the re- port. It is the code that the agency uses to identify your company or organizational unit.
Operator Name	Enter the name of your company.
Customer	Here, you enter a "customer" number, which will represent the internal person in your company, who will be responsible for the report. This person will serve as the contact for the state agency, for reporting issues. The internal contact is re- ferred to as a "customer" to reflect the term that oil and gas companies use.

Save your record.

Result

The operator and contact are now saved as master data in the system for the specific report and agency that you chose.

17.1.2 Creating Master Data for Regulatory Reporting

Use

Use this to create the required master data for Production Regulatory Reporting.

The first step in generating the production regulatory reports is to create the relevant master data. Master data creation is used to do two things:

- Set up the relevant Regulatory IDs for reporting

- Linking SAP Production entity IDs with state agency IDs

The reason that this is necessary is that the state agency will often have a different ID for production entities (well completions and measurement points) than the ID used in your SAP system. You will thus need to create IDs that you can then send to the state agency, and/or link SAP IDs with state agency IDs, so that the agency IDs can be identified in the SAP system (cross-reference is made and saved in tables in SAP). This maps the SAP ID to the state agency ID, for identification purposes.

On the *Report Master Data Set-Up* screen within the Production Regulatory Reporting Framework (see: The Production Regulatory Reporting Framework [page 489]), the *Data* and *WC Reg. ID* screen tabs are used to create master data.

Table 117:

Data screen tab	This is the "value list setup screen". This screen tab is used to set up the values for the drop-down list boxes for specific fields on the WC Reg.ID screen tab.
WC Reg. ID screen tab	This screen tab is used to create a Regulatory ID for each SAP Production entity that you will be reporting on.

Procedure

1. From the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Production Regulatory Reporting → New Regulatory Reporting → Master Setup and Report Submission* .

The *Report Master Data Setup for <Report> - Select* screen is displayed.

1. In the *Rep.Agency* field at the top of the screen, enter the relevant regulatory reporting agency (the agency that you will be reporting to) from the drop-down list.

1. In the *RegReport* field, enter the relevant report.

i

The regulatory report and state that you choose here will dynamically determine which screen tabs appear on this screen, and which fields will appear on those screen tabs.

1. Select *Create* .

1. Select the *Data* screen tab. Entries that you make on this screen tab become the fixed values in the drop down list boxes for the corresponding fields on the *WC Reg. ID* screen tab. For example, if you choose *lease*

number for the *Field Name* field, the values that you enter will then appear in the drop-down list boxes of the *lease* field on the *WC Reg. ID* screen tab as fixed values that can then be chosen during master data creation.

On the *Data* screen tab, you would – as an example - select *Lease Number* in the field name field, then choose *Display / Change* , add a Value and a Description in the columns, and *Save* . That record would then appear in the *WC Reg. ID* screen tab in the list box in the *Lease Number* field. This screen tab is also used to enter state-assigned values for each field in the *Field Name* field. The Data screen tab can also supply the values for the fields on the *PRA – Agency Xref* screen tab.

1. Select the *WC Reg. ID* screen tab.

1. Now enter the relevant master data on the *WC Reg. ID* screen tab. This screen tab is used to create the regulatory IDs for each well completion that you are reporting to the state. For example, if you are going to be reporting on well completions, you will have to create a WC Reg. ID for each well completion that you are going to be reporting on. You would thus enter the well completion, the reporting month, and any other reporting master data required by the specific state agency.

1. Choose *Save* .

There are several screen tabs that appear on the *Report Master Data Set-Up* screen, depending on the agency and report that you choose. In addition to saving data on the Data and WC Reg.ID screen tabs, it might also be necessary to enter data within the following screen tabs:

Table 118:

BAs	Business Associates screen tab. This screen tab takes you to the *Reg Reporting BA Maintenance:* screen. You enter the report type and select *Execute* , and the *Display Reg. Reporting BA Maintenance: Application Maintenance* screen is displayed. It shows the link between BAs and agency (MMS) leases.

MP XRef	This screen tab is used to link an SAP-assigned measurement point ID to the ID used by the state agency.
	The MP Xref is used if you are processing OGOR B or OGOR C (not OGOR A). It is also used in conjunction with the MMS-PASR and New Mexico reports.
	On this screen tab, you enter the relevant well completion. The system displays all the measurement points linked with it. You can assign measurement point numbers.
	This screen tab is displayed for those reports in which the MP cross reference flag is set in Customizing. The measurement point cross reference can be maintained for measurement points, which are found based on the following conditions:
	- The agency / report name / major product code / volume type / product code combinations defined in the cross reference setting. - The measurement points which have measurement point allocation profiles defined for the combinations of major product code / volume type / product code as described above, and which are linked to the selected well completion at the selected effective date.
PRA Agency Xref	On this screen tab, you can create a link between your SAP-assigned ID and the agency-assigned ID for specific Production entities (such as transporter ID).

17.1.3 Generating Reporting Data for Regulatory Reporting

Use

After you are finished setting up your master data for production regulatory reporting (see Creating Master Data for Regulatory Reporting [page 493]), you can generate the reports in the ERP system.

On the *Report Master Data Set-Up* screen, within the *Monthly Processing* screen tab, you process all the wells that you previously created master data for on the *WC Reg. ID* screen tab. You can report on either a current or amended (changed) basis.

There are three screen tabs within the *Monthly Processing* screen tab:

Table 119:

Submit Reports	You use this screen tab to generate the reports. You enter the organizational data, month and year, and current or amended status.

Reporting History	You can use this screen tab to view report data that has already been created.
Changed Well Completions	You can use this screen tab to view/maintain changes to well completion records based on prior period notifications (PPNs). You can also use this screen to exclude specific set of well completions from amended (or replacement) reports.

Reporting format options

The reports are generally based on monthly reporting of volumes. You can run a current or amended report and send it to the relevant agency electronically using a CSV file (a comma-separated output file) or an ASCII file. You can only send one finalized report per month to the agency, but reports can be regenerated in the system as many times as you need until they are finalized. You can only carry out one final run per report period (month). Finalization of reports after the fact can be carried out, for example, report results can be checked and those results can be finalized. The CSV output file or ASCII file can be created in a separate step. The generated data is stored as a report in the ERP system in the database.

Replacement reports - If you change data and reprocess it, the report is then viewed as a *Replacement Report* . You can send as many replacement reports as necessary. For any particular reporting month, you can generate multiple versions of amended reports. But a new version of amended report can only be created after the previous version is finalized.

Prerequisites

The relevant master data for the production entities that you will be reporting on has to have already been created.

Procedure

1. From the *SAP Easy Access* menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *New Regulatory Reporting* ❯ *Master Setup and Report Submission* ❯ .The *Master Data Set-Up* screen is displayed.On that screen, select the *Monthly Processing* screen tab.
2. From *Monthly Processing* , select *Submit Reports* .
3. Enter the relevant data (company, date range, etc.).
4. Choose *Select* (the *Execute* icon).
5. In the ALV area at the bottom of the screen, the system provides a list of records that correspond to your search criteria. This gives you options on what to run.
6. Select one of the records and then select *Create* . That triggers the batch job in the system.
   For each record that is displayed in the ALV screen area, there are icons, which are used for the following:
   - **View Report icon** - To view the report that was submitted, select this icon. *The Choose Report Type* dialog box is then displayed. This dialog box gives you two options on how you would like the report data to be output. If you would like to create a paper copy of the report, select *Hardcopy (Smartform*) and then select *Continue* . If you would like to have the report in the agency format, select *File* and then select *Continue* .

- **Finalize Report icon** - To finalize the report (indicate to the system that the report run is final), select the *FinalizeReport* icon. If you have not yet finalized the report, you can run the report again, and you can finalize it, after which you cannot then rerun it. However, you can re-run a replacement.
- **Regenerate Report** – You can use this to regenerate – rerun – the report. You can regenerate reports as many times as you need to, until they are finalized.
- **Replacement Report –** Select this to create replacement reports or amended reports.
- **Logs** – Select this icon if you would like to view the error log for the job. On the dialog box that is then displayed, you can choose either *Report Generation or Report Finalization* . You can view the log to see exactly at what step the report generation failed.
- **Cancel processing** – You can reset the status to *Failed* . You can do that when the job that you would like to cancel has a status of *Finalization Running* , *Generation Running* , or *Scheduled/Rescheduled* . If the job is scheduled only, this deletes it; if the job is already running for any reason, selecting this resets the status to *Failed* .

17.1.4 Displaying Reporting Data

Use

You can query records of what you reported for a specific month for a specific reporting agency within the Production Regulatory Reporting framework.

For example, you can see what was reported to a specific state agency for March, 2001 for company code 101.

Procedure

1. From the *SAP Easy Access* menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting Production Regulatory Reporting New Regulatory Reporting Master Setup and Report Submission* .The Report Master Data Setup for <Report> - Selectscreen is displayed.
2. Select the *Monthly Processing* tab, and then choose the Reporting Historyscreen tab.
3. On the *Reporting History* screen tab, enter the relevant data for your search: the company, the organization levels, the relevant report type, the run status (finalized report, etc.), and the production or reporting month. The *Sub.Repor* " is the reg.report that you would like to query.

> ℹ **Note**
>
> Usually, the production month and the reporting month are the same. However, for an amended report, the production month is not always the same as the reporting month, because amended reports are reports that are sent in after the report is submitted.

1. Choose *Select* (the *Execute* button). When you select *Execute* (*Select*), the screen displays two ALV list screen areas at the bottom of the screen. The top ALV area is for the header data for the records that you queried; the bottom ALV is for the detail data.
2. You can now select *Print Report* . That allows you to view a copy of the report that will be submitted on paper to the regulatory agency, with all the relevant data from your search added to it. You can choose *Print Preview* if you just want to view it, or you can print immediately.

Viewing Changed Well Completions

If you have already sent a regulatory report to an agency, it can occur that the relevant volumes change due to prior period adjustments (PPAs) and reallocated volumes, after the report was submitted to the agency. If that happens, you then have to re-report using an amended report.

You can use the *Changed Well Completions* screen tab on the *Monthly Processing* tab to view a list of well completions that have been reported, and create or delete entries from the list of well completions that have to be re-reported.

1. On the *Changed Well Completions* screen tab, enter the Production month and year, and the company code and org. level.
2. Choose *Select* (the *Execute* icon).

In the *Reallocated Well Completions* screen area at the bottom of the screen (ALV), the system displays all the records that match your search criteria. The ALV displays a worklist of amended reports, showing the wells that changed since the last report finalization, and those well completions that will be re-reported and deleted in the next amended report run.

You can also create records from the *Changed Well Completions* screen tab. To do that:

1. Select *Create* .
2. Enter the well completion and production month and year.
3. Choose *Save* .

The record that you created will now appear in the ALV screen area at the bottom of the screen.

You can also delete records from the ALV list of queried records on the *Changed Well Completions* tab. To do that, from the ALV, select a record and then select *Delete Line* .

To exclude records from amended report

You can exclude particular set of records from next generation of amended report.From the *Re-allocated Well Completion Screen* :

1. Choose a particular row or multiple rows and select *Exclude* . A pop up requesting you to confirm the exclusion appears.
2. Choose *Yes* .

An *X* mark appears in the ALV column *Exclude RWC.* Related well completions belonging to the same lease (like for MMS PASR reports) or pool code (like NM C115) are also excluded.

Excluded records do not appear in the amended report.

When amended report is finalized, all re-allocated well completion records are deleted except for the well completions that were explicitly marked as excluded (by choosing X in the *Exclude RWC*).

To include records in amended report

By default all re-allocated well completions appearing in the ALV grid are included in the next amended report generation except for records with X mark. These excluded records can again be included in the amended report. From the *Re-allocated Well Completion Screen* :

1. Select a particular row or multiple rows and select *Include* .A pop up requesting you to confirm the inclusion appears.
2. Choose *Yes* .

3. All selected records and related re-allocated well completion (like under the same lease or pool code) are included and the *Exclude RWC* column is blank for these re-allocated well completions.

The Regulatory Reporting Monthly Exception Report

An *Exception Report* exists in the system. You can use it to view well completions that are not assigned to a state or federal Regulatory ID. For more information on the Exception Report, see Using the Reg.Reporting Monthly Exception Report [page 499] .

17.1.5 Using the Reg. Reporting Monthly Exception Report

Use

Use this to run monthly exception reports for Production Regulatory Reporting.

The Exception Report displays all well completions that are not assigned to a state or federal regulatory ID, based on the selection criteria that you choose. This allows you to identify and reprocess those well completions, if you want. You can create regulatory IDs for them as master data using the Production Regulatory Reporting 'framework' (see Creating Master Data for Regulatory Reporting [page 493]).

The data that the system retrieves from the database is based on the existence of a well completion dated record for a given month and year. The system retrieves data from the well, well completion, and well completion dated records. All those records that do not have a regulatory ID will be listed.

Procedure

At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Production Regulatory Reporting → New Regulatory Reporting → Master Setup and Report Submission* .

The *Report Master Data Setup* screen is displayed.

Choose *Goto → Exception Report* .

The *Regulatory Reporting – Monthly Exception Report* screen is displayed.

If you are already starting from the Production Regulatory Reporting Framework screen (*Report Master Data Setup* screen), choose *Goto → Exception Report* .

- On the *Regulatory Reporting Monthly Exception Report* screen, enter the relevant search criteria that you would like to use.

Field explanation :

Table 120:

Country key	The country in which the well is located, as defined in the well completion records.

Primary geographic location	The state in which the well is located, as defined in the well completion records.
MMS flag	If you set this flag, the report, when run, will search for federal (MMS) Reg.IDs. If it is not set, the search will look for state Reg. IDs.
Company	The company code.
Organizational levels (1, 2, 3, 4)	These organizational levels are subdivisions of a typical upstream oil company. They could be set up for example as: 1 = Company, 2 = Regional level entity, 3 = Division-level entity, 4 = District-level entity.
Producing method	The type of producing method at the well. For example, gas lift, hydraulic pump.
Well class	The type of well. For example, air injection, gas well, oil well, water disposal, water injection.
Status	The current status of the well: producing, shut-in, injecting.
MMS ownership flag	Indicates whether the well is on state, federal, or Indian land.
Company operated	Indicates whether the well is company-operated, or third-party operated. Usually, this is set, as most Reg.IDs are set up for company-owned wells.

- Enter your search criteria and then select *Execute* .

Result

The *Regulatory Reporting – Monthly Exception Report* ALV screen is now displayed, which lists the well completions not assigned a regulatory ID.

17.1.6 Using the Regulatory Reporting Monthly Adjustment Report

Use

The PRA Regulatory reporting framework provides a mechanism to edit the Minerals Management services reports (Oil and Gas Operations Report (OGOR) A, B, C, and Production Allocation Schedule Report (PASR)) and store the reports that have been adjusted according to the Federal Agency requirements.

Prerequisites

You must have done the following:

- To enable Production Regulatory Reporting Enhancements:
  - In Customizing, choose ▌▶ *Industry Solution Oil & Gas (PRA)* ❱ *Global Settings* ❱ *Activate Configurable Edits* ❱
  - *Execute*
  - Choose *Edit#30 - MMS Override Groups and Edits*
- Generated Minerals Management Service (MMS), OGOR and PASR reports using the Production Regulatory reporting framework.
- Completed the report generation successfully with the status-12 (*Report Generation Completed*).

Activities

- To go to the *Adjust MMS Reports* , from the *SAP Easy Access* menu, choose ▌▶ *Logistics* ❱ *Production and Revenue Accounting* ❱ *Production* ❱ , ▌▶ *Tax and Royalty Reporting* ❱ *Production Regulatory Reporting* ❱ *New Regulatory Reporting* ❱ *Adjust MMS Reports* ❱ .
- The adjustment screen is displayed which is split into three sections:
  - Filter Criteria – Selection criteria
  - Header Information
  - Detail Information
- Choose the relevant MMS report from the options OGOR A, B, C or PASR.
- Enter the company code, reporting month and year (MMYYYY), *Amended/Current* (*A/C*) indicator and other relevant data for your search for OGOR A, B and C.
- Enter the company code, reporting month and year (MMYYYY), *Amended/Current* (*A/C*) indicator, *Facility Number* , *Output Facility* and *Sales Facility* for PASR.
- Choose *Execute* (*Select*).
  In the ALV grid the system displays the *H eader* information in the top ALV; in the bottom ALV, it displays the *Item* (*Detail*) information on double clicking on any row of the *Header* information.
  On the screen, the application toolbar also provides the following buttons:
  - *Execute* – Select
  - *Log* – Any errors while processing would be recorded in this file.
  - *Check ABC Relationships* – This button would provide a quick check on the comparison of the A/B/C report volumes and check if they are fine. If not then the log file reports the error.
  - *Edit* – The option to modify only the records that are relevant for modification in the header and detail information for each of the reports.
- Select the *Edit* button to modify the report and only the relevant columns in the ALV grid detail information are ready for modification.
- Save the changes that you have modified by choosing *Save* . On change of the existing data in the status of the regulatory report generated is changed to a new status *Report Adjusted* ; *Status code – 25* .
  New version of the detail records are created each time a *Save* is done with the current user Id and timestamp.
- Adjust the Current/Amended reports before finalization.

See Also

For more information, see:

- Using the MMS-OGOR Report [page 530]
- Using the MMS-PASR Report [page 526]

17.2 Reporting with the Regulatory Reporting Framework

Purpose

The Production Regulatory Reporting Framework is the central tool used for reporting production volumes to U.S. federal and state agencies.

The following state reports can be processed using the Framework:

Table 121:

Report	See:
Arkansas Form 7	Using The Arkansas Form 7 Report [page 511]
California OG110	Using California Report OG110 [page 514]
Colorado Form 7	Using the Colorado Form 7 Report [page 516]
Louisiana OGP/R5D and WR1	Using the Louisiana OGP/R5D Report [page 517] Using the Louisiana WR1 Report [page 518]
New Mexico C115	Using New Mexico Report C115 [page 519]
North Dakota Reports	Using the North Dakota Reports [page 520]
Oklahoma Form 1004	Using Oklahoma Form 1004 [page 524]
Texas H-10	Texas Form H-10 [page 502]
Texas P1B	Using the Texas P1B Report [page 509]
Wyoming Form 2	
MMS-PASR	Using the MMS-PASR Report [page 526]
MMS-OGOR	Using the MMS-OGOR Report [page 530]

17.2.1 Texas Form H-10

Definition

The Texas Form H-10 report is aTexasstate report used to annually report well injection and disposal volumes. The report is submitted to the Texas Railroad Commission (Texas RRC).

The Texas H-10 Report is a standardized report based on a specific state agency (Texas RRC) requirement, and is based on injection wells. Reporting is at the company code/ organization level.

The report:

Is submitted per injection/disposal well in the field

Reports the total volume of liquid and/or gas injected for each month

Reports all fluid types injected or disposed during the reporting cycle

Reports pressures and volumes for the period since the last annual monitoring report was filed

Reports the minimum and maximum annulus pressure (between tubing and casing)

The report is mailed to you by the Texas Railroad Commission. You fill it out and send it back to the Texas RRC.

Unlike most production regulatory reports, it is not a monthly report, but a yearly report. The purpose is to report all injectant volumes used in a well/well completion for a specific lease. Well operators who produce oil and gas inTexashave to file the Texas H-10 Report. The report – when fully complete – has to meet the reporting requirements as developed by the Texas Railroad Commission (Texas RRC).

In the field, liquid or gas is injected into a well to increase the pressure in the reservoir, when there is not enough pressure from within the reservoir to get material to the surface at the required rate for production.

One of the reasons for reporting is so that the state can maintain environmental data on well production. Injection and production information (pressures and volumes) have to be reported per well. The transactional data (production data) for this can be retrieved from the Production area of PRA.

For more information on Texas H-10 reporting, please refer to the following Texas Railroad Commission (RRC) websites:

Railroad Commission ofTexasRules: www.rrc.state.tx.us/tac/rule.html

Railroad Commission ofTexasForms – guidelines for computer-generated hardcopy forms: www.rrc.state.tx.us/divisions/og/computer-forms/ogicf.html

Hardcopy format (you can view the Texas Form H-10 here): www.rrc.state.tx.us/divisions/og/form-library/h10.pdf

File format (Electronic Public Information – Electronic Data Interchange H-10 record): www.rrc.state.tx.us/edi/eia001h0.html

There are two steps that are required when you report using the SAP system for the Texas H-10 Report:

Setting up the required master data, and

Generating the report in SAP

A third step – outside of the SAP system - is to use that generated data to actually submit by sending it to the Texas Railroad Commission.

The file format for the report is mandated by the Texas RRC.

Master datafor the Texas H-10 Report is created within the Production Regulatory Reporting "framework transaction" (O3UREP_MASTER, menu path: *Logistics à Production and Revenue Accounting à Production Tax and Royalty Reporting à Production Regulatory Reporting à New Regulatory Reporting à Master Data Setup and Report Submission*).

The data required for reporting can be retrieved from data stored in the PRA Production module in the ERP system, but you will also need to create additional master data for the H-10 Report (district codes, gas wells, etc.).

See: Creating Master Data for the Texas H-10 Report [page 505]

Report generation– The Production Regulatory Reporting framework (O3UREP_MASTER) is used to generate the report (the reporting framework is the central tool in PRA used to submit production regulatory reports).

See: Generating Reports for Texas H-10 Reporting [page 507]

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When we say "generate the report", we do not mean submit the report. To generate the report means to "pull together" all the required data for report submission in the ERP system. To "submit the report" means to send the report to the Texas Railroad Commission.

The following data is output when the report is finalized:

Header information:

Operator

Report type

District

Record type

City

State

Zip code

Detail information

Operator

Report type

District

Record type

UIC control number

Cycle month

Average injection PSIG (pounds per square inch)

Maximum injection PSIG

Volume

Lease number

Volume injection bbls (barrels)

Volume injection MCF

Well number

Field number

SW inj. (salt water injected)

FW inj. (fresh water injected)

BW inj. (brackish water)

Air injected

Gas injected

CO2 injected

Other injected

17.2.1.1 Creating Master Data for the Texas H-10 Report

Use

Use this to create the master data that you will need for Texas H-10 reporting.

Most of the master data – representing PRA entities - that you will need to generate Texas H-10 reports will already exist in PRA Production, but there is additional master data that you will need to set up for reporting (for example, the Texas RRC district code). You can do that here.

Proceed as follows:

1. At the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Production, Tax, and Royalty Reporting Production Regulatory Reporting New Regulatory Reporting Master Setup and Report Submission* .

The *Report Master Data Set-Up ...* screen is displayed.

Enter the relevant reporting agency and the relevant report

1. In the *Rep. Agency* field at the top of the screen, select *Texas Railroad Comm.* from the drop-down list box for that field.
2. In the *RegReport* field, select *Form H-10* .

Screen set-up: maintain fixed values for relevant input fields on the WC Reg ID screen tab

Select the *Data* screen tab. Data that you enter on this screen tab is used to maintain fixed values for input fields on the next screen tab - the *WC Reg.ID* screen tab.

For example, if you select *Texas Field Number* and enter values for it and then save those values, the values will then appear in the drop-down list for the *Field No* . on the *WC Reg. ID* screen tab.

The drop-down list box for the *Field Name* field contains all the fields that can be maintained for the report, based on your customizing settings. To view them, select the search help directly at the right of the *Field Name* field.

From the search help for *Field Name* , default the first relevant field into the *Field Name* field by double-clicking on it.

Now select *Display/change* . This sets up the screen for data entry.

Next, in the ALV list area below the *Field Name* field, maintain values for that field - in the *Value* and *Description* fields. The values that you maintain here for the field will be used as the drop-down fixed values for that field on the *WC Reg. ID* screen tab screen. After you have finished the first field, select the next field from the search ID for the *Field Name* field, and continue on until you are finished with all the fields in the *Field Name* drop-down list. When you have entered values for all of the fields that you intend to use on the WC Reg. ID screen tab, choose *Save* .

The relevant fixed input field values are now saved and can be used.

Enter the relevant reporting well and lease master data

Select the *WC Reg. ID* screen tab. This screen tab is used to maintain the well master data for Texas H-10 reporting, specifically, well completions, effective date ranges, lease numbers, districts, etc. The well completion is the basis for injection reporting.

Enter:

- A relevant well and well completion (the well completion consists of two fields: well number, and well completion number)

- The effective month (Texas H-10 is an annual report, but month is still valid, because you select a start month, which does not have to be January. You may report from February of one year to the end of January of the next, for example). The month here corresponds to the "reporting cycle" start month in Texas Form H-10.

- District (this is the district number from the Texas RRC point of view)

Enter data for either:

- a) *Lease No.* (the RRC oil lease number - if an oil lease is involved), OR

- b) *Gas Well No* . (if the lease is a gas well lease)

- The *Com.PermitNo* (commingled permit number)

- The *Field No.* (the oil field ID for the field that you are reporting on)

- *Injection Source* (an example is: "fresh water"). The specific injectant that was used.

Comments on data entry:

Please note that you create one well completion record after another on the *WC Reg.ID* screen tab until you have entered all the relevant well completions. When you save each record, it will then be dynamically listed in

the ALV list area at the bottom of the screen. You can either enter each record and save one after the other, or enter all the records and then save.

Create with reference - You can create one record, and then use Shift + F7 to default the field entries for that record into the screen, where you can use them when creating the next record. This allows you to maintain many similar records in a fast manner.

Repeat this for each well that you are going to report on. Select *Save* .

Maintain the relevant lease operator and contact cross reference for the lease that you will be reporting on

From the *Report Master Data Set-Up...* screen, in the menu, choose *Goto Reg. Operator* (or, from the SAP Start menu, choose *Logistics Production and Revenue Accounting Production, Tax, and Royalty Reporting Production Regulatory Reporting New Reg. Reporting Maintain Operator and Contact Information)*

The " *Display View Regulatory Reporting Operator and Contact Xref: Overview* " screen is displayed. On that screen, select *Display/change* and then *New Entries* .

The *New Entries: Details of Added Entries* screen is displayed

On that screen: in the *Rep.Agency* field, enter *TXR* (Texas RR Commission). In the *Reg. Report* field, enter *H_10* (Texas H-10 Report). Enter the company code and organizational levels that apply (for the H-10 Report, you report at a company code level, thus enter the org. level that you will be reporting under). Enter the operator code for the operator, and the operator name, and customer name (the "customer name" is just another name for "operator").

Save

When you are done creating your master data, you can move on to:

17.2.1.2 Generating Reports for Texas H-10 Reporting

Use

Use this to generate ABAP reports for Texas H-10 reporting.

There are various ABAP reports that you can run from within the Production Regulatory Reporting framework. You use the *Monthly Processing* screen tab on that screen to generate the reports.

You can do the following things from within the *Monthly Processing* screen tab:

Submit reports – generate ABAP reports that pull together the relevant production data for Texas H-10 reporting.

Reporting history – you can use this to view reports that were already created.

Changed well completions – allows you to view/maintain/exclude (from amended reports) wells changed due to prior period notifications (PPNs).

Prerequisites

Master data for Texas H-10 reporting has to have been set up. See: Creating Master Data for the Texas H-10 Report [page 505]

Procedure

Generating reports

From the *SAP Easy Access* menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting Production Regulatory Reporting New Regulatory Reporting Master Setup and Report Submission* . The *Report Master Data Set-Up* screen is displayed.

Select *Monthly Processing* (screen tab). The *Report Generation of Texas Railroad Comm. – Form H-10* screen is displayed.

Select *Submit Reports* .

On the *Submit Reports* screen tab, select *Create* .

Enter the relevant reporting company code (and org.level, if relevant), as well as the relevant reporting month and year (the month is the start month for that reporting cycle). Enter either*C*for current report, or*A*for amended report (if the report is the initial report, enter*C*, if you are amending an already-created report, select*A*. A new version of amended report is created after finalization of the previous version).

Choose *Save* . The report is generated.

In the ALV list area at the bottom of the screen, the system will dynamically list the reports that you generate. The execution status shows the status of the report, as: failed, completed, etc. The four icons for each record are:

Logs – If you select this, the system displays a dialog box, from which you can display technical information on the status of the job runs.

Regenerate report – You can rerun the report.

View report – If you select this, the system then displays a dialog box with options on how you want to display the report: to display a list that you can print out, select *hardcopy* . To produce a list that can be sent electronically, select *File* .

Finalize report – To finalize the report, select this.

To display a list of reports that have already been generated

On the *Monthly Processing* screen tab, under *Submit reports* , enter the relevant company code and organizational level, as well as the month (start month) and year. In the A/C Indicator field, enter C if the report is an initial report (C for "current"), and A if the report is an amended, non-initial report.

Select *Execute* to run the ABAP report. In the ALV display at the bottom of the screen, the system displays a list of records based on your search criteria. From that list, you can choose one record and then choose one of the four icons for that record. The execution status shows the status of the report, as: failed, completed, etc. The four icons are:

Logs – If you select this, the system displays a dialog box, from which you can display technical information on the status of the job runs.

Regenerate report – You can use this to regenerate the report.

View report – If you select this, the system then displays a dialog box with options on how you want to display the report: if you choose hardcopy, the system produces a list that you can print out. If you select File, the system produces a list that can be sent electronically.

Finalize report – You can use this to finalize the report.

Reporting History

You can use this to display reports that have already been generated.

From the *Monthly Processing* screen tab, select the *Reporting History* screen tab.

Enter the company code, month and year, and other relevant data for your search.

Select *Execute* (*Select*).

In the ALV list at the bottom of the screen, the system displays the header information in the top ALV; in the bottom ALV, it displays the item information.

Changed Well Completions

You use this screen tab to display well completions that have been changed due to prior period notifications (PPNs).

From the *Monthly Processing* screen tab, select the *Changed Well Completions* screen tab.

Enter the company code and org.level(s), and the relevant month (start month for that reporting cycle) and year.

Select *Execute* (*Select*). The system displays a list of records for well completions that have changed due to PPNs (*Reallocated Well Completions*). For more information on PPNs, see: Prior Period Notification [page 196]

17.2.2 Using the Texas P1B Report

Use

Use the Texas P1B report to report oil and gas production volumes to the Texas Railroad Commission (Texas RRC).

The P1B report is used to report oil lease volume dispositions, as well as gas dispositions, including beginning and ending inventories. You can designate the P1-B report as partially unitized. An oil lease number is needed

for the Texas P1B report. You can also designate a "special project" that the well completion belongs to for the P1B Report.

Particularities of the Texas P1B Report:

- The reporting period is the reporting month
- The well completion is the reporting unit
- The district is the reporting geographical unit.

You can run the report in current or amended mode.

Procedure

Follow the procedures outlined in the documentation: The Production Regulatory Reporting Framework [page 489] .

When setting up the Texas P1B report, and processing it, use the following: P1B: Mn Suppl. Rpt (P1B Report).

17.2.3 Using the Texas PR Report

Use

Use this to carry out regulatory reporting for the Texas PR Report (Texas Production Report).

Features of theTexasPR Report:

- Electronic filing (e-filing) is supported. Smartforms are supported for online e-filing of report data. The Smartforms replace the old hardcopy filing contained in the Texas P1 and Texas P2 reports). The Texas PR report also supports EDI filing.
- Amended and current reports can be processed.

> ➡ Tip
>
> The Texas PR Report was introduced, replacing the Texas P1 and P2 Reports, in order to meet new Texas Railroad Commission (Texas RRC) reporting requirements. One major part of that was to enable electronic filing of reports. The Texas PR Report consolidates reporting functionality that was previously in the the following reports, into a single report: Texas P1 Report and Texas P2 Report (the Texas P1B Report, however, is still reported separately, see: Using the Texas P1B Report [page 509]).

Procedure

1. From the SAP Easy Access menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *New Regulatory Reporting* ❯ *Master Setup and Report Submission* ❯

2. From here, follow the procedures as outlined in the documentation: The Production Regulatory Reporting Framework [page 489], for setting up the required master data for reporting, and generating/submitting the report.

17.2.4 Using The Arkansas Form 7 Report

Use

Use the Arkansas Form 7 Report to report volumes of gas produced by well ID (well completions), per field, for wells producing in the state of Arkansas, USA.

You can also use the report to report volumes sold by the purchasers/transporters of the well ID. The Arkansas Form 7 Report is a monthly gas report. The report is sent to the Arkansas Oil & Gas Commission (AOGC).

Please refer to the official AOGC website for more information on the commission and the report: http://www.aogc.state.ar.us. That site also contains a copy of the Form 7 Report.

You process this report in the ERP system using the centralized PRA Production Regulatory Reporting 'framework' transaction. The framework is used as a central tool for collecting and reporting production volumes to various states in the United States, as well as to the U.S. Federal Government.

The path to the PRA framework is: *Logistics à Production and Revenue Accounting à Production, Tax and Royalty Reporting à Production Regulatory Reporting à New Regulatory Reporting à Master Set-up and Report Submission*

Please first familiarize yourself with the functionality of the report by reviewing the documentation on the framework: The Production Regulatory Reporting Framework [page 489] .

Features of the Arkansas Form 7 Report

All volumes are reported, or standardized to MCF (thousand cubic feet) at 14.65 lbs/inch 2

Production volumes are obtained from the PRA-Production module

Volumes sold by purchasers/transporters are extracted from CA (Contractual Allocation)

The particular feature unique to Arkansas Form 7 – vis-à-vis the other state reports - is the accumulated balance – which is an entry in the report that is mandated by the state of Arkansas. The accumulated balance is the total over/under production of a well completion from the time it started producing to the current date. The accumulated balance is created for each month. The over/under is calculated for it – which is the difference between the monthly allowable and the total gas produced for that month. That over/under is then added to the last month's accumulated balance, which then becomes the accumulated balance for the current

month. The accumulated balance for a starting month always mirrors the accumulated balance from the previous month.

The concept of daily allowable is used, which is the maximum production per well completion per day in the state of Arkansas. You receive this figure from the AOGC, and enter it in the system as part of master data set-up.

The report also uses the concept of an accumulated allowable – which is the starting accumulated volume balance from the previous month. That value helps determine the over/under cumulative balance, when setting up master data.

The monthly allowable is calculated by multiplying the daily allowable by the number of days in the reporting month. The state of Arkansas defines that figure and sends it to you, and you enter that value in the system.

The Arkansas report uses an assessment in calculating the relevant volume for reporting. The assessment is a factor that is multiplied by the total volume produced for a field. The assessment is a factor of 0.005, and is multiplied by the total production volume, to obtain an adjusted volume.

You can use smartforms to display a hardcopy of the report.

Amended reportshave to be run when the starting accumulated balance for a well completion is changed for a month and a report has already been run for that month. Amended reports are created per well completion, by entering different starting accumulated balances, which then serve as a replacement for the current report.

Prerequisites

A prerequisite for reporting on Arkansas Form 7 is that PRA-Production and PRA-CA have successfully run (if CA has not successfully run, the purchasers/transporters volume sold will not be reported). MP volumes should also have been entered for a reporting month.

You will need to customize the report. The steps involved in customizing the report, before you begin with transactional data processing, are as follows:

Maintain the unit of measure(UoM) for oil and natural gas. To do that, in the IMG, choose *Industry Solution Oil & Gas (PRA) à Production, Tax and Royalty Reporting à Regulatory/Production Reporting à Regulatory Reporting Customizing*

For natural gas, UoM should be maintained for the dimension field = VOLUME and dimension field = HVALUE (heating value).

The production month should also be entered in the format MM/YYYY.

Maintain the volume type for the major product

To do that enter transaction code SM30.

In the *Table/View* field, enter V_OIUREP_COD_ARK.

Select *Maintain* .

The *Determine Work* Area: Entry dialog box is displayed.

Within that dialog box, in the *Report Agency* field, enter ARK, and in the *Regul.Report* field, enter FORM7.

Select *Continue* .

The *Change View "Regulatory Reporting Arkansas Form 7 Majpd/VT Cross-Ref."* screen is displayed. On that screen, select *New Entries* .

The *New Entries: Details of Added Entries* screen is displayed.

There, assign a volume type for a major product (for example: major product = Natural gas, and volume type = 01 – Measured production).

Save your data.

Set the output options for the report (smartforms).

To do that, in the IMG, choose *SAP Reference IMG à Industry Solution Oil & Gas (PRA) à Production, Tax and Royalty Reporting à Regulatory/Production Reporting à Regulatory Reporting Master Data Setup*

Now select the IMG activity.

At the left of the screen that is displayed (*Display View: Reporting Agencies: Overview*), select *Reporting Agencies* , and in the right screen frame, select *Arkansas AOGC* .

Now, at the left screen area, double click on *Output Options* .

On the *Change View "Output Options: Overview* " screen, select *New Entries* .

On the screen that is now displayed, enter a month and relevant year (see the recommendation directly below), and in the *Name* field, enter the following smartform name: ROIU_REP_ARK_FORM7.

In the *Output Options* IMG activity, it is better to enter a slightly earlier production month and year.

In addition, within customizing (*Industry Solution Oil & Gas (PRA) à Production Tax and Royalty Reporting à Regulatory/Production Reporting à Regulatory Reporting Master Data Setup*), you can also:

View the relevant structures that are used in conjunction with the Arkansas report. To do that, at the left of the screen, double click on *Rep.Agency* , and then select *ARK* at the right. Then, at left again, double click on *Assigned Structures* .

Within the structures, view the relevant fields. To do that, from *Assigned Structures* (described directly above), select a structure and double-click *Maintainable Fields* .

Set the reporting level, which is a further breakdown of your company code into organizational levels (you can set up org.levels 1-4), reflecting the organizational breakdowns typical in many upstream oil and gas companies. From *Regulatory Reporting Master Data Setup* , at left, select *Reporting Agencies* . Then, at right, select *ARK* , at left again, double-click *Reporting Level* . Enter the relevant organizational data for your organization.

Procedure

Follow the procedures outlined in the documentation with the title The Production Regulatory Reporting Framework [page 489] .

Master data set-up for the Arkansas report is the same as for the other reports that use the central framework tool (thus, please see the documentation on the framework for instructions on how to finish setting up the master data). There are some Arkansas-specific master data fields, which the following table explains:

On the *Data* screen tab, you can create drop-down list box fixed value entries for the following fields on the *WC Reg. ID* screen tab: *Arkansas Field* number, *Arkansas lease number* , and Purchaser_transporter.

On the WC Reg. ID screen tab, you create Reg.IDs for well IDs; the meaning of the fields is as follows:

Table 122:

Well I D	The AOGC-assigned ID for a well completion. You input it on the WC Reg. ID screen, after you receive the specific ID from the AOGC.
Daily allowable	The maximum volume that a well completion can produce per day.Arkansasuses the concept of monthly allowables for specific well completions. The monthly allowable (is state-assigned) and is the daily allowable multiplied by the number of days in the production month.
Lease number	The AOGC-assigned lease ID. The agency sends you this, and you input it as part of master data set-up.
Field number	The default field is the field already set up for the well completion as master data.
Beginning over/under cumulative allowable	The over/under is the monthly allowable minus the total gas produced for the month. It is added to the previous month's accumulated balance, to arrive at the accumulated balance for the current month.
	This is the starting over or under for this well record. It is derived from the previous month's accumulated allowable.

17.2.5 Using California Report OG110

Use

Use this to carry out the necessary reporting for California Form OG110.

The report is the California OG110 – State of California Department of Conservation Division of Oil, Gas, and Geothermal Resources, Forms OG110 and OG110B.

The OG110 report is used to report on well completion volumes producing in the state of California. The report is a monthly report.

In the PRA, you use the central production regulatory reporting framework tool (see: The Production Regulatory Reporting Framework [page 489]). You can use the framework to do the following:

- Create the required master data for reporting, for each Production entity that you are reporting on. You create well completion Reg. IDs for each well completion that should be reported to the state of California.

- Generate the report – which involves pulling together the relevant data from PRA-Production.

You can then output the data to an ASCII file or print a hardcopy, which can print as a smartform. The report output is the ASCII file format specified by the state of California. The state's specified output file consists of three sub-reports:

- A Production report (for production volume data)
- An injection report (for injection data)
- An oil and gas disposition report (for disposition data)

Particularities of the California report (as compared with the Framework):

Table 123:

PRA / Agency Xref screen tab	Allows you to cross-reference a California state-assigned ID to the equivalent SAP ID for the Production entity.
Pool code	California-assigned ID for the pool of oil or gas, from which the well is pumping.
H20 source code	California-assigned code that indicates the source of injected water.
H20 disposition code	California-assigned code that indicates the method used to dispose of produced water from the well.

Prerequisites

PRA-Production has to have run successfully.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Production Regulatory Reporting → New Regulatory Reporting → Master Setup and Report Submission* .

1. From here, please follow the procedures as outlined in the documentation: The Production Regulatory Reporting Framework [page 489] , for setting up the required master data for reporting, and generating the report.

Result

The relevant master data is set up for Production entities that you will be reporting on, and report generation has been carried out. You can now submit the report to the relevant state agency.

17.2.6 Using the Colorado Form 7 Report

Use

Use this to carry out the necessary reporting for Colorado Form 7.

The report is the Colorado Form 7 – Colorado Oil and Gas Conservation Commission Monthly Report of Operations. The Colorado Form 7 is required each month for all producing and injecting oil and gas wells in Colorado.

In PRA, you use the central production regulatory reporting framework tool (see: The Production Regulatory Reporting Framework [page 489]). You use the Framework to create regulatory IDs for each well completion that you are reporting, and to run the monthly report, which gathers and creates the data for the Form 7 Report. You can output the data to a CSV file or print a hardcopy, which can print as a customized Smartform. The report is output to a CSV (comma-delimited) file that can be sent to the state of Colorado and is the format required by the Colorado Oil and Gas Conservation Commission.

MP Xref screen tab – on the Framework screen, within master data setup, there is an MP Xref screen tab. You use that to cross-reference the SAP-assigned measurement point to the state-assigned measurement point ID.

You can view the Colorado Oil and Gas Conservation Commission website at http://oil-gas.state.co.us/

Prerequisites

PRA-Production has to have run successfully.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Production Regulatory Reporting → New Regulatory Reporting → Master Setup and Report Submission* .

1. From here, please follow the procedures as outlined in the documentation: The Production Regulatory Reporting Framework [page 489] .

17.2.7 Using the Louisiana OGP/R5D Report

Use

Use this to set up master data and generate the report data for the Louisiana OGP and R5D reports.

You can use this to set up the required master data (WC and MP Reg. ID), and generate the reports that report on well completion volumes per operator in the state of Louisiana. You can also view the report history (previously-created records). When you produce hydrocarbon products in the state of Louisiana, you have to file production reports with the Louisiana Office of Conservation.

The OGP report is the Operator's Monthly Oil and Gas Report

The R5D report is the Operator's Monthly Gas Disposition Report, and is used for gas acquisition and disposition volumes

Administration of the report is part of the production regulatory reporting 'Framework' transaction.

- Note that the regulatory well completion IDs that you create for the OGP report will also be used by the R5D report.

- A hard copy (smartform) is not required by the state of Louisiana.

ℹ

For more information on how to use the 'Framework' transaction, please see: The Production Regulatory Reporting Framework [page 489]).

For more information on the Louisiana Office of Conservation, please visit their website at: http://www.dnr.state.la.us/CONS/Conserv.ssi

Procedure

From the SAP Easy Access menu, choose *Logistics àProduction and Revenue Accounting àProduction, Tax, and Royalty Reporting àProduction Regulatory Reporting àNew Regulatory Reporting àMaster Setup and Report Submission*

The *Report Master Data Setup* screen is displayed.

Follow the procedures detailed in The Production Regulatory Reporting Framework [page 489] .

Particularities for Louisiana reporting(with respect to using the Reg. Reporting 'Framework'):

PRA-Agency X-Ref screen tab – This screen tab is used to link an internal (SAP) transporter ID with an external state agency company code. The reason is that only the state agency company code appears on the Louisiana R5D Report that is submitted, and you have to have a way to tie that state agency company code with the transporter in the SAP system.

For the Louisiana OPG/R5D reports, you create not just well completion Reg. IDs, but also measurement point (MP) Reg. IDs (which are used to represent "drip points" in the state of Louisiana). Parish percentages are also used.

Instead of counties or other geographic administrative units, the state of Louisiana is subdivided into parishes. Louisiana also uses conservation districts.

For the R5D report, natural gas, and gas injected into the reservoir can be entered. R5D records can be set up as original (O) or as corrections (C).

For the OGP report, additional transporter data can be entered, which represents transporters who move product from the relevant wells.

17.2.8 Using the Louisiana WR1 Report

Use

Use this to report WR1 report data to the state of Louisiana.

This report does not report on production volumes. Rather, the WR1 report is the "Inactive Well Report" for the state of Louisiana, and reports to the state on the status of inactive wells. The report is a bi-yearly report, which you report twice per year (the current reporting dates given by the state of Louisiana are May 1 and November 1). The purpose of the report is so that the state is informed of the current status of inactive wells, every six months.

You can use this transaction to:

- Create master data
- Generate the state report
- View historical records (history)
- View amended report PPNs

- A hardcopy is required by the state agency. The state does not accept electronic filing, so filing has to be sent in in paper form.

Procedure

- From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Production Regulatory Reporting → New Regulatory Reporting → Master Setup and Report Submission* .

The Master Setup and Report Submission screen is displayed.

Follow the procedures detailed in: The Production Regulatory Reporting Framework [page 489] .

Particularities of the WR1 Report:

- Conservation districts are used as the geographic reporting area
- Utility status codes are used

17.2.9 Using New Mexico Report C115

Use

Use this to carry out the necessary reporting for New Mexico Report C115.

The report is the New Mexico Form C115 – State of New Mexico Energy Minerals and Natural Resources Opertor's Monthly Report. The report is used to report well completion production in the state of New Mexico, USA. The report is a monthly report.

You can output the data to an ASCII file, or print a hardcopy, which can print as a customized smartform.

In PRA, you use the central production regulatory reporting framework tool (see: The Production Regulatory Reporting Framework [page 489]). You use the Framework to create regulatory IDs for each well completion that you are reporting, and to run the monthly report, which gathers and creates the data for the Form C115.

Master data fields unique to the New Mexico reports are:

Table 124:

Point of Disposition (POD)	A New Mexico state-assigned ID number that is equivalent to a sales measurement point in the SAP system.
Transporter OGRID	A New Mexico state-assigned ID number that is the equivalent to a transporter number in the SAP system.
Operator OGRID	A New Mexico state-assigned ID given to the operator, or the company filing the report.
Pool Code	A New Mexico state-assigned ID for the pool of oil or gas from which the well completion is pumping.

PRA – Agency Xref tab – This screen tab allows you to cross reference a New Mexico state-assigned ID to the equivalent SAP-assigned ID.

MP Xref screen tab –This screen tab allows you to cross-reference the SAP-assigned measurement point to the state-assigned measurement point ID. For the New Mexico report, PODs for oil and gas are assigned using the MP Xref tab.

You can view the New Mexico Energy Minerals and Natural Resources website at: http://www.emnrd.state.nm.us/

Prerequisites

PRA-Production has to have run successfully.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Production Regulatory Reporting → New Regulatory Reporting → Master Setup and Report Submission* .

1. From here, please follow the procedures as outlined in the documentation: The Production Regulatory Reporting Framework [page 489] .

17.2.10 Using the North Dakota Reports

Use

Use this to report volumes of produced oil and gas in the state ofNorth DakotaUSA

The reports are filed with the Industrial Commission of North Dakota.

For more information on the Industrial Commission of North Dakota, please refer to their website: explorer.ndic.state.nd.us.

There are variousNorth Dakotareports available. The following is a list of the reports that you can process in the system:

Table 125:

Form 5	North Dakota Oil Production Report	A monthly report that reports on wells in a CTB (tank battery). The report contains base sediment and water (BS&W) drawn and lease use volume sections. (unique fields: meter reading at start of month, clean oil produced, BS&W drawn, lease use, Meter end of month reading, water produced, purchaser, transporter).
Form 5A	North Dakota Oil Production Report	A continuation of Form 5. A separate report is required for each different field, pool, county, and operator.
Form 5B	North Dakota Gas Production Report	Used to report volumes of gas produced (unique fields: gas produced, gas used on lease, gas flared, gas purchaser).
Form 10	North Dakota Purchasers Monthly Report	This report is filed by the "first purchaser". All volumes of crude oil or other liquid hydrocarbon should be listed, separately, on this report.
Form 10A	North Dakota Oil Transporters Monthly Report	This report is filed by the transporter. All volumes of crude oil or other liquid hydrocarbons transported from each well or central tank battery is reported. (unique fields: NDIC CTB number, name of purchaser).
Form 16	Saltwater Disposal Report	Well operators who use saltwater for injection in North Dakota, USA, have to file the North Dakota Report Form 16, that shows, for each injection well, the source wells of disposal water, and method of transportation. (unique fields: oil skimmed from water, beginning and end of month meter reading, UIC number, township, monthly barrels transported, pipeline or truck indicator).
Form 16A	Saltwater Disposal Report Continuation	A continuation of Form 16.

Form 17	Enhanced Recovery Report	A regular monthly report, regardless of the status of the operations. All active, shut-in, or temporarily abandoned injection wells are included on this report. This report is also accompanied by Form 17A (unique fields: injection zone, UIC number, average injection pressure, water treated indicator).
Form 17A	Enhanced Recovery Source Report	This report should accompany the Enhanced Recovery Report – Form 17, if there were any injections during the reporting month (unique fields: injection zone, quarter, range number).

You process the reports in the ERP system using the centralized PRA Production Regulatory Reporting 'Framework' transaction (see: The Production Regulatory Reporting Framework [page 489]). Please familiarize yourself with the framework transaction before processing the North Dakota Reports.

You can do the following with the framework:

Master data setup (create a Regulatory ID for wells you are reporting on)

Report generation

Report submission

Report history display, and display of well records changed due to prior period notifications

Prerequisites

Customizing

Follow the instructions on how to set up customizing table entries for North Dakota reporting, which are contained in the Framework documentation: The Production Regulatory Reporting Framework [page 489]). The relevant IMG path is: *Industry Solution Oil & Gas (PRA) à Production, Tax and Royalty Reporting à Regulatory/Production Reporting à Regulatory Reporting Master Data Setup*

Master data has to already exist (well, well completion)

PRA-Production and Contractual Allocation have to have been run successfully.

Procedure

Use the central production regulatory reporting 'Framework' tool to set up Reg.IDs, generate the report, and view records that have already been created. The relevant path to the Framework tool is *Logistics à Production*

and Revenue Accounting à Production, Tax and Royalty Reporting à Production Regulatory Reporting à New Regulatory Reporting à Master Setup and Report Submission

ℹ

This documentation only outlines the special data entities and particularities unique to North Dakota reporting. Please use the hyperlink above to link to the documentation that describes the full description of how to use the Framework tool to process the report.

Master data setup

Table 126:

On the Report Master Data Setup screen, in the *Rep.Agency* field, chooseNorth Dakota
The system will now defaultNorth Dakota Reportsinto the *RegReport* field.
On the *Data* screen tab, you can customize the following fields (after which, the values that you choose will appear as fixed drop-down options on the WC Reg.ID screen tab, for the relevant fields).
UIC number
Well name
Well number
Pool
Unit / field

The following data entities (fields) unique to the North Dakota Reports:

Table 127:

ND Well Name	NDIC well name – the well from the North Dakota Industrial Commission (NDIC) point of view.
ND Well Number	NDIC well number – the well number from the North Dakota Industrial Commission point of view.
Well File Number	The well file number assigned by the NDIC.
Pool	The pool number, for the pool that the well is part of.
Lease Number	The relevant lease number.
UIC Number	Underground injection control number.

One particularity ofNorth Dakotareporting, is that you can report on purchaser amounts (first purchaser). Relevant amounts come from PRA-Contractual Allocation.

Smartforms are utilized to print out report data as a hardcopy.

All liquid volumes have to be reported as barrels (42 gallons), and rounded to the nearest full barrel. All gas volumes are reported as MCF, corrected to 14.73 psi and 60 degrees F.

The following data is output when the report is generated: report month and year, revised/amended report indicator, field, pool, county, operator, phone, address, city, zip code, date, printed name, and title. The fields that are actually output depend on the specific report that you are running.

17.2.11 Using Oklahoma Form 1004

Use

Use the Oklahoma Form 1004 to report volumes of gas produced by wells, for wells producing in the state of Oklahoma, USA.

The Form 1004 is the "Monthly Natural Gas Production of Well Site Meter Operator" report. You submit the report – after you have generated it in the system – to the Oklahoma Corporation Commission (OCC).

For more information on the Oklahoma Corporation Commission (OCC) and Form 1004, please refer to the OCC website at: www.occ.state.ok.us/ . That site also contains a copy of the Form 1004.

You process this report in the ERP system using the centralized PRA Production Regulatory Reporting 'framework' transaction (see: The Production Regulatory Reporting Framework [page 489]), which involves:

Master data setup (creating a Reg.ID to reflect wells you are reporting on)

Report generation

Report submission

Report history display, and display of well records changed due to prior period notifications

With respect to the Oklahoma report:

All volumes are reported in, or standardized to, MCF (thousand cubic feet) at 14.65 lbs/inch 2.

Relevant production volumes are obtained from the PRA-Production module.

Prerequisites

There are two prerequisites for using this report:

Master data has to already exist (well, well completion, etc.)

PRA Production has to have run successfully

Customizing

Follow the instructions on how to set up customizing table entries for theOklahomareport, which are contained in the framework documentation.

Procedure

Use the central production regulatory reporting "framework" tool to set up Reg. IDs, generate the report, and view records (see: The Production Regulatory Reporting Framework [page 489]). The relevant path is *Logistics à Production and Revenue Accounting à Production, Tax and Royalty Reporting à Production Regulatory Reporting à New Regulatory Reporting à Master Setup and Report Submission*).

ℹ️

This documentation only outlines the special data entities and particularities unique to the Oklahoma Report. Please use the hyperlink above to link to the documentation that describes the full description of how to use the framework tool to process the report.

Some information on data entities specific toOklahomareporting:

Table 128:

Master data setup
- On the *Report Master Data Setup* screen, in the *Rep. Agency* field, choose: *OCC* (for Oklahoma Corporation Commission); The system will then default *Oklahoma Form 1004* into the *Reg.Report* field. On the *Data* screen tab, you can customize the following fields: OCC pool code, OCC allowable number, OCC prefix, and OCC operator lease number. Customizing those fields involves choosing a field, and selecting what values will appear for that field in the drop-down list box on the *WC Reg.ID* screen tab.

The following are data entities (fields) unique to theOklahomaReport

Table 129:

OCC county number	The relevant county in Oklahoma.
OCC allowance number	The OCC sends you this number. It has a prefix and a suffix as well. The suffix is generally only used for Guymon-Hugoton gas.
API well number + suffix	Each well number is assigned to wells at the time of the intent to drill. Each well has a suffix, which is assigned by the OCC for administrative purposes.
Operator and suffix	The person or company that operates the well. This number and suffix are assigned by the OCC.

| Output indicator: e-mail and hard copy	How output is to be handled.
Allowance class	The following values can apply here: allocated gas, special allocated gas, unallocated gas, Guymon Hugoton gas, allocated oil, unallocated oil, and enhanced recovery.
Pool number	Assigned by the OCC to identify the relevant pool.

17.2.12 Using the MMS-PASR Report

Use

Use this to report on production volumes, for MMS-PASR reporting.

The MMS-PASR is MMS Form 4058 – The Production Allocation Schedule Report (PASR). The report provides allocation information for Federal offshore production volumes that are commingled prior to measurement, for reporting (commingled means that the volumes come from differing leases).

The MMS-PASR report is a U.S. federal report that OCS (outer continental shelf) lease operators file with the MMS (Minerals Management Service). Reporting is at the measurement point level (well completion volumes are summed and reported at measurement point level). Measurement points are set up in master data creation as facility measurement points (FMPs), which are measurement points that are tied to the government's assigned facility number identifier for that storage tank.

The graphic below illustrates the reporting level for MMS-PASR reporting – viewing the measurement points in a hierarchy, from the MMS's point of view. In MMS-PASR reporting, the measurement point (facility) is the basic reporting level:
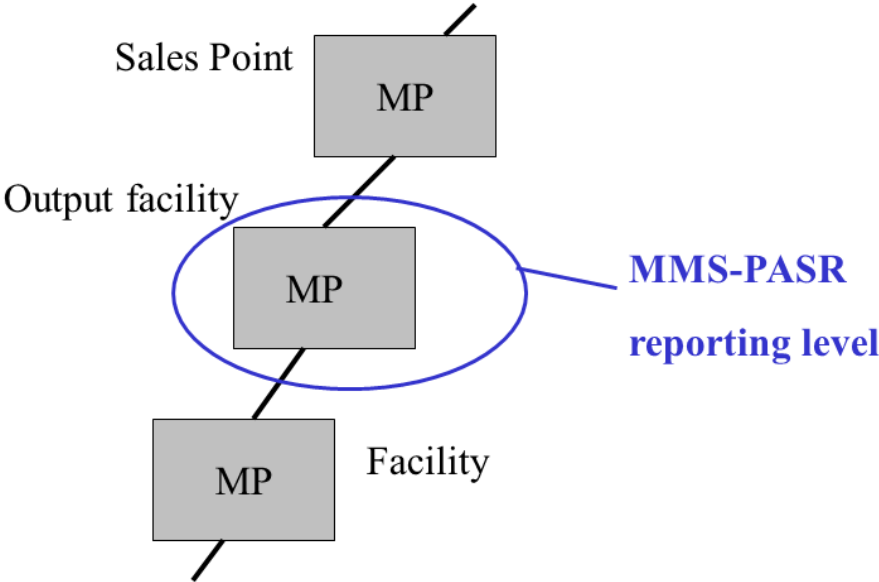
Volumes for PASR reporting are summed under either:

Table 130:

Sales volumes	The normal situation; you report on volumes that are being sold.
"Other volumes"	Volumes from sources other than pure sales. This is often used in commingling situations.

The MMS-PASR report is due the first month that production is commingled, or the month that commingling approval is granted by the MMS, and it is due monthly thereafter until the FMP (facility measurement point) is terminated or made inactive. The report is due even if there is no production for a month. In addition to reporting, the report is also used to corroborate data on the operations submitted by OCS lease operators.

For more information on the Minerals Management Service in general, access the MMS website at www.mms.gov. For information on the MMS-PASR report, and to download a PDF document entitled "How to Complete the PASR", access: www.mrm.mms.gov/Reporting Services/PDFDocs/ProductionHB.pdf

In the ERP system, you generate the report using the central production regulatory reporting 'framework' transaction (see: The Production Regulatory Reporting Framework [page 489]).

Specific features of the PASR report :

- The operator of a tank battery must complete a PASR because the tank battery is the point where sales occur for each federal lease.
- Production is measured for allocation before commingling.
- Leases can be operated by different operators.
- Master data is maintained for facility measurement points (FMCs) and operator codes (the operator code is a code assigned to identify an operator). A facility is a storage facility.
- The report obtains lease-level master data from the MMS-OGOR master data set-up.
- An external (government-assigned) measurement point ID (metering point) is used to identify the measurement point.
- The MMS-PASR report reports volumes sold at measurement point level, not at well completion level, as is the case with other production regulatory reports.
- MP Reg. IDs are created as master data, instead of well completion Reg. IDs. The system, when generating the report, obtains well completion volumes for the specific measurement point, for the reporting month.
- Smartforms are not provided as standard output by SAP, but you can customize your own.

Prerequisites

First activate the MMS-PASR report in your system, if you have not already done so. You can do that in customizing. The IMG path is *Industry Solution Oil & Gas (PRA) → Production, Tax and Royalty Reporting → Activate Production / Tax and Royalty Reports.*

The following can be customized for the report:

Table 131:

Comments for the external MP ID and the Facility ID. This allows you to set up specific fields on the *Data* screen tab of the Framework as having comments (fields that you can add free-form comment text to).	In the IMG, choose: *Industry Solution Oil & Gas (PRA) → Production, Tax and Royalty Reporting → Regulatory/ Production Reporting → Reg.Reporting Master Data Setup.* Select *Comm* . to activate comments for the relevant field.
Fields on the *Data* screen tab of the 'Framework' screen.	For the fields: Facility code, facility operator code, and MMS sales facility.

Major product code / volume type mapping. This determines whether a specific product / volume type is going to be handled as a sales volume or as an "other volume" in the report.	In the IMG: → *Regulatory Reporting Major Pd Code / Volume Type Mapping* . Here, you link a major product code ("oil") to a volume type, and override group (internal handling group). The entry that you make in the *Report Column* field for each volume type / product code combination will determine if that major product code / volume type is handled as a sales volume or as an "other volume". Each volume will either be reported under sales volume or under other volume in the PASR report itself. If you leave it blank, the volume / major product code will be reported under both the volume fields – sales and other, but that determination is based on the origin of the volume, i.e if the volume is from a non-MMS well, it will be reported under "other volumes", if it is from an MMS-well, it will be reported under "sales volumes".

A prerequisite for MMS-PASR report generation is that PRA-Production has run successfully in the system.

Procedure

Use the central production regulatory reporting 'framework' tool to set up Reg.IDs as master data, generate the report, and view records (see: The Production Regulatory Reporting Framework [page 489]). Follow the Framework documentation for:

- **Creating the relevant master data (MP Reg.ID)**
- **Generating the report data**
- **Viewing historical records**

The relevant path for both master data setup and report generation is *Logistics → Production and Revenue Accounting → Production, Tax, and Royalty Reporting → Production Regulatory Reporting → New Regulatory Reporting → Master Data Setup and Report Submission* .

On the 'Framework' screen:

Table 132:

Data screen tab	Here, there are three customizable fields available: *Facility code, Facility operator code* , and *MMS sales facility* . You can enter your own values for those fields, which are then used on the *MP Reg.ID* screen tab as the fixed drop-down values for the relevant fields on that screen tab. The operator code is the ID assigned to an operator.

MP Reg. ID screen tab	You use this screen tab to set up your master data – measurement point Reg.IDs -for reporting. You only use this if you are setting up **sales** FMPs.
	You create a record that ties your own measurement point to an MMS-assigned sales facility number (external number), for a specific date range. Measurement point is the basic reporting entity for the MMS-PASR report. The sales facility number is the government's assigned ID for a physical storage tank, which you represent in your system as a measurement point.
MP Xref screen tab	You can use this screen tab to display related measurement points. The metering point is simply the MMS name for an MP. On this screen tab, you enter the metering point that you received from the MMS, as well as an operator code (the metering point is only maintained for commingled metering points).
	On this screen tab, you assign a facility number for a measurement point. For MPs that you are setting up, you can list all the measurement points linked to that upstream MP. For each measurement point, you can enter a facility number. This is mostly used not for internal configuration purposes, but rather, as a cross-reference between your data (MP) and the government's data (facility ID).
DN Xref . screen tab	You can use this screen tab to display all the networks attached to a well. You can also assign a network to an override group. This is used in internal configuration. For example, you could define a group of well – networks for one type of processing ("offshore"), and another group of well – networks for onshore processing. It allows you to handle delivery networks in different ways.

17.2.13 Using the MMS - OGOR Report

Use

The Minerals Management Service (MMS) - Oil and Gas Operations Report (OGOR) is MMS Form 4054, which is a summary of all operations conducted on a lease/agreement during a specific production month.

Prerequisites

You must have done the following:

- To activate the MMS-OGOR A, B and C reports go to Customizing and choose ▶ *Industry Solution Oil & Gas (PRA)* ▶ *Production* ▶ , ▶ *Tax and Royalty Reporting* ▶ *Activate Production/Tax and Royalty Reports.* ▶
- To bring in the Customizable fields on the *Data* Screen tab, go to Customizing and choose ▶ *Industry Solution Oil & Gas (PRA)* ▶ *Regulatory/Production Reporting* ▶ *Regulatory Reporting Master Data Setup* ▶
- The following must be Customized for the report:
  - Fields (*Lease Number* , *Agency Lease Number* , *Operator lease Number* , *Operator Well Number* , *API Well Group* , *Action Code*) on the *Data* screen tab of the *Framework* screen.
    In Customizing, choose *Regulatory Reporting Major Product Code/Volume Type Mapping* . Here, you link a major product code (Oil) to a volume type, and override group (internal handling group).
  - Major product code/volume type mapping
    - This determines whether a specific product/volume type is going to be handled as a Production Volume or as an Injection Volume on the OGOR A report.
    - This determines whether a specific product/volume type is going to be handled as a Disposition Volume on the OGOR B report.
    - This determines whether a specific product/volume type is going to be handled as a Sales Volume or Production volume or Beginning Inventory or Ending Inventory on the OGOR C report.

Features

The OGOR is required to be reported monthly (unless a different frequency is previously approved by Bureau of Land Management (BLM) or Bureau of Indian Affairs (BIA) for all designated operators of a Federal or Indian lease, unit, or communitization agreement that contains wells not permanently plugged and abandoned or that has ending inventory and is not terminated.

The OGOR consists of three parts:

- The **OGOR-A** accounts for all production and injection data on a lease/agreement by well and producing interval, in addition to drilling, temporarily abandoned, work over, or abandonment activity. The OGOR-A identifies the status and volumes for each well on a lease for which you are responsible.
  OGOR Adescribes the activities of all wells by producing interval for the report entity. Operators must report all wells no longer in active drilling status until the wells are permanently plugged and abandoned, or the lease is terminated. For onshore, report only until abandoned or squeezed. If you have test production while the well status is drilling, you must report the well.
- The **OGOR-B** accounts for the total disposition of lease/agreement production for each product. Disposition may include direct sales, transfers, and lease/agreement use.
  OGOR Bdescribes the disposition activity for all production/products for the report entity.
- The **OGOR-C** accounts for the production and sales attributable to a lease/agreement but put into inventory before the production is sold from a storage facility. It also identifies beginning inventories, ending inventories, production, sales, and adjustments.
  OGOR C describes the inventory activity for all oil/condensate and CO_2 production for the report entity.

Activities

To set up Regulatory Identifiers (Reg. IDs) as master data, generate the report, and view records, use the central production regulatory reporting framework tool (see: The Production Regulatory Reporting Framework [page 489]).

To setup the master data and for report generation go to the *SAP Easy Access* menu and choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax, and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *New Regulatory Reporting* ❯ *Master Data Setup and Report Submission* ❯ .

On the *Framework* screen, you view the following:

- *Data* screen tab
  Here, there are three Customizable fields available: *Facility Code* , *Facility Operator Code* , and *MMS Sales Facility* . You can enter your own values for those fields, which are then used on the *MP Reg.ID* screen tab as the fixed drop-down values for the relevant fields on that screen tab. The operator code is the ID assigned to an operator.
- *Measurement Point Regulatory Identifier (MP Reg. ID)* screen tab
  You use this screen tab to set up your master data – measurement point Reg.IDs -for reporting. You only use this if you are setting up sales facility/measurement points (FMPs).
  You create a record that ties your own measurement point to an MMS-assigned sales facility number (external number), for a specific date range.
- *Measurement Point (MP) Cross Reference (Xref) screen tab*
  You can use this screen tab to display related measurement points. The metering point is simply the MMS name for an MP. On this screen tab, you enter the metering point that you received from the MMS, as well as an operator code (the metering point is only maintained for commingled metering points).
  On this screen tab, you assign a facility number for a measurement point. For MPs that you are setting up, you can list all the measurement points linked to that upstream MP. For each measurement point, you can enter a facility number. This is mostly used not for internal configuration purposes, but rather, as a cross-reference between your data (MP) and the government's data (facility ID).
- *Delivery Network (DN) Cross Reference (Xref.)* screen tab
  You can use this screen tab to display all the networks attached to a well. You can also assign a network to an override group. This is used in internal configuration. For example, you could define a group of well – networks for one type of processing (offshore), and another group of well – networks for onshore processing. It allows you to handle delivery networks in different ways.

See Also

For more information see:

- Using the Regulatory Reporting Monthly Adjustment Report [page 500]
- Creating Master Data for Regulatory Reporting [page 493]
- Creating Well Level Override Group for MMS OGOR Report [page 533]
- Generating Reporting Data for Regulatory Reporting [page 495]
- Viewing historical records [page 497]
- Minerals Management Service in general, access the MMS website at www.mms.gov.

17.2.13.1 Creating Well Level Override Group on MMS OGOR Report

Use

You use this function to split the volumes between two different overrride groups based on the percentages.

The override group is set up on the *Well Completion Regulatory Identifier* cross-reference (WCREGID Xref) screen tab on the Production Regulatory Reporting *Framewor k* screen.

Override group for onshore and offshore purposes tells the system how to handle a particular volume at the well level.

> **Example**
>
> Royalty-bearing fuel and/or flare volumes (Section 6) and Deep Gas Relief are two examples than can require splitting a volume between different disposition codes on OGOR B report.When the split is 100 percent, a user can use an override group for the well or DN (and no change is necessary).When the split is less than 100 percent, this function splits the volume with the respective percentages.

Features

This function has the following features:

- Override group percent split table replaces *Override Group* field in the *Well Completion Regulatory Identifier* (WC REGID) tab.
- Allows users to associate a percentage of the well to an override group.
- Percent split table adds up to 100 percent.
- Default percentage is 100. This means that there is no override group (non override group with default override group *DEF*).

> **Example**
>
> Oil sales of 100 barrel (BBL) at well completion (WC) 100-1.
>
> User sets up a percentage split on the *Well Completion Regulatory Identifier* (WC Reg ID) to say that 65 percent must use the *DEEPG* override group. The remaining 35 percent uses the non override group case and will automatically calculate the 35 percent and assign it to *DEF* override group.

Activities

- To Customize the override group, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *New Regulatory Reporting* ❯ *Master Setup and Report Submission* ❯ .

- Go to the *Well Completion Regulatory Identifier* (*WC REG ID*) tab and choose *Execute* .
- Double click to select the *Well Completion* from the ALV grid.
  For creating new records, an empty table is displayed with *Override Group* and *Percent* for editing.
- Select the override group *DEF* from the table field and enter the *Percentage - 20* .
- Select the override group *SEC 6* and enter the *Percentage - 80* .
- Choose *Enter* and *Save* .

See Also

For more information, see .

17.3 Using the Report Driver for PRA Reporting

Use

Use the Report Driver to submit tax, royalty, and regulatory (production) reports in Production & Revenue Accounting.

The Report Driver is a centralized, standardized tool that is used for most of the tax, royalty, and production reports in Production & Revenue Accounting. With a few exceptions (such as OK Royalty and MMS Production), almost all of the tax, royalty, and production reports used in PRA use it. Due to the fact that the Report Driver is a centralized tool, it means that you do not have to use many different individual report transactions to create reports in the ERP system.

The core of the Report Driver is a report generation tool, which pulls data together from various tables into a single report.

The following lists which reports the Report Driver is used for, and which reports it is not used for, by reporting area:

Table 133:

Reporting area in PRA:	The Report Driver is used for:	The Report Driver is not used for:
Tax reporting	All states, all reports.	---
Royalty reporting	The Generalized State Report, Texas reports, New Mexico reports. All state reports except those listed at right.	MMS, Oklahoma, Wyoming.
Regulatory (production) reporting	Texas reports (Texas P1, P2, P1B).	MMS, New Mexico, Louisiana reports, Wyoming.

If you want to see a full list of all the reports that the Report Driver can be used with, you can look at the drop-down list box for the *Reg.Report* field on the *Report Execution* (Report Driver) screen. The drop-down list box contains all the reports.

Each time you run the Report Driver, the following are produced:

A main report, and

An error report.

The main report is stored in the database, and temporarily-required information like the error reports is stored in the file system. You can view each individual dataset, and print it out, or download it and send it to the relevant governmental reporting authority.

Procedure

From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting* ...

Table 134:

For Tax reporting:	(follow the path listed directly above and then choose)... *Tax Reporting Old Tax Reporting Submit Tax Reports* .
For Royalty reporting:	... *Royalty Reporting Old Royalty Reporting Submit Royalty Reports*
For Regulatory (production) reporting:	... *Production Regulatory Reporting Old Regulatory Reporting Submit Production Regulatory Reports*

The transaction code for the Report Driver is O3UH_REPEX. If you want to centrally access the Report Driver, you can use that transaction to do so.

The *Report Execution* screen is displayed.

The first field on that screen – the *Reg.Report* field – contains the names of reports that you can choose from. Select the report that you would like to submit. The input fields on the *Report Execution* screen will change dynamically, based on what report you select.

i

The reports that are displayed in the matchcode ID dropdown box for the *Reg . Report* field are based on the user-assigned authorizations, which can be given using authorization object O_OIUH_REP based on the reporting type (tax, royalty or production), state, company code (org.level) or individual report (JIL).

Enter the reporting month and year for the report, as well as any other relevant parameters (company code, etc.). Also enter whether you want the report run to be a trial run or a final run (a trial run is like creating the report as a draft version).

Select *New Report Execution* (the *Create* icon).

A pre-execution screen is now displayed.

On that screen, select *Execute Report* . Selecting *Execute* generates the report for the data you entered, and generates the report files – it pulls all the relevant data together (from the relevant tables) for the report that you chose. You can now view that data in the *Report Executions* ALV screen area at the bottom of the screen.

The status of the report execution is displayed in the *status* field of the list at the bottom of the screen.

The following statuses exist:

Table 135:

10	Report generation scheduled
11	Report generation running
12	Report generation completed
13	Report generation failed
14	Report generation rescheduled
15	Report generation outdated (reallocation)
20	Report finalization scheduled
21	Report finalization running
22	Report finalization completed
23	Report finalization failed
24	Report finalization rescheduled

You can update the list of report runs and also the current status. To do that, select the *List* button.

From the list of report files in the ALV list at the bottom of the screen, you can double click on one item in the line.

To display the job log, double click on a job name or number.

To access the Report Results screen, double click on any field other than the job name or number. The Report Results screen displays all of the files for the report.

To view the Detail Report, double click an individual line entry. The Detail Report is the information that you will be supplying to the government agency, or a supplemental report.

ⓘ

If the file name column is empty, it means that that dataset is saved in the database. Not all of the files that appear in the file name column will be files that will be reported to the government. All intermediate or empty files created by each run are automatically deleted by the system at the end of the run.

Regeneration:

If a specific report has already been generated, and you want to generate it again, you can regenerate it. To do that, on the *Report Execution* screen, select *Regenerate Report* .

Report finalization:

You can only finalize a report once. After you have finalized a report, it is not possible to carry out another finalization for the same report month/year/company and amended/current. You can, however, amend reports.

17.4 Regulatory Reporting Status Inquiry

This function lists the reporting ID's, names, and their associated governmental entities (state or federal) that have been created for agency filing.Only original, as opposed to amended, reports are reflected in this function. Reports are listed by reporting period.Optional fields include report name and state or federal agency.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *Old Regulatory Reporting* ❯ *Master Maintenance* ❯ *Maintenance / Tracking* ❯ *Regulatory Reporting Status Inquiry* ❱ .
   The *Regulatory Reporting Tracking Browse: Initial Screen* appears.
2. Enter data as as required.
3. Choose *Execute* .

17.5 Creating or Maintaining a Louisiana Regulatory Reporting Record

Use

Use this transaction to maintain well completion regulatory data for Louisiana reporting.

Procedure

1. At the SAP Easy Access screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *Old Regulatory Reporting* ❯ *Louisiana* ❯ *Louisian Regulatory ID.* ❱
2. The *Louisiana Reg. ID: Initial Screen* appears.
3. Choose *Create* .

The *Louisiana Reg. ID - Create* screen appears.

1. Enter data as required:
2. Save your entries.

Using a Reference to Create a Louisiana Regulatory ID Record

1. To create a Louisiana Regulatory ID record with reference to an existing record, at the *Louisiana Reg. ID: Initial Screen* , enter data as required.Then choose *Execute* .
2. If more than one record matches the data you entered, select one of the records from the list.
   OR
   If only one record matches the data you entered, the single record is displayed.
   Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Louisiana Regulatory ID Record

1. To change or display a Louisiana Regulatory ID record, at the *Louisiana Reg. ID: Initial Screen* , enter data as required.Then choose *Execute* .
2. If more than one record matches the data you entered, select one of the records from the list.
   OR
   If only one record matches the data you entered, the single record is displayed.
3. Choose *Change* or *Display* to change or display the record as required.

17.6   Creating or Maintaining a Louisiana R-5-D Record

Use

Use this transaction to maintain well completion regulatory data for Louisiana reporting.

Procedure

1. At the SAP Easy Access screen, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting*à*Production Regulatory Reporting*à*Old Regulatory Reporting*à*Master Maintenance*à*Louisiana*à*Louisiana R5D* ❩ .

The *Louisiana R-5-D: Initial Screen* appears.

1. Choose *Create* .
   The *Louisiana Reg. ID - Create* screen appears.
2. Enter data as required.
3. Save your entries.

Using a Reference to Create Louisiana R-5-D Record

1. To create a Louisiana R-5-D record with reference to an existing record, at the *Louisiana R-5-D: Initial Screen* , enter data as required.Then choose *Execute* .
   The *Create Louisiana R-5-D: Overview* screen.
   If more than one record matches the data you entered, select one of the records from the list.
   OR

If only one record matches the data you entered, the single record is displayed.

2. Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Louisiana R-5-D Record

1. To change or display a Louisiana R-5-D record, at the *Louisiana R-5-D: Initial Screen* , enter data as required.Then choose *Execute* .
   The *Create Louisiana R-5-D: Overview* screen.
   If more than one record matches the data you entered, select one of the records from the list.
   OR
   If only one record matches the data you entered, the single record is displayed.
2. Choose *Change* or *Display* to change or display the record as required.

17.7 Creating or Maintaining a Generalized Regulatory ID

Use

Use this transaction to maintain regulatory reporting information for a well completion in a state that you specify.

Procedure

1. At the SAP Easy Access screen, choose ❚▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *Old Regulatory Reporting* ❯ *Master Maintenance* ❯ *Generalized* ❯ *Generalized Reg. ID* ❚ .
2. The *Gen. Reg ID: Initial Screen* appears.
3. Choose *Create* .
   The *Create Gen. Reg ID: Overview* screen appears.
4. Enter data as required:
5. Save your entries.

Using a Reference to Create a Miscellaneous Regulatory ID Record

1. To create a miscellaneous regulatory ID record with reference to an existing record, at the *Gen. Reg ID: Initial Screen* , enter data as required.Then choose *Execute* .
2. If more than one record matches the data you entered, select one of the records from the list.
   OR
   If only one record matches the data you entered, the single record is displayed.
3. Choose *Create* to create a new record with data from the record you selected.

Changing or Displaying a Miscellaneous Regulatory ID Record

1. To change or display a miscellaneous regulatory ID record, at the *Misc Reg ID: Initial Screen* , enter data as required.Then choose *Execute* .
2. If more than one record matches the data you entered, select one of the records from the list.

OR
If only one record matches the data you entered, the single record is displayed.
3. Choose *Change* or *Display* to change or display the record as required.

17.8 Creating or Maintaining a Texas Regulatory ID Record

Use

Use this transaction to maintain well completion regulatory data for Texas reporting.

Procedure

1. ▶   *1.   From the SAP Easy Access menu, chooseLogistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *Old Regulatory Reporting* ❯ *Master Maintenance* ❯ *Texas* ❯ *Texas Reg.ID.* ❱
   The *Texas Reg ID: Initial Screen* appears.
2. Choose *Create* .
   The *Create Texas Reg ID: Overview* screen appears.
3. Enter data as required.
4. Save your entries.

Using a Reference to Create a Texas Regulatory ID Record

1. To create a Texas Regulatory ID record with reference to an existing record, at the *Texas Reg ID: Initial Screen* , enter data as required.Then choose *Execute* .
2. If more than one record matches the data you entered, select one of the records from the list.
   OR
   If only one record matches the data you entered, the single record is displayed.
3. Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Texas Regulatory ID Record

1. To change or display a Texas Regulatory ID record with reference to an existing record, at the *Texas Reg ID: Initial Screen* , enter data as required.Then choose *Execute* .
2. If more than one record matches the data you entered, select one of the records from the list.
   OR
   If only one record matches the data you entered, the single record is displayed.
3. Choose *Change* or *Display* to change or display the record as required.

17.9 Creating or Maintaining a Wyoming Regulatory ID Record

Use

Use this transaction to create and maintain data for a Wyoming Regulatory ID record.

Procedure

1. At the SAP Easy Access screen, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ ❯
   ▐▶ *Production, Tax and Royalty Reporting* ❯ *Production Regulatory Reporting* ❯ *Old Regulatory Reporting* ❯
   Master Maintenance ❯ *Wyoming* ❯ *Wyoming Reg.ID* ❯ .
   The *Wyoming Regulatory ID: Initial Screen* appears.
2. Choose *Create* .
   The *Wyoming Regulatory ID Create: Overview* screen appears.
3. Enter data as required.
4. Save your entries.

Using a Reference to Create a Wyoming Regulatory ID Record

1. To create a Wyoming Regulatory ID Record with reference to an existing record, at the *Wyoming Regulatory ID: Initial Screen* , enter data as required.Then choose *Execute* .
2. If more than one record matches the data you entered, select one of the records from the list.
   OR
   If only one record matches the data you entered, the single record is displayed.
3. Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Wyoming Regulatory ID Record

1. To change or display a Wyoming Regulatory ID Record, *Wyoming Regulatory ID: Initial Screen* , enter data as required.Then choose *Execute* .
2. If more than one record matches the data you entered, select one of the records from the list.
   OR
   If only one record matches the data you entered, the single record is displayed.
3. Choose *Change* or *Display* to change or display the record as required.

17.10 Viewing Reallocated Well Completion Records

Use

If you have already sent a regulatory report to an agency, it can later occur that the relevant volumes change due to prior period adjustments (PPAs) and/or reallocated volumes, after the report was sent in. If that happens, you then have to re-report in an amended report.

You can use this screen to view a list of well completions that have been reported, and create or delete entries from the list of well completions that have to be re-reported.

You can also exclude a subset of well completions from being included in the amended report.

Once the amended report is finalized, only the wells not marked to be excluded are deleted from the list of re-allocated well completions.

If a single well completion is selected to be excluded, the related well completions belonging to the same lease (or pool code or other business key associated with the type of agency and report) are also excluded.

Procedure

1. To display the *Master Setup and Report Submission: Initial* Screen, in the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Production Regulatory Reporting → New Regulatory Reporting → Master Setup and Report Submission* .
2. Select the relevant data for your search (Rep Agency and Reg Report).
3. Choose *Monthly Processing* tab.
4. Enter *Company (ORG1)* level information.
5. Choose *Changed Well Completions* tab
6. Either enter the required data (like *Org1* , *Prod Year* , *Well Completion* , etc.) or leave all fields blank and then choose *Select* (*Execute*). The system displays all the records that match your search criteria.

The ALV displaysa list of re-allocated or changed well completions that has either its master data or production volumes changed since the last time this particular report (current or amended) was finalized for the specific production date.

To create new records

1. Go to the *Re-allocated Well Completion* screen.
2. Choose *Create* .
3. Enter the well completion and production date.
4. Choose *Save* . The record that you created will now appear in the ALV screen area at the bottom of the screen.

To delete records

You can also delete records from the ALV list of queried records.

1. Go to the *Re-allocated Well Completion* screen.
2. Select a particular row or multiple rows and select *Delete Line* . A pop up box requesting you to confirm the deletion appears.

3. Choose *Yes* . The record is deleted from the list.

To exclude records from amended report

You can exclude particular set of records from next generation of amended report.

1. Go to the *Re-allocated Well Completion* screen.
2. Select a particular row or multiple rows and select *Exclude* . A pop up box requesting you to confirm the exclusion appears.
3. Choose *Yes* .

An *X* mark appears in the ALV column *Exclude RWC* . Related well completions belonging to the same lease (like for MMS PASR reports) or pool code (like NM C115) are also excluded.

Excluded records do not appear in the amended report.

When amended report is finalized, all re-allocated well completion records are deleted except for the well completions that were explicitly marked as excluded (with an *X* mark in the *Exclude RWC*).

To include records in amended report

By default all re-allocated well completions appearing in the ALV grid are included in the next amended report generation except for records with *X* mark. These excluded records can again be included in the amended report. From the *Re-allocated Well Completion* screen:

1. Select a particular row or multiple rows and select *Include* .
2. A pop up box requesting you to confirm the inclusion appears.
3. Choose *Yes* .

All selected records and related re-allocated well completion (like under the same lease or pool code) are included and the *Exclude RWC* column is blank for these re-allocated well completions.

18   Royalty Reporting

Purpose

In Production and Revenue Accounting, Royalty Reporting generates reports required for various reporting agencies.

Features

Royalty Reporting uses two sets of master data: one set established in Customizing *[Production, Tax and Royalty Reporting   Royalty Reporting Royalty Reporting]* as well as a set that is adjusted as required in the Maintaining Master Data for Royalty Reporting [page 546] transaction (*Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Royalty Reporting   → New Royalty Reporting Framework → Master Maintenance*).

Once you arrange the master data as required, you then use the Processing of Royalty Reports [page 548] transaction (*Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Royalty Reporting → New Royalty Reporting Framework → Extraction and Reporting*), which makes data available for the system to extract royalty amounts, summarize data, and process the reports.

Disclaimer

In order to use Royalty Reporting, you first have to activate the required reporting routines. By activating them, you agree to the following statement:

The SAP reporting routines for Royalty Reporting are provided "as is" and are provided without any warranty, escrow, training, maintenance, or service obligations whatsoever on the part of SAP. SAP makes no express or implied warranties of any type whatsoever including that any results derived from their use will comply with any tax and regulatory rules and reporting requirements or for the fitness of any other particular purpose. Licensee assumes all risks associated with its use of these routines or other portions of the Software and the Documentation, including without limitation risks relating to quality, performance, data loss, or reporting, formatting or data errors. In no event shall SAP be liable to Licensee or to any third party for any damages, costs or penalties arising in connection with Licensee's use of or inability to use the Software or the Documentation, in connection with SAP's provision of or failure to provide services pertaining to the Software or the Documentation, or as a result of any defect in the Software or the Documentation. This disclaimer of liability shall apply regardless of the form of action that may be brought against SAP, whether for in contract or tort, including without limitation any action for negligence.

18.1 Creating or Maintaining a Tax & Royalty Profile

Use

Use this transaction to specify the following information for tax and royalty reports:

- reporting entity identification numbers
- contact information for the individual representing the reporting company
- royalty owner information

Procedure

At the *SAP Easy Access* screen, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯

Table 136:

Follow-on Menu Path	Function
▌▶ *Tax Reporting* ❯ *Old Tax Reporting* ❯ *Master Maintenance* ❯ *Tax and Royalty Profile* ❯	Tax Reporting
▌▶ *Royalty Reporting* ❯ *Old Royalty Reporting* ❯ *Master Maintenance* ❯ *Tax and Royalty Profile* ❯	Royalty Reporting

The *Tax and Royalty Profile: Initial Screen* appears.

Specify a report and its corresponding effective dates and contact information. Also enter the royalty owner information for the report.

Save the profile.

Using a Reference to Create a Tax & Royalty Profile

To create a tax and royalty profile with reference to an existing record, at the *Tax and Royalty Profile: Initial Screen* , enter data as required. Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Tax & Royalty Profile

To change or display a tax and royalty profile, at the *Tax and Royalty Profile: Initial Screen* , enter data as required. Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

18.2 Maintaining Master Data for Royalty Reporting

Use

Use this transaction to enter the data needed to create reports for a particular reporting agency within a specific month and year. With this transaction, you establish the data that the system will use to generate the reports. After you establish the data within this transaction, you use the Processing of Royalty Reports [page 548] transaction to generate the reports.

You can enter the following data in this transaction:

Table 137:

Property/DOI numbers	Owners
Lease numbers	Well / well completion numbers
Lease allocation factors	Reporting profile ID
Payor fractions	

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Royalty Reporting → New Royalty Reporting Framework → Master Maintenance* .

The *Master Maintenance for Royalty Reporting* screen appears.

To review or retrieve lease master data, or to enter a new lease number and text for a reporting agency, choose the *Lease* tab.

Then do one of the following:

To review or retrieve data, enter selection criteria and choose *Execute* .

To enter a new lease number and text for a reporting agency, choose *Create* .

ℹ

In the *Reporting Parameters* section, enter the reporting year and reporting month that corresponds with the existing data that you wish to retrieve. Then in the *Effective From* section, enter the year and month for which you will add or adjust existing data.

To review or retrieve owner data, or to enter new owner data, choose the *Owners* tab, and specify the reporting parameters and the effective from year and month.

Then do one of the following:

To review or retrieve data, enter selection criteria and choose *Execute* .

To enter new owner data for the reporting parameters that you specified, choose *Create* .

To review or retrieve entity data, or to enter new entity data, choose the *Entities* tab.

If you have not already done so, specify the reporting parameters and the effective from year and month.

Then do one of the following:

To review or retrieve data, enter selection criteria and choose *Execute* .

To enter new entity data for the reporting parameters that you specified, choose *Create* .

To review or retrieve profile data, or to enter new profile data, choose the *Profile* tab.

If you have not already done so, specify the reporting parameters and the effective from year and month.

Then do one of the following:

To review or retrieve data, enter selection criteria and choose *Execute* .

To enter new profile data for the reporting parameters that you specified, choose *Create* .

The reporting profile specifies each field that is to be printed on a report and the value for each field.

Result

The data needed to create reports for a particular reporting agency, within a specific month and year, is specified in the system.

To execute data processing and generate reports, use the Processing of Royalty Reports [page 548] transaction.

18.3 Agency Product Code to PRA Material Cross Reference

Use

This cross reference links a reporting agency's product code to a PRA material code.

The system uses the cross reference to summarize the royalties and taxes of multiple PRA material codes to the reporting agency product code. (Usually, multiple PRA material codes are cross referenced to a reporting agency product code.)

Activities

From the *SAP Easy Access* menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ . Then choose one of the following:

Table 138:

Follow-on Menu Path	Function
▶ *Royalty Reporting* ❯ *New Royalty Reporting Framework* ❯ *Setup Agency Product Code and PRA Material X-ref* ❯	Royalty Reporting
▶ *Tax Reporting* ❯ *New Tax Reporting* ❯ *State Agency & PRA Material Xref* ❯	Tax Reporting

> **i Note**
>
> In the *Agency Prod Cd* field, specify the agency product code, and in the *Material* field, specify the PRA material to be cross referenced to the agency product code.

18.4   Processing of Royalty Reports

Purpose

Use this process to extract data previously posted in Journal Entry that determines the values to be reported. By using this process you can generate, download, and finalize reports as required.

This process includes the following steps:

Table 139:

Step	Description
Master Change	**The system uses master data (established in the *Master Maintenance* transaction) effective for a particular month and year for a reporting agency.**
Royalty Extraction	The system extracts records from Journal Entry with royalty amounts that need to be reported to an agency for certain owners.

Step	Description
Master Change	The system uses master data (established in the *Master Maintenance* transaction) effective for a particular month and year for a reporting agency.
Validation	The system compares the extracted royalty data with the master data month by month.If the master data does not match the extracted data, then the master data set up is incomplete.
Volume Extraction	The system extracts the different kinds of volumes to be reported (such as sales volume and gross production volumes) from the Production application component.
Report Processing	Because the system extracts everything at the **well/well completion-level** , the system must then summarize the data at the **lease-level** in order to meet the agency's requirements.
Report Finalization	The system completes the processing of the reporting parameters for the month and also creates journal entries.

Prerequisites

The master data required for extraction and reporting is set up in the Master Maintenance [page 546] transaction.

Process Flow

1. From the *SAP Easy Access* menu, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Royalty Reporting* ❯ *New Royalty Reporting* ❯ *Extraction and Reporting* ❯ .
The *Royalty Reporting* screen appears.
2. Enter the reporting parameters and choose *Display Status* .
3. Review the numbers displayed in the columns.

> **i Note**
>
> The number in each column indicates the sequence in which the steps were executed.

> **⚠ Caution**
>
> It is important that the Validation step displays a number greater than the number displayed for the Master Change or Royalty Extraction steps. You must execute the Validation step any time after you change master data or extract royalty data.

4. To display the status of execution for a combination of reporting parameters, choose *Display Status* .

5. To display results at the lease-level after system processing so that you can review data before finalizing it, choose *Display Results* .

6. To display a collection of reports for a particular combination of company code, reporting agency, and product, choose *List Reports* .

> ℹ **Note**
>
> The same report could be listed more than once if a PPA affects the data, thereby requiring an amended report.

> ℹ **Note**
>
> To download a report, select the report and choose *Download* . Or to print a report, select the report and choose *Print* .

7. To extract royalty data, choose *Royalty Extraction* .

8. To execute validation, choose *Validate data* .

9. To display rows that were rejected during validation, choose *Display Rejected Rows* .

> ℹ **Note**
>
> Rows can reject if a lease is not set up properly.

10. To extract volumes, choose *Volume extraction* .

11. To process the report(s), choose *Process Reports* .

> ℹ **Note**
>
> The following values are possible in the *Reporting Processing* column:
>
> -- **P** , indicating that processing is in progress
>
> -- **F** , indicating that the processing failed
>
> -- a number, which represents the step completed

> ℹ **Note**
>
> You can change relevant master data and execute Royalty Extraction, Validation, Volume Extraction, and Reporting Processing as often as needed to achieve the results required before the Report Finalization.

12. Verify that reporting results are ready for Report Finalization.

> ⚠️ **Caution**
>
> Before you choose *Make reports final* , download or print reports as required by choosing *List Reports* .

> ⚠️ **Caution**
>
> You can execute Report Finalization by choosing *Make reports final* **only once** for a particular combination of Reporting Parameters.

> When you choose *Make reports final* , the system considers the month of reporting complete and you can no longer extract or maintain master data for the parameters.

13. After verifying that reporting results are ready for Report Finalization, choose *Make reports final* .
14. To review the progress of a job, choose *Display Log* .
15. To review the report(s) that a job has generated, choose *Display Spool* .

18.5   Setting Up Agency Codes

Use

For Tax Reporting, you use this transaction to set up override affiliation codes for New Mexico .

For Royalty Reporting, you can use this transaction to set up the following types of cross references:

* Field code and field name cross references for Louisiana reports – This cross reference allows a field name to be displayed in the report that is different from the field name maintained in the Production application component.

  > **i Note**
  >
  > The field names entered in this cross-reference override the field names entered at the Production application component.

* Purchaser tax ID and purchaser number cross references for Texas reports – This cross reference links a purchaser tax ID to a purchaser number; Texas requires that both the ID and the purchaser number be shown in the report.

  > **i Note**
  >
  > After you enter this type of cross reference, you must execute the *Extraction and Reporting* transaction in order for the royalty report processing to be successful.

* Purchaser tax ID and contract number – This cross reference is needed for Texas reports.

Activities

From the *SAP Easy Access* menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❳ . Then choose one of the following options.

Table 140:

Follow-on menu path	Function
▐▶ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Set Up Agency Specific Cross References* ❯	Tax Reporting
▐▶ *Royalty Reporting* ❯ *New Royalty Reporting Framework* ❯ *Set Up Agency Category Code and Code Values* ❯	Royalty Reporting

18.6 Set Up Code and Generic Values Dated

Use

You can use this transaction to do one of the following:

- Maintain cross references between an agency lease number and RRC lease data.

  > ℹ **Note**
  >
  > Maintaining this type of cross reference is necessary for processing *non-operated properties* in order to meet GLO reporting requirements which specify that multiple RRC numbers be displayed in a report for an agency lease.
  >
  > RRC numbers are captured in the *Production* application component for wells, but the PRA system processes this data separately from the data for non-operated properties.

- Maintain report-specific data to become effective in the system on a particular date

Procedure

1. From the *SAP Easy Access* menu, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Royalty Reporting* ❯ *New Royalty Reporting Framework* ❯ *Setup Code and Generic Values Dated* ❯ .
2. Enter data as required. Then choose *Create* .

   > ℹ **Note**
   >
   > In order to maintain multiple sets of RRC data for a single agency lease, you assign a different sequence number to each set of RRC data.

3. In the *Description* field, enter the RRC data. Then complete the *Effective To* field.
   Use commas to separate the district code, the oil RRC, the gas RRC, and the field name data that you enter in the *Description* field. An example entry is: `01,456777,57778,FIELDNAME` .

4. Save your entries.

18.7 Migrate Royalty Master Data

Use

Use this transaction to migrate royalty master data (including lease, lease allocation factor, and related property/division of interest/well/well completion data) from the old reporting framework to the new reporting framework.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Royalty Reporting → New Royalty Reporting Framework → Migration → Migrate Royalty Master Data*

The *Master table migration from old to generic royalty reporting tables* screen appears.

Enter data as required.

ⓘ

When the *DEL_LSE* indicator is set, the system deletes contents of the lease table before populating with the migrated data. When this indicator is not set, the data for the lease is updated, or added if the lease is new.

Choose *Execute* .

Result

The data is migrated from the old royalty reporting framework to the new royalty reporting framework.

To review and adjust the migrated data as required, use the Master Maintenance [page 546] transaction.

18.8 Migrate Royalty Transaction Data

Use

Use this transaction to migrate royalty transaction data (including gross volume, gross value, royalty division order, and exemption data) from the old reporting framework to the new reporting framework.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Royalty Reporting → New Royalty Reporting Framework → Migration → Migrate Royalty Transaction Data*

The *History table migration from old to generic royalty reporting tables* screen appears.

Enter data as required.

ⓘ

To upload data from an external flat file, complete the following fields as required:

In the *Royalty file* field, enter the name of the external flat file with royalty data.

In the *Volume* field, enter the name of the external flat file with production data.

Choose *Execute* .

Result

The data is migrated from the old royalty reporting framework to the new royalty reporting framework.

To review and adjust the migrated data as required, use the Master Migration [page 546] transaction.

18.9 Using the Report Driver for PRA Reporting

Use

Use the Report Driver to submit tax, royalty, and regulatory (production) reports in Production & Revenue Accounting.

The Report Driver is a centralized, standardized tool that is used for most of the tax, royalty, and production reports in Production & Revenue Accounting. With a few exceptions (such as OK Royalty and MMS Production), almost all of the tax, royalty, and production reports used in PRA use it. Due to the fact that the Report Driver is a centralized tool, it means that you do not have to use many different individual report transactions to create reports in the ERP system.

The core of the Report Driver is a report generation tool, which pulls data together from various tables into a single report.

The following lists which reports the Report Driver is used for, and which reports it is not used for, by reporting area:

Table 141:

Reporting area in PRA:	The Report Driver is used for:	The Report Driver is not used for:
Tax reporting	All states, all reports.	---
Royalty reporting	The Generalized State Report, Texas reports, New Mexico reports. All state reports except those listed at right.	MMS, Oklahoma, Wyoming.
Regulatory (production) reporting	Texas reports (Texas P1, P2, P1B).	MMS, New Mexico, Louisiana reports, Wyoming.

If you want to see a full list of all the reports that the Report Driver can be used with, you can look at the drop-down list box for the *Reg.Report* field on the *Report Execution* (Report Driver) screen. The drop-down list box contains all the reports.

Each time you run the Report Driver, the following are produced:

A main report, and

An error report.

The main report is stored in the database, and temporarily-required information like the error reports is stored in the file system. You can view each individual dataset, and print it out, or download it and send it to the relevant governmental reporting authority.

Procedure

From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting* ...

Table 142:

For Tax reporting:	(follow the path listed directly above and then choose)... *Tax Reporting Old Tax Reporting Submit Tax Reports* .
For Royalty reporting:	... *Royalty Reporting Old Royalty Reporting Submit Royalty Reports*
For Regulatory (production) reporting:	... *Production Regulatory Reporting Old Regulatory Reporting Submit Production Regulatory Reports*

The transaction code for the Report Driver is O3UH_REPEX. If you want to centrally access the Report Driver, you can use that transaction to do so.

The *Report Execution* screen is displayed.

The first field on that screen – the *Reg.Report* field – contains the names of reports that you can choose from. Select the report that you would like to submit. The input fields on the *Report Execution* screen will change dynamically, based on what report you select.

The reports that are displayed in the matchcode ID dropdown box for the *Reg . Report* field are based on the user-assigned authorizations, which can be given using authorization object O_OIUH_REP based on the reporting type (tax, royalty or production), state, company code (org.level) or individual report (JIL).

Enter the reporting month and year for the report, as well as any other relevant parameters (company code, etc.). Also enter whether you want the report run to be a trial run or a final run (a trial run is like creating the report as a draft version).

Select *New Report Execution* (the *Create* icon).

A pre-execution screen is now displayed.

On that screen, select *Execute Report* . Selecting *Execute* generates the report for the data you entered, and generates the report files – it pulls all the relevant data together (from the relevant tables) for the report that you chose. You can now view that data in the *Report Executions* ALV screen area at the bottom of the screen.

The status of the report execution is displayed in the *status* field of the list at the bottom of the screen.

The following statuses exist:

Table 143:

10	Report generation scheduled
11	Report generation running
12	Report generation completed
13	Report generation failed
14	Report generation rescheduled
15	Report generation outdated (reallocation)
20	Report finalization scheduled
21	Report finalization running
22	Report finalization completed
23	Report finalization failed
24	Report finalization rescheduled

You can update the list of report runs and also the current status. To do that, select the *List* button.

From the list of report files in the ALV list at the bottom of the screen, you can double click on one item in the line.

To display the job log, double click on a job name or number.

To access the Report Results screen, double click on any field other than the job name or number. The Report Results screen displays all of the files for the report.

To view the Detail Report, double click an individual line entry. The Detail Report is the information that you will be supplying to the government agency, or a supplemental report.

i

If the file name column is empty, it means that that dataset is saved in the database. Not all of the files that appear in the file name column will be files that will be reported to the government. All intermediate or empty files created by each run are automatically deleted by the system at the end of the run.

Regeneration:

If a specific report has already been generated, and you want to generate it again, you can regenerate it. To do that, on the *Report Execution* screen, select *Regenerate Report* .

Report finalization:

You can only finalize a report once. After you have finalized a report, it is not possible to carry out another finalization for the same report month/year/company and amended/current. You can, however, amend reports.

18.10 Form MMS-2014

Definition

Form MMS-2014 is the "Report of Sales and Royalty Remittance" and is used to report and document royalties (revenues) and other obligations due on Federal and Indian oil and gas leases, as well as on geothermal leases.

It is also used to document the details of royalty payments and sales of minerals from leases on Federal and Indian lands. The report is filled out by the "payor" (the oil and gas company that operates the lease) and sent to the Minerals Management Service (MMS) – Minerals Revenue Management program of the U.S. Department of the Interior. The Minerals Revenue Management program (MRM) receives and processes the payments through a financial accounting system of the MRM, using information reported on Form MMS-2014 by the payor.

The MMS is responsible for collecting, accounting for, and disbursing revenues on minerals produced from Federal and Indian lands. The Minerals Revenue Management (MRM) program – a program within MMS – receives and processes those payments through a financial accounting system, using the information reported on the MMS 2014 form. Proper reporting allows the MMS to disburse revenues in a timely manner and allows businesses to reduce costly follow-up efforts and the possibility of assessment actions.

The data and process flow for MMS-2014 within the ERP system

Table 144:

Source data - extraction tables	Report generation	Report finalization
PRA General Ledger Owner Payable Subledger Statistical Subledger Tax tables	Report generation with MMS-2014 (transforms the extraction data into an MMS-level report)	MMS-2014 ASCII file creation JE interface file creation

The main source of information and instructions on how to fill out and use the MMS-2014 is the Minerals Revenue Handbook. The Handbook is published by the MMS. You can either obtain a paper copy, or access it on the MMS website.

The MMS also has a CD version of the Handbook, which you can obtain. The Minerals Revenue Handbook contains the most up-to-date information on MMS reporting, as well as examples on how to complete Form MMS-2014.

As the payor (owner, operator), you have to pay royalties to the U.S. federal government for product sold or removed from a lease on federal, Indian, or offshore leases.

For onshore leases, the royalty rate normally ranges from 12 % - 33 %.

For offshore leases, the royalty rate normally ranges from 16 % to 65 %.

In general, the MMS-2014 royalty calculation is as follows:

Table 145:

Sales volume x price x royalty rate = royalty value

> ℹ **Note**
>
> In some circumstances, a sliding scale exists, meaning that the royalty rate that you have to pay fluctuates with the volume produced. Refer to the Minerals Revenue Handbook for more information on that.

Master data for the Form MMS-2014 is critical for the accuracy of data transmitted to the MMS. The MMS-2014 royalty payment calculation relies on the precision and integrity of the master data. Therefore, it is important to understand the potential consequences of maintaining inaccurate master data. Changes to master data could reflect adjustments or corrections to previously reported MMS-2014 data. The concept of date effective records drives the master data record dependency and controls the generation of prior period adjustments (PPAs). Depending on the method used to change or update MMS-2014 master data record changes will control the creation of PPA reversal and rebooking records.

What you report to the MMS on

Lease production – it is a requirement of the MMS that you report all production produced, removed from, or allocated to lease premises. You have to pay on 100% of lease production.

When the Form MMS-2014 is required

You will have to submit a Form MMS-2014 if you assume responsibility for reporting and paying (one or more of) the following:

Royalties on production from Federal or Indian leases and agreements

- Rent or minimum royalty
- Royalties on the sale or test production from the initial lease well before the lease is classified as capable of producing
- Fees on a gas storage agreement
- Royalties on compensatory royalty agreements or assessments against Federal or Indian lands.
- Well fees, if stated in the lease terms
- All other situations, as listed in the Minerals Revenue Handbook.

Leases that are reported and paid to MMS

Table 146:

Federal leases	
Royalty	Royalty is any part of oil, gas, and geothermal resources or their cash value paid by a lessee to a lessor and/or parties acquiring possession of royalty rights based on a certain percentage of production from the property. Are based on 100 % of production. Can be either actual or allocated production.Can be unit participating areas or communitization agreements.
Minimum royalty	An amount per acre. Royalties count toward fulfilling an obligation; it is due on of before the last day of the lease year.
Rent	An amount per acre. It is usually recoupable on Indian leases. It is due on the anniversary of the lease.
Indian leases	
Producing (royalty/advance rental)	
Non-producing committed to producing agreements (rent)	

Indian leases not reported to MMS: See the Minerals Revenue Reporter Handbook for a full list of Indian leases that do not have to be reported to the MMS.

Table 147:

"What is a lease-level transaction ? "   A lease-level transaction is, according to the MMS, "An obligation that is reported against the lease rather than against a specific product or sales type".   In the PRA system, within MMS-2014 reporting, you can either report based on lease, or based on well completion, or product or sales type.

> **ⓘ Note**
>
> Form MMS-2014 has been streamlined by the MMS as ofOctober 1, 2001

Reporting levels

You can carry out Form MMS-2014 reporting at one of three levels:

- Venture level – reporting is for the entire venture/lease
- Well completion level – reporting is based on the production of specific well completions
- Both venture and well completion level – reporting is based on both venture and well completion level

ⓘ

Before you actually carry out the reporting in the SAP system, you have to first decide what reporting level you are going to use.

When to file

Forms MMS-2014 and related payments are due at the MMS by 4 p.m. mountain time (the MMS is located in Denver) on or before the last day of the month following the month the product was sold or removed from the lease, unless lease terms state that royalties are due otherwise. In other words, if the production takes place in July 2001, the Form MMS-2014 for that production month is due on or beforeAugust 31, 2001. Royalty payments are due the next business day following a weekend or Federal holiday. Minimum royalty is due the last day of the lease year. (Please always refer to the Minerals Revenue Reporter Handbook for complete details on when to file).

Reporting format

The MMS now prefers that reporters (payors) report Form MMS-2014 electronically (See the latest version of the *Minerals Revenue Reporter Handbook)* . If you are not required to report electronically – which is a rare exception, you can print copies of Form MMS-2014 from the MMS website (www.mrm.mms.gov/ reportingservices/forms/forms.htm), fill them out, and send them to the MMS (see below for the address to send the Report to). The MMS requires that paper copies conform to the format: 8.5 inches long by 14 inches wide.

In some circumstances, you can combine multiple electronic reports as one document. However, the MMS does not allow paper and electronic documents to be combined as one document. (See the Minerals Revenue Reporter Handbook for more details on that).

Payment methods

Payment methods are summarized on the Form MMS-2014 in the Report Control Block at the bottom of the Form.

The following payment types exist

Table 148:

Check to MMS	Checks and payments must include a payor code and PAD number (payor-assigned document number). The payor code and the PAD number that appear on the actual pay-ment (check) must be the same as the payor code and PAD that are in the SAP system for that transaction.

Indian direct pay	Direct payment to an Indian tribe by the payor.
EFT payments	Electronic funds transfer
Royalty-in-Kind	An arrangement in which the lessor (government, MMS) receives royalties in the form of production (oil or gas) instead of dollars.
Checks to MMS for BIA	(BIA = Bureau of Indian Affairs)
Other	
Indian lockbox	Payments directly to the bank account of an Indian tribe.

Paper filing:

- MMS now prefers electronic filing and discourages paper filing. However, if you want to file the MMS-2014 as a paper copy to the MMS, you have to first obtain express permission from the MMS (by phone) before you file. After obtaining permission, send the paper copy of the form to:

Minerals Management Service

Royalty Management Program

P.O. Box5810

Denver, Colorado 80217-5810

Electronic filing:

Electronic reporting options

Refer to the *Minerals Revenue Reporter Handbook* for the full details on how to electronically report.

The options are as follows:

1. Internet filing (Web form) – You complete Form MMS-2014 residing on the Internet and submit reports directly to Peregrine's secure Web site
2. "Pro client" – You use software provided by e-commerce provider Peregrine Systems – Peregrine provides a software package to reporters who then import ASCII or CSV file formats into the software and, upon completion, access the Internet and send the file(s) directly to Peregrine.
3. EDI – You send an X12 EDI file to Peregrine – Reporters submit monthly Form MMS-2014 to the MMS using a value-added network (VAN)

The company that submits the payment must also submit a Form MMS-2014.

The Form MMS-2014 must have a matching payment. The payment total and the form MMS-2014 total must match.

Takes and entitlements

There are two methods used for reporting sales for Federal and Indian leases – "takes", and "entitlements".

- Takes– You report and pay royalties based on the actual volume of production sold or removed from the lease or from the lease-agreement combination.

To calculate the sales volume, multiply the total production sold or removed from the lease by the Federal and/or Indian mineral ownership interest in the lease.

Total production volume x Fed./Indian mineral ownership = sales volume

Interest

- Entitlements– You report and pay royalties based on the volume of production sold or removed from the agreement allocated to your lease under the approved allocation schedule. To calculate the sales volume, multiply the total agreement production sold or removed from the lease by:

The tract percentage of the lease

The federal and/or Indian mineral ownership interest in the lease, and

Your company's working interest percentage in the lease

Total agreement x tract percent x Fed./Indian mineral x company = sales volume

production volume ownership interest working int.

- For full and complete information on how to complete and submit the form, please refer to *The Oil and Gas Payor Handbook* (the handbook is revised often !).

Deductions

Before a payment is made to the MMS, deductions from the royalty due amount can be taken out of the royalty due amount, in order to reflect costs that the payor incurs related to the transaction. There are two types of deductions available for MMS-2014: transportation deductions, and processing deductions.

Transportation allowance deduction= A deduction from royalty due for the reasonable, actual costs of transporting production amounts from the lease to a sales point or point of value determination off the lease (MMS encourages you to report your transportation allowance as part of your royalty due transaction, rather than a separate line of reporting).

Processing allowance deduction= A deduction from royalty due for the reasonable, actual costs of extracting and recovering gas plant products from a gas stream (MMS encourages you to report your processing allowance as part of your royalty due transaction, rather than a separate line of reporting).

Royalty Value Less Allowances = The royalty value after you deduct transportation and/or processing allowances.

Note:

It is now an MMS requirement that you report transportation and processing allowances.

"Net royalty" is royalty minus the deductions (such as allowances).

Form MMS-2014 Confirmation Report

This report is available to payors once all Form MMS-2014 rejected lines are corrected. MMS provides the confirmation report through the MMS website. The report displays lines as reported by the payor and as corrected by MMS. You can use the confirmation report to make adjustments on future reports.

Recoupment–

Recoupment is needed if, for example, you have reported too much to the MMS, and would like to get that amount back (recoup that amount). A recoupment is an adjustment on Form MMS-2014 that results in a net negative total for the transaction. The credit is recovered from the balance of the document. It is the fastest and most cost-effective way to correct an overpayment.

Refund–

A refund is a payment made by MMS to a payor. MMS prefers overpayments to be recouped against revenue on Form MMS-2014. Otherwise, notify MMS by telephone, fax, or in writing of a refund request. Include the following:

An explanation of how the overpayment occurred

Request for a specific amount

Taxpayer identification or social security number

Correcting Form MMS-2014 or copy of check

In most cases, MMS will send your refund electronically. Include the following:

Payor name

Bank name, city, and state

Nine-digit American Banking Association (ABA) number

Bank account number and account type (c – checking, or s – savings)

Taxpayer identification or social security number

Integration

MMS-2014 has specific customizing activities within the IMG. Within each activity, specific table entries have to exist to maintain MMS-2014 master data and to generate the MMS-2014 report.

To access this area, in the IMG, choose *SAP Reference IMG Industry Solution Oil & Gas (PRA) Production, Tax and Regulatory Reporting Royalty Reporting MMS-2014* , and then choose the activities under that:

Table 149:

IMG activity:	Description of what to do in this activity:
Maintain Indian Tribes	In this activity, you set up the Indian tribes that will be used in MMS-2014 Reporting. Specifically, you enter the code for each tribe, along with a text description of the Indian tribe.
PRA Material and MMS Product Code Cross-Reference	In this activity, you enter materials which are already defined in your system (in Materials Management), and which are relevant for MMS Reporting. This table represents a cross-reference between the PRA material and the MMS product code, and is maintained after all PRA materials have been defined. This is only used for validity checks. There are scenarios in which one material can be mapped to multiple product codes and vice versa.

Maintain System Number Range Intervals for MMS-2014 Processing	In this activity, you can set up the system number range intervals. You maintain the number range objects for the following: lease PPA record number, payor property cross-reference PPA record number, payor well completion cross reference PPA record number, Lease record number, payor property cross-reference record number, payor well completion cross-reference record number.
Maintain Supplemental Reports	In this step, you enter a custom or SAP-delivered report program and a variant, by MMS-2014 component step. The entries in this table will be defaulted in the supplemental reports dialog box, when the respective component step is executed. Even with the dialog box, you can override the variant field or leave it blank. The dialog box that appears when executing each component step also allows you to enter custom or SAP-delivered report programs with variants.
Transport Supplemental Report Variants	In this activity, you create a transport request for report program variants. This is necessary, because the previous IMG activity 'Maintain Supplemental Report' could contain a variant that you want the report program (custom or SAP-delivered) to execute with, must be maintained in your SAP development environment to be transported to your SAP production environment. This allows you to create the variant in your SAP development environment, for testing, then maintain the IMG activity, Main Supplemental Reports, with your new variant, then transport the IMG table entries and your new variant to your production system.

Example

Example A:

MMS lease number = 054 007777-0

Sales month = October, 2001

Product = Oil

Product code = 01

Product amount sold = 999 bbl of oil

Price = $ 22/bbl.

Royalty rate = 12.5 %

Payment method = Check to MMS

Royalty value calculation:

18.10.1 Using Form MMS-2014

Use

Use this to carry out Form MMS-2014 reporting.

You can use this transaction to do the following:

Set up master data for MMS-2014 reporting

Create the MMS-2014 report

Query MMS-2014 reports that have already been created

For more information on Form MMS-2014, see Form MMS-2014 [page 557]

Before you create the MMS-2014, it is necessary to set up the master data for it.

Procedure

1. From the SAP Easy Access Menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting Royalty Reporting MMS MMS-2014 Workplace.*

The *MMS-2014 Workplace* screen appears.

Setting up master data for MMS-2014 Reporting

First decide whether you will be reporting your MMS-2014 data at venture or at well completion level, and based on that, proceed by following the relevant option below.

Master Data / Well Completion screen tab

Use this if you are reporting MMS-2014 data at the well/well completion level.

From the SAP Easy Access Menu, choose *Logistics Production and Revenue Accounting Production* , *Tax and Royalty Reporting Royalty Reporting MMS MMS-2014 Workplace* .

Select the *Master Data/ Well Completion* screen tab. This is where you choose what tables you will be saving master data to for MMS-2014 reporting. Select *Setup* . In the *Data Type* field, select what type of master data record you would like to set up (for a description of each one, see the table above).

Select the *Payor/Well completion* screen tab. This sets up a cross-reference between payor and well completion. Enter the relevant data, and then select *Create* . You can now enter the data for your record. You have to enter a payor and a record type. Choose *Save* .

Alternately, you can maintain (change, delete) payor/well completion records that already exist in the database. To do that, on the *Payor/well completion* screen tab, enter a well and well completion, and then select *Execute* . The system will display a list of records corresponding to your query. From there, you can use change mode to change the record.

Select the *Lease/Well Completion* screen tab. The table behind this functionality stores lease detail data specific to a lease and/or agreement. Each lease record must be associated with at least one payor / well completion record. Either create a record or use the query function to display a list of records, which you can then modify (as described above).

Set up the sales types for the well completions. The sales type defines what type of product transaction is being reported.

The table behind this functionality stores the sales type detail data for specific PRA / MMS products for a contract involved in a lease. Note: the same key sales type records cannot overlap effective date ranges.

To create records of this type, select the *Sales Type/Well Completion* screen tab. Enter the relevant data (as with the processes above, you can either directly create a record, or you can display a list of records and then modify records from the list).

18.10.2 Using the MMS-2014 Extraction Rejects Report

Use

Use this after you have extracted data as part of the MMS-2014 reporting process to view a list of rejected extraction data, based on selection criteria that you enter.

The table that this report queries will only return a list if rejects occurred. When rejects occur, a table is populated with the reject data, and you can use this transaction to query that table. The report allows you to define a number of selection criteria for your query.

Procedure

1. From the SAP Easy Access Menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Royalty Reporting → MMS → Reports → MMS Extraction Rejects Report* .

The *MMS 2014 Reports – Extraction Reject Report* screen appears.

1. Enter the relevant data for your search.
   Select *Execute* .

Result

The system produces a list of rejected extraction records.

18.10.3 Using the MMS-2014 Historic Extract Transaction Report

Use

Use this to run a report that displays the historic data that was extracted at a PRA Revenue accounting level as part of the MMS-2014 reporting process.

Procedure

- From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax, and Royalty Reporting → Royalty Reporting → MMS → Reports → MMS Historic Extract Trans Report* .

The *MMS–2014 Reports – Royalty Historic Transactions* screen is displayed.

1. Enter the relevant criteria for your search.
2. Select *Execute* .

A list of historic data is displayed for the MMS-2014 report.

18.10.4 Using the MMS-2014 Indian Recoupment Report

Use

Use this to query a table that contains the balances that Indian tribes owe your company, as part of MMS-2014 reporting.

An overpayment situation might arise, for example, if you had overpaid an Indian tribe as part of MMS-2014 reporting. During report finalization in MMS-2014 processing, the system updates Indian recoupable balances, which is the table that is queried here.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Royalty Reporting → MMS → Reports → MMS Indian Recoupments Report* .
2. Enter the relevant data for your search.
3. Select *Execute* .

The report runs and produces a list of Indian recoupables.

18.10.5 Using the MMS-Level Pending Royalty Trans. Report

Use

Use this to run a query of the data that was in the report generation process, which is the second step in MMS-report processing:

Data Extraction

Report Generation

Report Finalization

ℹ️

"Pending" means that the data is not yet finalized.

Procedure

From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting Royalty Reporting MMS Reports MMS Level Pending Royalty Trans Report*

The *MMS-2014 Reports – Pending MMS Transactions* screen is displayed.

Enter the relevant search criteria for your search.

Select *Execute* .

A list is displayed of the data in the Report Generation step.

18.10.6 Using the MMS-Level Historic Royalty Transactions Report

Use

Use this to run a query on the data that is in finalized ("historic") form – as opposed to "pending" form - within the MMS-2014 report process.

That is the data in the third step of MMS-2014 reporting:

Data extraction

Report generation

Report finalization

Procedure

From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting Royalty Reporting MMS Reports MMS Level Historic Trans Report*

The *MMS-2014 Reports – MMS Historic Transactions* screen is displayed.

Enter the relevant search criteria.

Select *Execute* .

A list of the finalized – historic data is displayed for the report.

18.10.7 Creating a Printable MMS-2014 Form Upon Finalization

Use

Use this to create a printed paper MMS-2014 Form after data finalization is complete.

This is usually carried out as the last step in MMS-2014 processing, and only after the report has been finalized. You can use this to print out the data as a SMART form.

ⓘ

The MMS agency does not generally accept printed paper MMS-2014 Reports anymore, but expects the reports to be sent in electronically. However, there are situations in which you would want to create a paper form, for example, if you are requested to send a paper form to an Indian owner.

Procedure

From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting Royalty Reporting MMS Reports MMS Printable 2014 Form – Upon Final* .

The *Printable 2014 Form – Upon Finalization* screen is displayed.

Enter the company code and the reporting sales year and month.

Select *Execute* .

The system displays the report data based on your search. You can create a SMART form and a paper form based on that.

19 Tax Reporting

Purpose

Based on a variety of data, such as company code and month, that a user specifies in a tax or royalty report transaction, the system determines the amounts of royalty and/or tax payments due for particular properties.

The company code and the month are essential for the system to determine the amounts of payments because the company code specifies particular properties while the month specifies for which period the payments are due for those properties.

Integration

The Tax Reporting application component utilizes the following integration.

- Take-in-kind data from Contractual Allocation
- Taxes payable subledger generated by Revenue Distribution
- Production data

Features

Reporting features include the following:

Trial Reports

If you need to execute a trial report, you can execute a report as often as required in order to extract data from the system again.You can execute both current and amended reports on a trial basis.

Prior Period Adjustments

The system includes any relevant prior period adjustments (PPA) when calculating amounts that are due.You can produce an amended report when PPAs result from (1) volumes or values that were reported incorrectly, or (2) incorrect master data assignments, such as when a property is assigned to the wrong lease.

See also:

19.1 Using the Report Driver for PRA Reporting

Use

Use the Report Driver to submit tax, royalty, and regulatory (production) reports in Production & Revenue Accounting.

The Report Driver is a centralized, standardized tool that is used for most of the tax, royalty, and production reports in Production & Revenue Accounting. With a few exceptions (such as OK Royalty and MMS Production), almost all of the tax, royalty, and production reports used in PRA use it. Due to the fact that the Report Driver is a centralized tool, it means that you do not have to use many different individual report transactions to create reports in the ERP system.

The core of the Report Driver is a report generation tool, which pulls data together from various tables into a single report.

The following lists which reports the Report Driver is used for, and which reports it is not used for, by reporting area:

Table 150:

Reporting area in PRA:	The Report Driver is used for:	The Report Driver is not used for:
Tax reporting	All states, all reports.	---
Royalty reporting	The Generalized State Report, Texas reports, New Mexico reports. All state reports except those listed at right.	MMS, Oklahoma, Wyoming.
Regulatory (production) reporting	Texas reports (Texas P1, P2, P1B).	MMS, New Mexico, Louisiana reports, Wyoming.

If you want to see a full list of all the reports that the Report Driver can be used with, you can look at the drop-down list box for the *Reg.Report* field on the *Report Execution* (Report Driver) screen. The drop-down list box contains all the reports.

Each time you run the Report Driver, the following are produced:

A main report, and

An error report.

The main report is stored in the database, and temporarily-required information like the error reports is stored in the file system. You can view each individual dataset, and print it out, or download it and send it to the relevant governmental reporting authority.

Procedure

From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Production, Tax and Royalty Reporting* ...

Table 151:

For Tax reporting:	(follow the path listed directly above and then choose)... *Tax Reporting Old Tax Reporting Submit Tax Reports* .
For Royalty reporting:	... *Royalty Reporting Old Royalty Reporting Submit Royalty Reports*
For Regulatory (production) reporting:	... *Production Regulatory Reporting Old Regulatory Reporting Submit Production Regulatory Reports*

The transaction code for the Report Driver is O3UH_REPEX. If you want to centrally access the Report Driver, you can use that transaction to do so.

The *Report Execution* screen is displayed.

The first field on that screen – the *Reg.Report* field – contains the names of reports that you can choose from. Select the report that you would like to submit. The input fields on the *Report Execution* screen will change dynamically, based on what report you select.

i

The reports that are displayed in the matchcode ID dropdown box for the *Reg . Report* field are based on the user-assigned authorizations, which can be given using authorization object O_OIUH_REP based on the reporting type (tax, royalty or production), state, company code (org.level) or individual report (JIL).

Enter the reporting month and year for the report, as well as any other relevant parameters (company code, etc.). Also enter whether you want the report run to be a trial run or a final run (a trial run is like creating the report as a draft version).

Select *New Report Execution* (the *Create* icon).

A pre-execution screen is now displayed.

On that screen, select *Execute Report* . Selecting *Execute* generates the report for the data you entered, and generates the report files – it pulls all the relevant data together (from the relevant tables) for the report that you chose. You can now view that data in the *Report Executions* ALV screen area at the bottom of the screen.

The status of the report execution is displayed in the *status* field of the list at the bottom of the screen.

The following statuses exist:

Table 152:

10	Report generation scheduled
11	Report generation running

12	Report generation completed
13	Report generation failed
14	Report generation rescheduled
15	Report generation outdated (reallocation)
20	Report finalization scheduled
21	Report finalization running
22	Report finalization completed
23	Report finalization failed
24	Report finalization rescheduled

You can update the list of report runs and also the current status. To do that, select the *List* button.

From the list of report files in the ALV list at the bottom of the screen, you can double click on one item in the line.

To display the job log, double click on a job name or number.

To access the Report Results screen, double click on any field other than the job name or number. The Report Results screen displays all of the files for the report.

To view the Detail Report, double click an individual line entry. The Detail Report is the information that you will be supplying to the government agency, or a supplemental report.

ⓘ

If the file name column is empty, it means that that dataset is saved in the database. Not all of the files that appear in the file name column will be files that will be reported to the government. All intermediate or empty files created by each run are automatically deleted by the system at the end of the run.

Regeneration:

If a specific report has already been generated, and you want to generate it again, you can regenerate it. To do that, on the *Report Execution* screen, select *Regenerate Report* .

Report finalization:

You can only finalize a report once. After you have finalized a report, it is not possible to carry out another finalization for the same report month/year/company and amended/current. You can, however, amend reports.

19.2 Creating or Maintaining a Tax & Royalty Profile

Use

Use this transaction to specify the following information for tax and royalty reports:

- reporting entity identification numbers
- contact information for the individual representing the reporting company
- royalty owner information

Procedure

At the *SAP Easy Access* screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯

Table 153:

Follow-on Menu Path	Function
▶ *Tax Reporting* ❯ *Old Tax Reporting* ❯ *Master Maintenance* ❯ *Tax and Royalty Profile* ❯	Tax Reporting
▶ *Royalty Reporting* ❯ *Old Royalty Reporting* ❯ *Master Maintenance* ❯ *Tax and Royalty Profile* ❯	Royalty Reporting

The *Tax and Royalty Profile: Initial Screen* appears.

Specify a report and its corresponding effective dates and contact information.Also enter the royalty owner information for the report.

Save the profile.

Using a Reference to Create a Tax & Royalty Profile

To create a tax and royalty profile with reference to an existing record, at the *Tax and Royalty Profile: Initial Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Tax & Royalty Profile

To change or display a tax and royalty profile, at the *Tax and Royalty Profile: Initial Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

19.3 Severance Tax Master File

Definition

A record that enables state-assigned information to be linked with tax transaction data.

Use

Use the *Severance Tax Master File* transaction (▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production,Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *Old Tax Reporting* ❯ *Master Maintenance* ❯ *Severance Tax Master File* ❯) to create or maintain master data required for state tax reporting.

With the application you can establish master data for the following states:

- Kansas
- Louisiana
- New Mexico
- North Dakota
- Oklahoma
- Texas
- Wyoming

The system identifies transactions that do not have a corresponding tax master record and generates a report listing the transactions. The report is useful in identifying properties that have been added prior to the Tax and Royalty Reporting process.

> ℹ **Note**
>
> When retrieving lease master data in the *Severance Tax Master File* transaction, it is important to enter both the state and lease number to retrieve a full list of master data for a lease.

19.4 Creating or Maintaining a Severance Tax Transaction

Use

Use this transaction to create and maintain state tax information which will ultimately appear on state tax reports.The severance tax transactions are created in the Valuation application area based on raw volume data retrieved from the Production application.

Modifications made to this data will not change any of the source data, but changes are allowed here to facilitate printing accurate data on the tax reports.

Procedure

At the SAP Easy Access screen, choose ▶ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Production, Tax and Royalty Reporting* ❭ *Tax Reporting* ❭ *Old Tax Reporting* ❭ *Master Maintenance* ❭ *Tax Transaction* ❭ .

The *Severance Tax Transaction: Initial Screen* appears.

Choose *Create* .

The *Severance Tax Transaction - Create* screen appears.

Enter data as required.

Save your entries.

Using a Reference to Create a Severance Tax Transaction

To create a severance tax transaction with reference to an existing record, at the *Severance Tax Transaction: Initial Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, select one of the records from the list.

- OR
- If only record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Severance Tax Transaction

To change or display a severance tax transaction, at the *Severance Tax Transaction: Initial Screen* , enter data as required.Then choose *Execute.*

If more than one record matches the data you entered, select one of the records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

19.5 Creating or Maintaining a Colorado Ad Valorem Record

Use

Use this transaction to establish and maintain information for Colorado ad valorem tax reports.

Procedure

At the SAP Easy Access screen, choose ▌ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *Old Tax Reporting* ❯ *Master Maintenance* ❯ *Colorado Ad Valorem* ❯ .

The *Colorado Ad Valorem: Initial Screen* appears.

Choose *Create* .

The *Colorado Ad Valorem - Create* screen appears.

Enter data as required.

Save your entries.

Using a Reference to Create a Colorado Ad Valorem Record

To create a Colorado Ad Valorem record with reference to an existing record, at the *Colorado Ad Valorem: Initial Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, select one of the Colorado Ad Valorem records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Create* to create a new record with the data from the record you selected.

Changing or Displaying a Colorado Ad Valorem Record

To change or display a Colorado Ad Valorem record, at the *Colorado Ad Valorem: Initial Screen* , enter data as required.Then choose *Execute* .

If more than one record matches the data you entered, select one of the Colorado Ad Valorem records from the list.

OR

If only one record matches the data you entered, the single record is displayed.

Choose *Change* or *Display* to change or display the record as required.

19.6 Agency Product Code to PRA Material Cross Reference

Use

This cross reference links a reporting agency's product code to a PRA material code.

The system uses the cross reference to summarize the royalties and taxes of multiple PRA material codes to the reporting agency product code. (Usually, multiple PRA material codes are cross referenced to a reporting agency product code.)

Activities

From the *SAP Easy Access* menu, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ . Then choose one of the following:

Table 154:

Follow-on Menu Path	Function
▌▶ *Royalty Reporting* ❯ *New Royalty Reporting Framework* ❯ *Setup Agency Product Code and PRA Material X-ref* ❯	Royalty Reporting
▌▶ *Tax Reporting* ❯ *New Tax Reporting* ❯ *State Agency & PRA Material Xref* ❯	Tax Reporting

> **i Note**
>
> In the *Agency Prod Cd* field, specify the agency product code, and in the *Material* field, specify the PRA material to be cross referenced to the agency product code.

19.7 Tax Reporting Master Maintenance

Use

The *Tax Reporting Master Maintenance* transaction (▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Tax reporting master maintenance* ❯) is a single transaction in which you can maintain the following master data for tax reporting:

- Production units (that is, leases)

- Cross-references between production units and properties
- Federal, agency, and operator IDs
- A Smart Form to be used for a particular tax report

> **i Note**
>
> When entering master data for tax reporting, you also enter the month and year on which the master data that you enter is to become effective.

Functions

The *Tax Reporting Master Maintenance* transaction comprises the following functions.

- Maintaining Production Units (Leases) for an Agency [page 580] – Used to create and maintain a list of production units (that is, leases) that are valid for a particular agency.
- Maintaining Production Unit (Lease) Data [page 581] – Used to maintain changes to lease attributes, such as the operator.
- Maintaining Links from Property Data to a Production Unit [page 582] - Used to link property data to the production unit.
- Maintaining Joint Venture/Well Data [page 583] - Used to enter data that corresponds with a particular joint venture/well combination, such as operator data or reference numbers.
- Maintaining Company-Dependent Attributes [page 584] – Used to maintain attributes (such as federal and agency IDs) for a particular company code.
- Maintaining Assignments of Smart Forms to Reports [page 585] – Used to assign a particular Smart Form to a tax report.

19.7.1 Maintaining Production Units (Leases) for an Agency

Use

Use this function to define valid production units (that is, leases) for an agency.

Activities

Linking Production Unit IDs to an Agency

At the SAP Easy Access menu, choose ▌▶ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Production, Tax and Royalty Reporting* ❭ *Tax Reporting* ❭ *New Tax Reporting* ❭ *Tax reporting master maintenance* ❭ .

The *TAX REPORTING MASTER MAINTENANCE* screen appears.

Choose the *Prod. Unit – Master* tab.

In the *Agency* field, enter the agency for which you will create or maintain a list of valid production units.Then from the header area of the screen, choose *Create* .

From within the *Prod. Unit – Master* tab, choose *Append row* .

Enter the following data.

- In the *Production Unit ID* field, enter the ID of the production unit/lease that is valid for the agency you specified.
- In the *description* field, enter a description for the production unit/lease.
- Complete other fields as required.Then save your entries.

Displaying Production Units for an Agency

At the *Prod. Unit – Master* tab, enter the agency ID in the *Agency* field.

To display the production unit(s) for the agency, choose *Execute* .

19.7.2 Maintaining Production Unit (Lease) Data

Use

Use this function to maintain and display changes to lease attributes, such as the operator.

Activities

Changing Lease Attributes

At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Tax reporting master maintenance*

The *TAX REPORTING MASTER MAINTENANCE* screen appears.

At the *Prod. Unit – Master* tab, in the *Agency* field, enter the agency ID for which you will maintain lease attribute data.

Choose the *Prod. Unit – Changes* tab.

In the *Reporting Parameters* section of the screen, enter the reporting parameters, including the reporting year and the reporting month, which are the year and the month last used to generate a report for the parameters.

In the *Effective from* section of the screen, enter the year and the month in which the new data for the lease attribute(s) will become effective. Then from the header area of the screen, choose *Create* .

From within the *Prod. Unit – Changes* tab, choose *Append row* .

In the *Production Unit ID* field, enter the production unit ID that identifies the lease for which you will change the attribute(s). Then enter new data for the attribute(s) as required.

i

To add a different set of product unit/lease attribute data, choose *Append row* . Continue to choose *Append row* as many times as required.

Save your entries.

Displaying Lease Attributes

Select the *Prod. Unit – Changes* tab. Then enter the reporting parameters, the effective from year, and the effective from month for which you want to review records.

To display any records that match the criteria that you entered, choose *Execute* .

19.7.3 Maintaining Links from Property Data to a Production Unit

Use

Use this function to link property data to the production unit and to display the linked data.

Activities

Linking Property Data to a Production Unit

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Tax reporting master maintenance*

The *TAX REPORTING MASTER MAINTENANCE* screen appears.

At the *Prod. Unit – Master* tab, in the *Agency* field, enter the agency ID for which you will maintain the link from the property data to the production unit.

Choose the *PUID Xref – Changes* tab.

In the *Reporting Parameters* section of the screen, enter the reporting parameters, including the reporting year and month, which are the year and the month last used to generate a report for the parameters.

In the *Effective from* section of the screen, enter the year and month in which the property data will become effective for the production unit. Then from the header area of the screen, choose *Create* .

From within the *PUID Xref – Changes* tab, choose *Append row* .

An editable blank row appears in the tab.

Enter the property data (company, venture, division of interest, well, well completion) and the production unit ID to which the property data will be linked. Enter other data as required.

⚠️

When entering the venture, division of interest, well, and well completion, include the leading zeroes so that the system retrieves the entities properly. (Entering leading zeroes is necessary because the system stores the leading zeroes for these entities in the database.)

i

To link another set of property data to the production unit ID, choose *Append row* . Continue to choose *Append row* as many times as required.

Save your entries.

Displaying Property Data for a Production Unit

Select the *PUID Xref – Changes* tab. Then enter the reporting parameters, the effective from year, and the effective from month for which you want to review records.

To display any records that match the criteria that you entered, choose *Execute* .

19.7.4 Maintaining Joint Venture/Well Data

Use

Use this function to enter and display data that corresponds with a particular joint venture/well combination, such as operator data or reference numbers.

Activities

Changing Joint Venture/Well Data

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Tax reporting master maintenance.*

The *TAX REPORTING MASTER MAINTENANCE* screen appears.

At the *Prod. Unit – Master* tab, in the *Agency* field, enter the agency ID for which you will maintain data for the joint venture and well.

Choose the *JV/Well - Changes* tab.

In the *Reporting Parameters* section of the screen, enter the reporting parameters, including the reporting year and month, which are the year and month last used to generate a report for the parameters.

In the *Effective from* section of the screen, enter the year and the month in which the data will become effective for the joint venture/well combination. Then from the header area of the screen, choose *Create* .

From within the *JV/Well – Changes* tab, choose *Append row* .

An editable blank row appears in the tab.

Enter the company code, venture, division of interest, and well data. Then enter the operator and reference numbers, or other applicable data, in order to link it to the venture/well combination.

i

To link another set of data to the venture/well combination, choose *Append row* . Continue to choose *Append row* as many times as required.

Save your entries.

Displaying Joint Venture/Well Data

Select the *JV/Well – Changes* tab. Then enter the reporting parameters, the effective from year, and the effective from month for which you want to review records.

To display any records that match the criteria that you entered, choose *Execute* .

19.7.5 Maintaining Company-Dependent Attributes

Use

Use this function to maintain attributes such as federal and agency IDs for a particular company code.

Federal and agency IDs may need to be maintained, for example, when companies merge.

Activities

Entering Attributes

At the SAP Easy Access screen, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Tax reporting master maintenance.*

The *TAX REPORTING MASTER MAINTENANCE* screen appears.

At the *Prod. Unit – Master* tab, in the *Agency* field, enter the relevant agency ID.

Choose the *RSG – Changes* tab.

In the *Reporting Parameters* section of the screen, enter the reporting parameters, including the reporting year and the reporting month, which are the year and month last used to generate a report for the parameters.

In the *Effective from* section of the screen, enter the year and the month in which the data will become effective for the agency ID changes. Then from the header area of the screen, choose *Create* .

From within the *RSG – Changes* tab, choose *Append row* .

An editable blank row appears in the tab.

Enter the company and attributes such as the federal and/or agency ID data as required.

i

To enter another set of data, choose *Append row* . Continue to choose *Append row* as many times as required.

Save your entries.

Displaying Federal and Agency IDs

Select the *RSG – Changes* tab. Then enter the reporting parameters, the effective from year, and the effective from month for which you want to review records for federal and agency IDs.

To display any records that match the criteria that you entered, choose *Execute* .

19.7.6 Maintaining Assignments of SmartForms to Reports

Use

Use this function to assign a particular SmartForm to a tax report and to display the assignments. The system determines which SmartForm to use when generating the report based on the assignment.

Activities

Assigning a SmartForm to a Report

At the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Tax reporting master maintenance*

The *TAX REPORTING MASTER MAINTENANCE* screen appears.

At the *Prod. Unit – Master* tab, in the *Agency* field, enter the agency ID for which you will assign a SmartForm to a report.

Choose the *Lgl. Rpts – Changes* tab.

In the *Reporting Parameters* section of the screen, enter the reporting parameters, including the reporting year and month, which are the year and month last used to generate a report for the parameters.

In the *Effective From* section of the screen, enter the year and the month in which the SmartForm assignment will become effective.

From within the *Lgl. Rpt – Changes* tab, choose *Append row* .

Enter the report ID and the corresponding SmartForm assignment, in addition to other required data.

ℹ

To enter another SmartForm assignment, choose *Append row* . Continue to choose *Append row* as many times as required.

Save your entries.

Displaying SmartForm Assignments to Reports

Select the *Lgl. Rpt – Changes* tab. Then enter the reporting parameters, the effective from year, and the effective from month for which you want to review SmartForm assignments.

To display any records that match the criteria that you entered, choose *Execute* .

19.8 Setting Up Agency Codes

Use

For Tax Reporting, you use this transaction to set up override affiliation codes for New Mexico .

For Royalty Reporting, you can use this transaction to set up the following types of cross references:

- Field code and field name cross references for Louisiana reports – This cross reference allows a field name to be displayed in the report that is different from the field name maintained in the Production application component.

  > **i Note**
  >
  > The field names entered in this cross-reference override the field names entered at the Production application component.

- Purchaser tax ID and purchaser number cross references for Texas reports – This cross reference links a purchaser tax ID to a purchaser number; Texas requires that both the ID and the purchaser number be shown in the report.

  > **i Note**
  >
  > After you enter this type of cross reference, you must execute the *Extraction and Reporting* transaction in order for the royalty report processing to be successful.

- Purchaser tax ID and contract number – This cross reference is needed for Texas reports.

Activities

From the *SAP Easy Access* menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ . Then choose one of the following options.

Table 155:

Follow-on menu path	Function
▶ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Set Up Agency Specific Cross References* ❯	Tax Reporting
▶ *Royalty Reporting* ❯ *New Royalty Reporting Framework* ❯ *Set Up Agency Category Code and Code Values* ❯	Royalty Reporting

19.9 Tax Reporting Adjustments

Use

The Tax Reporting Adjustments transaction (▎▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Maintain Tax Reporting Adjustments* ❯) is a single transaction with which you can:

- Create manual adjustments to modify values from Valuation transactions, in order to make estimated payments to an agency
- Upload multiple adjustments
- Upload key values that the system can use as a basis to perform suspensions
- Remove a record from suspension

The Tax Reporting Adjustments transaction comprises the following functions.

- Creating Manual Tax Reporting Adjustments [page 587]
- Suspending a Tax Adjustment or Removing a Suspension [page 589]
- Uploading Key Values from a Local Drive for Suspension Purposes [page 590]
- Uploading Tax Adjustment Records from a Flat File [page 591]
- Processing Uploaded Records for Suspension [page 591]

19.9.1 Creating Manual Tax Reporting Adjustments

Use

Use this transaction to modify values from Valuation transactions for reporting purposes in order to make estimated payments to an agency.

Whatever you enter here is posted in the system as an offsetting entry, in addition to the transactions posted by Valuation and Revenue Distribution.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Maintain Tax Reporting Adjustments.*

The *Maintain Tax Reporting Adjustments* screen appears.

Enter data as required.

ⓘ

In the *RSG* field, enter the company for which tax adjustments will be made.

To limit the set of records that the system will retrieve, in the *Adjustments selection criteria* section, enter additional selection criteria.

ⓘ

To retrieve incremental values (that is, the difference between what was reported previously and the current values), select *Net change only* .

To retrieve suspended transactions, select *Suspended only* .

Choose *Create* .

The *Tax Adjustments: Adjustments* screen appears.

Enter data as required.

ⓘ

In the *Sales Year/Month* field, enter the sales month for which the adjustment is relevant.

In the *Adj. type* field, specify whether the adjustment is absolute, (which means that the existing transaction has not been reported) or a net change (which means that the transaction already has been reported).

In the *Pur/Pro Ind* field, specify whether you are reporting as a purchaser or as a producer.

If relevant for the transaction, enter the tax class/tier indicator and school district.

In the *Aff Company Code* field, specify the company affiliated to the operating company.

In the *Adjustment details* section, enter data as required.

ⓘ

In the *Act st tx amt* field, enter the amount to be paid to the state.

In the *Act st tx reimb* field, enter the amount to be reimbursed by the state.

ⓘ

To create a new adjustment by using an existing adjustment, select the row with the tax adjustment data to be copied. Then choose *Create a record with reference to the selected record* .

Save your entries.

See also:

Uploading Tax Adjustments Records from a Flat File [page 591]

19.9.2 Suspending a Tax Adjustment or Removing a Suspension

Use

Use this transaction either to suspend records or to remove records from suspension.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Maintain Tax Reporting Adjustments*

The *Tax adjustments: Selection criteria* screen appears.

Enter data as required.

In the *RSG* field, enter the company.

To limit the set of records that the system will retrieve, in the *Adjustments selection criteria* section, enter additional selection criteria.

To retrieve incremental values (that is, the difference between what was reported previously and the current values), select *Net change only* .

To retrieve suspended transactions, select *Suspended only* .

Choose *Execute* .

The *Tax adjustments: Detail adjustments* screen appears.

Do one of the following:

To suspend the record(s), select the row(s) with the required tax adjustment record(s) and then choose *Suspend tax records* .

To remove records from suspense, select the row(s) with the required tax adjustment record(s) and then choose *Unsuspend tax records.*

19.9.3 Uploading Key Values from a Local Drive for Suspension Purposes

Use

Use this function to upload key values (such as property, division of interest, sales month, and material) into a tax table. The system then uses the key values in the tax table as the basis for monthly suspension of records that match the key values.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Maintain Tax Reporting Adjustments*

The *Tax Adjustments: Selection criteria* screen appears.

Enter data as required.

𝐢

In the *RSG* field, enter the company for which you will upload tax adjustment records.

To limit the data that the system will retrieve, in the *Adjustments selection criteria* section, enter additional selection criteria.

𝐢

To retrieve incremental values (that is, the difference between what was reported previously and the current values), select *Net change only* .

To retrieve suspended transactions, select *Suspended only* .

Choose *Mass upload records for suspension* .

The *Enter destination (Full pathname)* screen appears.

Select the data to be uploaded.

Result

The key values are uploaded and available for suspension.

To suspend records, you must choose the *Process suspense tab* . For more information, see Processing Uploaded Records for Suspension [page 591] .

19.9.4 Uploading Tax Adjustment Records from a Flat File

Use

Use this function to upload tax adjustment records from a flat file on your local drive.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Maintain Tax Reporting Adjustments*

The *Tax Adjustments: Selection criteria* screen appears.

Enter data as required.

ⁱ

In the *RSG* field, enter the company for which you will upload tax adjustment records.

Choose *Upload adjustments data* .

19.9.5 Processing Uploaded Records for Suspension

Use

Use this transaction to process records that have been uploaded for suspension.

Prerequisite

The records to be suspended have been uploaded with the Uploading Key Values from Local Drive for Suspension Purposes [page 590] transaction.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Maintain Tax Reporting Adjustments*

Enter data as required.

i

In the *RSG* field, enter the company for which you uploaded the tax adjustment records to be suspended.

Choose *Process suspense tab* .

Result

The records that were uploaded for suspension with *Uploading Key Values from Local Drive for Suspension Purposes* transaction are suspended.

19.10 Exception Report for GL/TPSL Entries

Use

Use this report to review any discrepancies that may have occurred between original Valuation transactions and offsetting journal entries.

To access the report, choose ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Exception report for GL/TPSL entries.* ▌

19.11 Tax Reporting Processing

Use

The *Tax Reporting Main* transaction is a single transaction in which you can:

- Review whether master data or adjustment data changes were made before beginning tax reporting processing
- Verify that lease data is set up properly for tax reporting processing
- Extract taxes and, as required, non-sales volumes
- Generate reports and create offsetting journal entries for a particular combination of reporting parameters

Activities

The **primary activity** that you carry out with the *Tax Reporting Main* transaction is the execution of the various steps required for tax reporting processing. The transaction allows you to review the status of the steps, and indicates what the next required step is. For more information, see Executing the Steps for Tax Reporting Processing [page 593] .

Other activities include the following:

- Displaying Results [page 594] – Used to review processing results for tax reports.
- Displaying and Downloading Tax Reports [page 595] – Used to display and download reports.
- Displaying Log Details [page 596] - Used to review the results of a tax report processing step.
- Removing the Valuation Posting Lock [page 596] – Used to remove the lock on Valuation posting when a user does not want to complete all tax reporting steps at one time.
- Clean Up Tax Tables [page 597] – Used to remove unwanted tax records from tax tables in order to improve performance.

19.11.1 Executing the Steps for Tax Reporting Processing

Use

Use this transaction to review how many tax report processing steps the system has completed and see what the next required step is.

The possible steps are:

Master change– Indicates whether a change to the master data was carried out. (Changes are entered with the Tax Reporting Master Maintenance [page 579] transaction.)

Adjustment– Indicates whether an adjustment to a Valuation transaction was carried out in order to make an estimated payment to an agency. (Adjustments are entered with the Tax Reporting Adjustments [page 587] transaction.)

Validation– The system verifies that there is a lease that is completely set up for the master data associated with the execution parameters that you specified.

Tax extract– The system retrieves tax data and sales volumes.

Volume extraction– If a state requires it, the system retrieves non-sales volumes (such as gross production volume, beginning stock, and lease fuel).

Report process– The system aggregates and distributes detail-level history data for volume and taxes.

Report finalization– The system completes the processing of the reporting parameters for the month and year that you specified and also creates offsetting journal entries.

Procedure

From the *SAP Easy Access* menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Tax Reporting Main*

The *Tax Processing and Reporting* screen appears.

Enter data as required.

i

In the *RSG* field, enter the company for the tax report.

Choose *Display Status* .

ℹ

The system displays numbers in each column. The numbers represent the sequence in which the steps were executed.

An arrow displayed in the *Next Action* column indicates that additional steps need to be carried out to complete processing. For information about each step/column, see the descriptions in the above *Use* section.

If additional steps need to be carried out, select the arrow in the *Next Action* column to execute the step(s) through to *Report Process* .

After completing the *Report Process* step, verify that reporting results are ready for the final step (*Report Finalization*).

⚠

Before you execute the *Report Finalization* step, download or print reports as required by choosing *List Reports* .

You can execute report finalization only once for a particular combination of reporting parameters. Once you choose *Report Finalization* , the system considers the month of reporting complete and you can no longer extract or maintain master data for the parameters.

After you have verified that reporting results are ready for report finalization, execute the *Report Finalization* step.

19.11.2 Tax Reporting Processing Results

Use

Use the *Tax Reporting Main* transaction (▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Tax Reporting Main* ▌) to review processing results for tax reports.

Activities

Choose *Display Results* .

> ℹ **Note**
> - In the *RSG* field, you enter the company for the tax report.
> - To limit the number of records that the system retrieves, complete the *Selection for Analysis and Reporting* section.

19.11.3 Displaying and Downloading Tax Reports

Use

Use the *Tax Reporting Main* transaction (▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Tax Reporting Main* ❯) to display reports and download reports as required for a combination of execution parameters (including reporting year and month, company code, agency, and oil or gas report).

Activities

- Enter data as required and then choose *List Reports* to review the resulting list of reports that the system has generated.

  > **i Note**
  >
  > In the *RSG* field, enter the company for the tax report.

- To determine whether a report is current (C) or amended (A), review the *C/A ind.* column.

  > **i Note**
  >
  > The same report could be listed more than once if a prior period adjustment (PPA) affects the data, thereby requiring an amended report.

- To display a preview of the report, select the report that you would like to review and then choose *Display* . The report then appears in the Smart Form assigned to the report.

  > **i Note**
  >
  > When you choose *Display* , the system displays the report data in the Smart Form assigned to the report.

  > **i Note**
  >
  > SAP delivers each report with a default Smart Form assignment.
  >
  > To change the default Smart Form assignment, use the *Tax Reporting Master Maintenance* transaction (▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Tax reporting master maintenance)* ❯ . For details, see Maintaining Assignments of Smart Forms to Reports [page 585] .

- To download data into a file, select the report and choose *Download* .

19.11.4 Displaying Log Details

Use

Use this function, available within the *Tax Reporting Main* transaction (▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Tax Reporting Main* ❯), to review processing results of a tax reporting processing step.

Activities

After entering data as required and choosing *Display Log* , select the tax reporting processing step for which you would like to review results. Then choose *Enter* to review the messages and/or details of processing for the step.

19.11.5 Removing the Valuation Posting Lock

Use

Use this function, available from the *Tax Reporting Main* transaction (*Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Tax Reporting → New Tax Reporting → Tax Reporting Main*), to remove the report lock on Valuation posting.

(The lock automatically goes into effect when the tax reporting Validation step begins, and it prevents Valuation from posting until the tax reporting processing steps are complete. The system automatically releases the lock when tax reporting Finalization step is complete.)

⚠️

Use this transaction only when you do not want to complete all tax reporting processing steps at one time.

Activities

After entering data as required, choose *Processing → Delete Rpt Lock*

19.11.6 Clean Up Tax Tables

Use

Use this function, available from the *Tax Reporting Main* transaction (▍▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Tax ReportingMain* ❯), to remove unwanted tax records from tax tables in order to improve performance.

Activities

After entering data as required, choose ▍▶ *Processing* ❯ *Clean up tax tables* ❯ .

19.12 Migrate Tax Leases

Use

Use this transaction to migrate lease data from the old tax reporting framework to the new tax reporting framework.

Prerequisites

The year and month for which the system will begin to retrieve data from the old tax reporting framework is specified in the *SalesYYYYMMMM* field within the *Maintain Execution Parameters* Customizing activity.

To access this activity, in Customizing, choose ▍▶ *Industry Solution Oil & Gas (Production and Revenue Accounting)* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting Framework* ❯ *Maintain Execution Parameters* ❯ .

Procedure

At the SAP Easy Access menu, choose ▍▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Migration* ❯ *Migrate Tax Leases* ❯ .

The *Program ROIUX1_TAX_PUID_MIGR* screen appears.

In the *AGENCY* field, enter the agency ID for which you will migrate tax lease data.

Choose *Execute* .

Results

The data is migrated from the old reporting framework to the new tax reporting framework.

To review and adjust the migrated data as required, use the Tax Reporting Master Maintenance [page 579]
transaction (▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax
Reporting* ❯ *New Tax Reporting* ❯ *Tax reporting master maintenance* ❯).

19.13 Migrate Tax Master Data

Use

Use this transaction to migrate tax master data from the old tax reporting framework to the new tax reporting
framework.Specifically, this transaction facilitates the migration of the cross-references between leases and
properties.

Prerequisites

The year and month for which the system will begin to retrieve data from the old tax reporting framework is
specified in the *SalesYYYYMMMM* field within the *Maintain Execution Parameters* Customizing activity.

To access this activity, in Customizing, choose ▶ *Industry Solution Oil & Gas (Production and Revenue
Accounting)* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting Framework* ❯
Maintain Execution Parameters ❯ .

Procedure

At the SAP Easy Access menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and
Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Migration* ❯ *Migrate Tax Master Data* ❯ .

The *Migrate tax master data* screen appears.

Enter the following data.

- In the *RSG* field, enter the company for which you will migrate tax master data.
- In the *AGENCY* field, enter the agency ID for which you will migrate tax master data.
- In the *OGIND* field, specify whether the master data that you will migrate is for oil or gas.

- Choose *Execute* .

Result

The data is migrated from the old reporting framework to the new tax reporting framework.

To review and adjust the migrated data as required, use the Tax Reporting Master Maintenance [page 579] transaction (▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Tax reporting master maintenance* ❯).

19.14 Migrate Tax Transaction Data

Use

Use this transaction to migrate tax transaction data from the old tax reporting framework to the new tax reporting framework.

Prerequisites

The year and month for which the system will begin to retrieve data from the old tax reporting framework is specified in the *Sales YYYYMMMM* field within the *Maintain Execution Parameters* Customizing activity.

To access this activity, in Customizing, choose ▶ *Industry Solution Oil & Gas (Production and Revenue Accounting)* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting Framework* ❯ *Maintain Execution Parameters.* ❯

Procedure

At the SAP Easy Access menu, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯ *Migration* ❯ *Migrate Tax Transaction Data* ❯ .

The *Migration prog for sev tax data to RPT tables in new tax reporting* screen appears.

Enter the following data.

- In the *RSG* field, enter the company for which you will migrate tax transaction data.
- In the *AGENCY* field, enter the agency ID for which you will migrate tax transaction data.
- In the *OGIND* field, specify whether the tax transaction data that you will migrate is for oil or gas.
- Choose *Execute* .

Result

The data is migrated from the old reporting framework to the new tax reporting framework.

To review and adjust the migrated data as required, use the Tax Reporting Master Maintenance [page 579]

19.15 Finalize Tax Migration

Use

When executed, the *Finalize Tax Migration* transaction (▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *Tax Reporting* ❯ *New Tax Reporting* ❯)prevents the creation of offsetting journal entries for migrated data processed in the new Tax Reporting framework.

19.16 Converting Data from the Log Table(s)

Use

Use this to move master data from the old log table(s) to the new log table(s).

⚠️

Note that you can only carry out data conversion once. Once you do the data transfer, you cannot undo it, or do it a second time. Thus, it is advisable to consider this well, before doing it, to ensure that it is done correctly.

Procedure

1. From the SAP Easy Access menu, choose *Logistics Production and Revenue Accounting Production, Tax, and Royalty Reporting New Tax Reporting Update Convert data in the log table*.
2. The *Convert Data in the Log Table* screen appears. Enter data in the relevant fields and then select *Execute* .

Result

Data is moved on a one-time basis, from the old log file tables, to the new log file tables.

19.17 Running a History Cleanup Job

Use

Use this to remove duplicate data from tax reporting history tables.

Procedure

- From the SAP Easy Access menu, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax and Royalty Reporting* ❯ *New Tax Reporting* ❯ *Update* ❯ *Background job for history cleanup.* ❯
- The *Background Job for History Cleanup* screen is displayed.
- Enter data in the relevant fields (company, agency, and oil or gas indicator).
- Select *Execute* .

19.18 Tax Reporting with the Tax 2.0 Portal

Use

You use this process to report crude oil and natural gas taxes with the new Tax 2.0 reporting model through the *Tax 2.0 Portal*.

The Tax 2.0 reporting model provides for more flexible tax reporting and is designed to accommodate the current and future legal requirements of different states. It also addresses system limitations with both the old and new reporting frameworks and provides additional functions, such as the ability to define statute-of-limitations criteria and adjust reported history.

To access the *Tax 2.0 Portal*, on the *SAP Easy Access* screen, choose ▐▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax, and Royalty Reporting* ❯ *Report 2.0* ❯ *Tax 2.0 Portal* ❯.

Prerequisites

- You have migrated old tax transaction data and master data into the new master data set-ups and history tables using the *Migration Workbench*. You do this after you have finalized your last tax reports for a given reporting month and before valuation data has been posted for the next month and any prior-period adjustments have been initiated.
  You access the *Migration Workbench* with transaction `O3UX3_MIGRATION`.
  The migration process is configured in Customizing for *Industry Solution Oil & Gas (PRA)* under
  ▐▶ *Production, Tax, and Royalty Reporting* ❯ *Report 2.0* ❯ *Enhancements* ❯.

- General and state-specific settings have been made in Customizing for *Industry Solution Oil & Gas (PRA)* under ▶ *Production, Tax, and Royalty Reporting* 〉 *Report 2.0* 〉 *Tax 2.0* 〉 *State Specific Configuration.* ◀.
- All the revenue data required to calculate and allocate taxes exists, including DOI accounting severance tax setup, tax calculation data, state tax rates, tax class information, and tier tax setup.
- Revenue documents have been posted with the correct tax calculations. This requires that the tax tables are loaded using the Tax 2.0 reporting model during valuation postings for the relevant tax report. Given that tax reports are state-specific, this is a state-specific setting. For example, for Texas you make the settings in Customizing for *Industry Solution Oil & Gas (PRA)* by choosing:
  - ▶ *Production, Tax, and Royalty Reporting* 〉 *Report 2.0* 〉 *General Configuration* ◀
  - ▶ *Production, Tax, and Royalty Reporting* 〉 *Report 2.0* 〉 *Tax 2.0* 〉 *State Specific Configuration* 〉 *Texas* 〉 *Maintain Report Specific Configuration* ◀

> **i Note**
>
> It is possible to adjust tax figures manually during the tax reporting process. For more information, see Running a Tax Report in the Tax 2.0 Workplace [page 611].

Process

- You review and maintain the required general and state-specific master data. Most of the data will have been migrated from the previous tax frameworks. For more information, see Maintenance of Master Data in the Tax 2.0 Portal [page 602].
- You run the required tax report in the Tax Reporting Workplace by executing the individual tax reporting steps. You can view, adjust, suspend, and extract the tax transactions to be reported at various levels of detail from the workplace. For more information, see Running a Tax Report in the Tax 2.0 Workplace [page 611].
- You can analyze reported tax transactions in a number of reports. For more information, see Tax Transaction Reporting [page 614].

19.18.1 Maintenance of Master Data in the Tax 2.0 Portal

Use

You use this process to review and maintain the master data required for tax reporting, which includes the reporting profiles required for each tax report, as well as the master data required for state-specifc tax reporting.

Features

Reporting Profiles

You create reporting profiles by tax report ID and reporting company. The reporting attributes to be maintained include the taxpayer name, number, and address. Specify when the profile should be effective.

- State-Specific Master Data: Texas [page 603]
- State-Specific Master Data: Oklahoma [page 605]
- State-Specific Master Data: New Mexico [page 606]
- State-Specific Master Data: Wyoming [page 609]

Once you have reviewed and maintained all the required master data, you can run tax reports in the Tax Reporting Workplace.

For more information, see .

Activities

To access the state-specific master data maintenance, on the SAP Easy Access screen, choose ▶ *Logistics* ▶ *Production and Revenue Accounting* ▶ *Production, Tax, and Royalty Reporting* ▶ *Report 2.0* ▶ *Tax 2.0 Portal* ▶ `<State Name>` ▶

19.18.1.1 State-Specific Master Data: Texas

Use

You use this function to review and maintain the master data for the state of Texas.

Features

The following master data is relevant for Texas:

Texas master data

You use transaction `O3UX3_TX_MASTER` to link PRA entities (well/well completion, measurement point, venture/division of interest) to state-specific reporting attributes:

- The API well number
- The Texas Comptroller's county identifier
- The state-assigned lease number
- Whether sales are delivered on or off the lease
- Overrides for on-lease/off-lease in the case of multiple on-lease/off-lease scenarios

Auto-suspension criteria

You use transaction O3UX3_TX_ASU specify auto-suspension criteria for the Texas tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting.

You can create suspension criteria by:

- Sales date, if you want to suspend all reporting activity prior to a specific sales date or across a range of sales dates
- PRA entity, if you want to suspend all reporting activity for a specific PRA entity (for example, well completion) prior to a specific sales date or across a range of sales date, for example
- State entity, if you want to suspend all reporting activity for a specific state lease number prior to a specific sales date or across a range of sales dates

Cross-reference between business associate and taxpayer number

You use transaction O3UX3_TX_BATXID to create a cross-reference between PRA business associate number and taxpayer number. This is necessary because Texas producer reports need to indicate the purchaser's taxpayer number.

Out-of-statute criteria

You use transaction O3UX3_TX_SOL to specify statute-of-limitations criteria for the Texas tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting because they are out of statute.

You can create statute-of-limitations criteria by:

- Sales date, if you want to indicate that all reporting activity prior to a specific sales date is out of statute and is not to be reported
- Filing period, if you want to indicate that all reporting activity for specific number of months before the current month is out of statute and is not to be reported

Transactions that meet the specified criteria are not reported to the state, but the financial impact of these adjustments is journalized. After you have run a report, you can view out-of-statute transactions and write them off in the *Out-of-Statute Write-Off Maintenance* report.

For more information, see .

Statute-of-limitations exceptions

You use transaction O3UX3_TX_SOLE to specify exceptions to the above statute-of-limitations criteria at lease level for a specific sales date or range of sales dates. This allows you to specify the state lease and sales dates for which the statute-of-limitations criteria should be overridden. All tax data that meets these criteria is reported on the appropriate report.

> ℹ **Note**
>
> You suspended a tax transaction for a specific lease pending the outcome of a litigation process. However, during this time, the data to be reported aged to the point that it became out of statute. Now, you create an exception so that you can report the tax data even though it is out of statute.

Lease master data

You use transaction O3UX3_TX_LEASE to identify a lease as an oil or a gas lease. You can indicate whether a drilling permit number is being reported in place of a lease number. This is a new field on Texas tax reports.

19.18.1.2 State-Specific Master Data: Oklahoma

Use

You use this function to review and maintain the master data for the State of Oklahoma.

Features

The following master data are relevant for Oklahoma:

Cross-reference between business associate and taxpayer number

You use transaction O3UX5_OK_BATXID to create a cross-reference between PRA business associate number and taxpayer number. This is necessary because the Oklahoma gross production reports must indicate the producer or purchaser taxpayer number.

Oklahoma master data

You use transaction *O3UX5_OK_MASTER* to link PRA entities (well/well completion, measurement point, venture/division of interest) to state-specific reporting attributes:

- Production unit number
- Gas code
- Oil class
- County of production

Auto-suspension criteria

You use transaction O3UX5_OK_ASU to specify auto-suspension criteria for the Oklahoma tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting.

You can create suspension criteria by:

- Sales date, if you want to suspend all reporting activity prior to a specific sales date or across a range of sales dates
- PRA entity, if you want to suspend all reporting activity for a specific PRA entity (for example, well completion) prior to a specific sales date or across a range of sales date, for example
- State entity, if you want to suspend all reporting activity for a specific state lease number prior to a specific sales date or across a range of sales dates

Out-of-statute criteria

You use transaction O3UX5_OK_SOL to specify statute-of-limitations criteria for the Oklahoma tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting because they are out of statute.

You can create statute-of-limitations criteria by:

- Sales date, if you want to indicate that all reporting activities prior to a specific sales date is out of statute and is not to be reported
- Filing period, if you want to indicate that all reporting activities for specific number of months before the current month is out of statute and is not to be reported

Transactions that meet the specified criteria are not reported to the state, but the financial impact of these adjustments is journalized. After you have run a report, you can view out-of-statute transactions and write them off in the Out-of-Statute Write-Off Maintenance report (transaction `O3UX5_UPD_OK_OOS_WO`).

For more information, see Tax Transaction Reporting [page 614].

Statute-of-limitations exceptions

You use transaction `O3UX5_OK_SOLE` to specify exceptions to the above statute-of-limitations criteria at lease level for a specific sales date or range of sales dates. This allows you to specify the state lease and sales dates for which the statute-of-limitations criteria should be overridden. All tax data that meets these criteria is reported on the appropriate report.

You suspended tax data for a specific lease pending the outcome of a litigation process. However, during this time, the data to be reported aged to the point that it became out of statute. Now, you create an exception so that you can report the tax data even though it is out of statute.

Zero Volume Reporting Master

Since Oklahoma requires zero-volume reporting for all applicable production unit numbers, transaction `O3UX5_OK_ZVOL` allows you to set up the appropriate keys, which should be reported if no sales volume exists for a production month.

Oklahoma tax rate

You use transaction `O3UX5_OK_TAX_RT` to specify tax rates for different tax types, such as PR, EX, MP, RF, and the tax class and product code combination. The tax rates are used to recalculate the tax amount to confirm the footing differences if applicable. This transaction is used in the correct-all process for a report run. The rounding differences are valued using the tax rates you specify here.

19.18.1.3 State-Specific Master Data: New Mexico

Use

You use this function to review and maintain the master data for the state of New Mexico.

Features

The following master data is relevant for New Mexico.

Reporting Profile Maintenance

You use transaction `O3UX3_RPT_PROF` to create a profile for sending information to the state. The profile is set up by Report ID and is effective dated. The reporting attributes that you must specify include the taxpayer name, taxpayer number, and taxpayer address. Each report ID profile has an effective date, contact name, contact number, contact extension, and a contact e-mail address.

New Mexico master data

You use transaction `O3UX8_NM_MASTER` to link PRA entities (well/well completion, measurement point, venture/division of interest) to the state-specific reporting attribute PUN (production unit number).

Auto-suspension criteria

You use transaction O3UX8_NM_ASU to specify auto-suspension criteria for the New Mexico tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting.

You can create suspension criteria by:

- Sales date, if you want to suspend all reporting activity prior to a specific sales date or across a range of sales dates
- PRA entity, if you want to suspend all reporting activity for a specific PRA entity (for example, well completion) prior to a specific sales date or across a range of sales date, for example
- State entity, if you want to suspend all reporting activity for a specific state lease number prior to a specific sales date or across a range of sales dates

Out-of-statute criteria

You use transaction `O3UX8_NM_SOL` to specify statute-of-limitations criteria for the New Mexico tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting because they are out of statute.

You can create statute-of-limitations criteria by:

- Sales date, if you want to indicate that all reporting activities prior to a specific sales date is out of statute and is not to be reported
- Filing period, if you want to indicate that all reporting activity for specific number of months before the current month is out of statute and is not to be reported

Transactions that meet the specified criteria are not reported to the state, but the financial impacts of these adjustments are journalized. After you have run a report, you can view out-of-statute transactions and write them off in the Out-of-Statute Write-Off Maintenance (transaction `O3UX8_UPD_NM_OOS_WO`) report.

For more information, see Tax Transaction Reporting [page 614].

Auto suspension exception

You use transaction `O3UX8_NM_ASUE` to define any exceptions to the statute of limitations criteria established through the statute-of-limitations maintenance transaction for the New Mexico tax reports. An example of the need for this functionality is the situation where tax data may be suspended by the user for litigation, audit, or other validation purposes and during this time frame, the data to be reported ages to the point that it becomes out of statute. With this exception functionality, those cases can be reported even if the tax data is out of statute. The criteria are defined by a system generated criteria number and a user defined criteria description. For a specific report ID, you can establish exceptions to the statute of limitations criteria at the state lease level for a specific sales date or range of sales dates. In establishing these criteria, you define the state lease and sales dates for which the statute of limitations criteria should be overridden. All tax data that meets these criteria are reported on the appropriate report.

Statute-of-limitations exceptions

You use transaction O3UX8_NM_SOLE to specify exceptions to the above statute-of-limitations criteria at the lease level for a specific sales date or range of sales dates. This allows you to specify the state lease and sales dates for which the statute-of-limitations criteria should be overridden. All tax data that meets these criteria is reported on the appropriate report.

> **ℹ Note**
>
> You suspended tax data for a specific lease pending the outcome of a litigation process. However, during this time, the data to be reported aged to the point that it became out of statute. Now, you create an exception so that you can report the tax data even though it is out of statute.

Jicarilla credit

You use transaction `O3UX8_NM_JC_MST` to maintain the New Mexico Jicarilla Credit, which indicates an entry taking a tax credit as a result of a qualifying well with respect to oil and gas production from Jicarilla Apache tribal land. It is an offset to the tax imposed by the Jicarilla Apache Nation, and identified as the Jicarilla Apache Tribal Capital Improvements Tax. The volume, value, deductions, royalty should be left blank. Use parenthesis in the Tax Due Column for the tax credit amount.

Affiliated Code override

You use transaction `O3UX8_NM_AFFOVR Use 01` to indicate that the line entry being reported was transported, processed or sold through an affiliated or non-arms length transaction. If the line entry being reported was transported, processed or sold through an arm's length transaction, use 00.

Other exempted owners

You use transaction `O3UX8_NM_OTH_OWN` to specify the owners who are exempted and exist as entity type code 04 (State) even though they are not actually royalty owners in the system. These owners have the owner interest type code RT and interest category code W. You use this transaction for the reporting of specific business scenarios.

Upload of suffix tax rates

You use transaction `O3UX8_LOAD_SUFF_RATE` to upload the tax rates that are published every year by the state of New Mexico. Instead of maintaining the tax rates manually for every suffix using the `O3UX8_NM_SUFFXRF` transaction, this transaction can use the Excel sheet published by the state of New Mexico as input and upload the data.

Suffix cross-reference

You use transaction `O3UX8_NM_SUFFXRF` to specify the tax rates for the for tax types (AV, CN, ES & SV) for a suffix and major product code combination. This transaction allows you to maintain a secondary geographical location, municipality, and school district code for a record.

Suffix decimal

You use transaction `O3UX8_NM_SUFFDEC` to specify a PRA entity (venture/MP/well), and a major product code for a royalty entity code (Federal, Indian, Others, Private, and State) with the suffix and royalty entity/owner's share (suffix decimal) in that suffix.

This decimal and the tax rates, which are specified in transaction `O3UX8_NM_SUFFXRF`, are used by the valuation process to re-value a property for suffix and royalty entity combination.

If the royalty entity code is Others, you must also enter the related entity type.

If multiple suffixes are specified, the sum of the suffix decimals cannot be less than and more than 1.

19.18.1.4 State-Specific Master Data: Wyoming

Use

You use this function to review and maintain the master data for the state of Wyoming. The reporting attributes you must maintain include taxpayer name, taxpayer number, and taxpayer address. For Wyoming the tax report IDs are WYS (Wyoming Severance) and WYC (Wyoming Conservation). Each report ID profile has an effective date, contact name, contact number, contact extension, and contact e-mail address.

Features

The following master data is relevant for Wyoming.

Reporting Profile Maintenance

You use transaction `O3UX3_RPT_PROF` to create a profile for sending information to the state. The profile is set up by report ID and is effective dated. The reporting attributes that you must specify include the taxpayer name, taxpayer number, and taxpayer address. Each report ID profile has an effective date, contact name, contact number, contact extension, and a contact e-mail address.

Business associate operator ID

You use transaction `O3UX6_WY_BAOPID` to create a cross-reference between PRA business associate number and taxpayer number. This is necessary because Wyoming Severance and Conservation must indicate the producer's taxpayer number.

Zero reporting master

A zero return is required on a group that had no production/sales for a given month, but it is still an active property. Any active property that is not reported results in a severance unreported properties letter being issued. Do not report zeros for shut in/plugged wells.

You would report a group for the first time based upon the well registration information that is provided to Wyoming. If a well becomes active in a certain month, but has no sales/production, Wyoming would have the well as active for that month and would issue the unreported letter if no return was filed with that group.

For zero reporting, a zero report master is created if you enter values in the Oil/Gas Indicator, Operator ID, Report Group Number, and Rate Code fields. To do so, you use transaction `O3UX6_WY_ZVOL`.

Wyoming master data

You use transaction `O3UX6_WY_MASTER` to link PRA entities (well/well completion, measurement point, venture/division of interest) to state-specific reporting attributes:

- State of Wyoming's county identifier for reporting purposes
- Reporting group number assigned by the state
- API number for the producing entity
- Field number and name for reporting on the Wyoming reports
- Unit/lease number and name for reporting on the Wyoming reports
- Tax district the well is associated with

For audit purposes, this transaction also contains administration information including the user who last changed a PRA entity, and the date and time of the last change.

Auto-suspension criteria

You use transaction `O3UX6_WY_ASU` to specify auto-suspension criteria for the Wyoming tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting.

You can create suspension criteria by:

- Sales date, if you want to suspend all reporting activity prior to a specific sales date or across a range of sales dates
- PRA entity, if you want to suspend all reporting activities for a specific PRA entity (for example, well completion) prior to a specific sales date or across a range of sales date, for example
- State entity, if you want to suspend all reporting activity for a specific state lease number prior to a specific sales date or across a range of sales dates

Out-of-statute criteria

You use transaction `O3UX6_WY_SOL` to specify statute-of-limitations criteria for the Wyoming tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting because they are out of statute.

You can create statute-of-limitations criteria by:

- Sales date, if you want to indicate that all reporting activity prior to a specific sales date is out of statute and is not to be reported
- Filing period, if you want to indicate that all reporting activity for specific number of months before the current month is out of statute and is not to be reported

Transactions that meet the specified criteria are not reported to the state, but the financial impacts of these adjustments are journalized. After you have run a report, you can view out-of-statute transactions and write them off in the Out-of-Statute Write-Off Maintenance (transaction `O3UX6_DISP_OOSWO`) report.

For more information, see Tax Transaction Reporting [page 614].

Statute-of-limitations exceptions

You use transaction `O3UX6_WY_SOLE` to specify exceptions to the above statute-of-limitations criteria at the lease level for a specific sales date or range of sales dates. This allows you to specify the state lease and sales dates for which the statute-of-limitations criteria should be overridden. All tax data that meets these criteria is reported on the appropriate report.

> **ⓘ Note**
>
> You suspended tax data for a specific lease pending the outcome of a litigation process. However, during this time, the data to be reported aged to the point that it became out of statute. Now, you create an exception so that you can report the tax data even though it is out of statute.

Wyoming LCD (Lease condensate Override) override

You use transaction `O3UX6_WY_LCDOVR` to indicate whether condensate volumes from the state of Wyoming must be reported as if processed through a gas plant. This master file is set up for a well/wc and effective date.

Severance tax rate

You use transaction `O3UX6_WY_STAX_RT` to specify the severance tax rate for different rate codes, and the oil/gas and incentive type combination. This is used during the correct-all process for a report run. The rounding difference is valued using the tax rates you specify here.

Conservation tax rate

You use transaction `O3UX6_WY_CTAX_RT` to specify the conservation tax rate for a period. This transaction is used during the correct-all process for a report run. The rounding difference is valued using the tax rates you specify here.

19.18.2 Running a Tax Report in the Tax 2.0 Workplace

Prerequisites

You have maintained the necessary master data in the Tax 2.0 Portal.

For more information, see Maintenance of Master Data in the Tax 2.0 Portal [page 602].

Context

You use this procedure to run a tax report for crude oil or natural gas in the Tax 2.0 Portal. You can later display, adjust, suspend, and download reportable tax data.

Procedure

1. On the *Tax Reporting Portal* screen, choose ▌▶ *Periodic/Ad Hoc Processing* ❯ *Tax 2.0 Portal Workplace* ▌.

   The initial screen of the Tax 2.0 Workplace appears.
2. To create a new run of the required tax report for the required reporting company, choose *New*.

   You create either a current report or an amended report.

   A current report reports tax for the latest sales date. An amended report amends previously reported volumes and values.
3. On the *Admin/Execution* tab, select the reporting steps that you want to execute.

   In the standard, the following reporting steps are predefined in Customizing for execution in the following order:

   1. Populate
   2. Validate
   3. Extract

4. Process
5. Journalize
6. Finalize

4. To execute the selected reporting steps, choose *Schedule Selected Step*.

You can choose to execute the steps immediately or at a later time.

In the standard, the reporting steps are configured so that you can execute the steps *Populate* through to *Journalize* either one by one or all at once. You can also execute them as many times as necessary. This is in contrast to the *Finalize* step: You must execute this step on its own and you can execute it only once (see step 6) so that you do not post any data irreversibly before you have had a chance to review and adjust it if necessary.

The following table explains what the system does when you execute each of the reporting steps.

Table 156:

Reporting Step	What the System Does
Populate	The system loads the relevant data from the Valuation application to a tax transaction data table.
Validate	The system uses the tax transaction data and checks whether: ○ Valid master data exists for reporting If no valid master data file exists for a particular record, it is flagged as *Rejected*. ○ All the cross-references required for reporting have been created If not all of the required cross-references exist for a particular record, it is flagged as Rejected. ○ Suspension criteria have been created If a record meets the suspension criteria, the specific PRA or state entity is not to be reported. The record in question is flagged as *Suspended*.
Extract	The system reads the tax data to be reported into a pending transactions table.
Process	The system reads the pending transactions data and calculates the reporting information at detail (PRA) and summary (state entity) level. It applies statute-of-limiations criteria to the summary reporting information so that out-of-statute records do not appear on the state report. You can later write off these records. For more information, see Tax Transaction Reporting [page 614].

Reporting Step	What the System Does
Journalize	The system reads all the pending transactions and creates trial journal entries for reconciliation reporting. For transactions that are out of statute and therefore not reportable, the systems creates trial suspended journal entries that require further action (write-off approval and processing).
Finalize	The system posts the trial journal entries. Trial suspended entries are posted as pending write-offs.

An application log is available for each of the steps on completion. For example, the application log for the Validate step shows all rejected tax records with the reason for rejection.

5. On the other tabs in the *Tax Reporting Workplace*, review the tax records of the current run.

   The following tabs are available:

   ○ *PRA Details*
     You can display reportable transactions at detailed PRA level. You can also adjust, suspend, and download them if necessary.

     > ℹ **Note**
     >
     > It is only possible to adjust and suspend data when it is in Trial status. This means that you have not executed the Finalize step yet.

   ○ *Report Details*
     You can display reportable transactions at the summarized state level. You can also adjust transactions if necessary.

     > ℹ **Note**
     >
     > It is only possible to adjust and suspend data when it is in Trial status. This means that you have not executed the Finalize step yet.

   ○ *Journal Entries*
     You can analyze the trial journal entries resulting from tax reporting.
   ○ *Out of Statute*
     You can display transactions that meet statute-of-limitations criteria and do not need to be reported.

6. When you are ready to finalize the report, run the *Finalize* step.

   The system completes the processing of the reporting parameters for the month and year that you specified and creates offsetting journal entries.

Results

You can create an EDI file to submit the tax report to the state.

19.18.3 Tax Transaction Reporting

Use

The *Tax 2.0 Portal* includes several reports that allow you to list the tax transactions from current and finalized tax report runs for analysis purposes. In some reports, you can also modify the data.

You can access these reports through the Tax 2.0 Portal by choosing ▎▶ *Periodic/Ad Hoc Processing* ❭ `<State Name>` ❭.

Features

Reports for Texas

The following table explains the reports that are available for tax transactions reported on the Texas oil and gas tax reports.

Table 157:

Report	Use
Out-of-Statute Write-Off (transaction `O3UX3_TX_OOS_WO`)	You use this report to list out-of-statute transactions and then write them off.
Tax Transactions (transaction `O3UX3_TX_TAXTXN`)	You use this report to list the pending, rejected, or suspended tax transactions of a trial tax report run.
Up-to-Date Reported Trans (transaction `O3UX3_TX_TAXHST`)	You use this report to list the tax transactions from a specific sales month that have already been reported to the state.
Out-of-Statute Write-Off (transaction `O3UX3_DISP_TX_OOSWO`)	You use this report to list the write-off records for out-of-statute transactions that have been written off.
Tax Variance History (transaction `O3UX3_DISP_TX_RPVAR`)	You use this report to show the difference between the tax amounts reported for two reporting months.
Tax History (transaction *O3UX3_UPD_TX_TAXHST*)	You use this report to list the tax transactions from a specific period that have already been reported to the state. Here, you can also adjust reported values. This is useful if discrepancies develop between your reported tax history in your system and the state's official reported history for you.

Reports for Oklahoma

The following table explains the reports that are available for tax transactions reported on the Oklahoma gross production tax report.

Table 158:

Report	Use
Tax Transactions (transaction `O3UX5_DISP_OK_TAXTXN`)	You use this report to list the pending, rejected or suspended tax transactions of a trial tax report run.
Up-to-Date Reported Transactions (transaction `O3UX5_DISP_OK_TAXHST`)	You use this report to list the tax transactions from a specific sales month that have already been reported to the state.
Tax Variance History (transaction `O3UX5_DISP_OK_RPVAR`)	You use this report to show the difference between the tax amounts reported for two reporting months.
List of Out-of-Statute Write-Offs (transaction `O3UX5_DISP_OOSWO`)	You use this report to list the write-off records for out-of-statute transactions that have been written off.
Tax History (transaction `O3UX5_UPD_OK_TAXHST`)	You use this report to list the tax transactions from a specific period that have already been reported to the state. Here, you can also adjust reported values. This is useful if discrepancies develop between your reported tax history in your system and the state's official reported history for you.
Out-of-Statute Write-Off (transaction `O3UX5_UPD_OK_OOS_WO`)	You use this report to list out-of-statute transactions and then write them off.
User Tax Transactions (transaction `O3UX5_UPD_OK_TAXTXN`)	This transaction provides enables you to add an 'off-system' tax transaction to be processed through the tax system.

Reports for Wyoming

The following table explains the reports that are available for tax transactions reported on the Wyoming tax reports.

Table 159:

Report	Use
Severance Tax Transactions (transaction `O3UX6_DISP_WYSTAXTXN`)	You use this report to list the pending, rejected, or suspended tax transactions of a trial tax report run.
Up-to-Date Reported Severance Transaction (transaction `O3UX6_DISP_WYSTAHST`)	You use this report to list the tax transactions from a specific sales month that have already been reported to the state.
Severance Tax Variance (transaction `O3UX6_DISP_WYS_RPVAR`)	You use this report to show the difference between the tax amounts reported for two reporting months.
Severance Tax History (transaction `O3UX6_UPD_WY_STAXHST`)	You use this report to list the tax transactions from a specific period that have already been reported to the state. Here, you can also adjust reported values. This is useful if discrepancies develop between your reported tax history in your system and the state's official reported history for you.

Report	Use
Severance User Tax Transaction (transaction `O3UX6_UPD_WY_STAXTXN`)	You use this to add a severance tax transaction. This is an exception based transaction. Consider the ramifications of the impact of adding in this window.
Conservation Tax Transaction (transaction `O3UX6_DISP_WYCTAXTXN`)	You use this report to list the pending, rejected, or suspended tax transactions of a trial tax report run.
Up-to-Date Reported Conserv Trans (transaction `O3UX6_DISP_WYCTAXTXN`)	You use this to query to view report group level history. True numbers that you have reported to the state.
Conservation Tax Variance (transaction `O3UX6_DISP_WYC_RPVAR`)	You use this report to show the difference between the tax amounts reported for two reporting months.
Wyoming Conservation Tax History (transaction `O3UX6_UPD_WY_CTAXHST`)	You use this report to list the tax transactions from a specific period that have already been reported to the state. Here, you can also adjust reported values. This is useful if discrepancies develop between your reported tax history in your system and the state's official reported history for you.
Conservation User Tax Transaction (transaction `O3UX6_UPD_WY_CTAXTXN`)	You use this to add a conservation tax transaction. This is an exception based transaction. Consider the ramifications of the impact of adding in this window.
List of Out-of-Statute Write-Offs (transaction `O3UX6_DISP_OOSWO`)	You use this report to list the write-off records for out-of-statute transactions that have been written off.
Severance Out-of-Statute Write-Off (transaction `O3UX6_UPD_WYS_OOS_WO`)	You use this report to list out-of-statute transactions and then write them off.
Conservation Out-of-Statute Write-Off (transaction `O3UX6_UPD_WYC_OOS_WO`)	You use this report to list out-of-statute transactions and then write them off.

Reports for New Mexico

The following table explains the reports that are available for tax transactions reported on the New Mexico tax reports.

Table 160:

Report	Use
Tax Transactions (transaction `O3UX8_DISP_NM_TAXTXN`)	You use this report to view pending, rejected, suspended, or all tax transactional entries for the New Mexico tax report.
Up-to-Date Reported New Mexico Transaction (transaction `O3UX8_DISP_NM_TAXHST`)	You use this report to display historically reported data at both the PRA and reporting detail levels.
Tax Variance (transaction `O3UX8_DISP_NM_RPTVAR`)	You use this report to view reporting variances across reporting periods.

Report	Use
List of Out-of-Statue Write-Offs (transaction `O3UX8_DISP_NM_OOSWO`)	You use this report to view the historical information related to the tax transactions, which have been written-off for the state of New Mexico tax report. Information includes write-off comments as well as the batches created to write off the financial impact of the transactions.
User Tax Transaction (transaction `O3UX8_UPD_NM_TAXTXN`)	You use this report to update or add tax transactional data prior to processing the New Mexico tax report.
Out-of-Statute Write-Off (transaction `O3UX8_UPD_OOS_WO`)	You use this report to manage the out-of-statute transactional data, which is fed to the Tax 2.0 Portal for New Mexico tax reporting. You can view and select tax transactional entries for write-off.
Tax History (transaction `O3UX8_UPD_NM_TAXHST`)	You use this report to update historically reported tax transaction. It allows you to decide whether or not to report those history changes.
Tax Trans Decimal (transaction `O3UX8_DISP_NM_TAXDTL`)	You use this report to display the allocation decimal for the current and amended reporting detail transactions for a given month. You can also view the details at either the tax transaction level or the PRA details level. You provide the allocation decimal for the PRA level tax transactions, which are the source level transactions for the New Mexico tax report. This decimal is calculated based on the associated venture/DOI's royalty interest NRI and burden groups in the division order.

19.18.4 Tax Reporting for Wyoming Gross Production Tax 2.0

Use

You use this process to report crude oil and natural gas taxes with the new Wyoming Gross Production Tax 2.0 Reporting Model.

The Wyoming Gross Production Tax 2.0 Reporting Model provides new functions for Wyoming reporting and is designed to accommodate the current and future legal requirements for Wyoming.

Prerequisites

1. You have finalized the Wyoming severance tax reports.

2. General and state-specific settings have been made in Customizing for Industry Solution Oil & Gas (PRA) by choosing:

   ○ ▮▶ *Production, Tax, and Royalty Reporting* ❯ *Report 2.0* ❯ *General Configuration* ❯

   ○ ▮▶ *Production, Tax, and Royalty Reporting* ❯ *Report 2.0* ❯ *Tax 2.0* ❯ *State Specific Configuration* ❯
   Wyoming Gross Production ❯

3. You have set up any master data for overriding marketing and tax district allocations.

Process

1. On the *SAP Easy Access* screen, choose ▮▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax, and Royalty Reporting* ❯ *Tax Reporting* ❯ *Wyoming Gross Production* ❯ *WYGP Workplace* ❯ or use transaction `O3UX7_WORKPLACE – Tax 2.0`.
2. Create a WYGP reporting profile.
3. You finalize the Wyoming severance tax reports for the required tax months in the Tax Reporting Workplace that you expect to report for the Wyoming gross production report.

> **ℹ Note**
>
> This report is solely dependent on the Wyoming severance tax report and the master data set-ups relative to Wyoming tax reporting.

19.18.4.1 Maintenance of Master Data in Gross Production Tax 2.0

Use

You use this function to review and maintain the master data required for tax reporting. This includes the reporting profiles required for each tax report, as well as the master data required for state-specifc tax reporting.

Features

Reporting Profiles

You use transaction `O3UX3_RPT_PROF` to create reporting profiles by tax report ID and reporting company. The reporting attributes that you must specify include the taxpayer name, taxpayer number, and taxpayer address. For Wyoming, the tax report IDs are WYS (*Wyoming Severance*), WYC (*Wyoming Conservation*), and WYPG (*Wyoming Gross Production Reporting*). Each report ID profile has an effective date, contact name, contact number, contact extension, and a contact e-mail address.

State-Specific Master Data: Wyoming Gross Production

You use transaction `O3UX7_WY_MKTOVR` when there is a specific marketing type that you need to override to the gross production marketing buckets. The default for the marketing buckets is at the company level. This transaction allows you to override at well level.

The `O3UX7_WY_MPALLOC` transaction allows for measurement points a percentage override allocation for the tax districts.

Activities

To access the master data maintenance, on the *SAP Easy Access* screen, choose ▶ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Production, Tax and Royalty Reporting* ❭ *Report 2.0* ❭ *Tax 2.0 Portal* ❭ *Master Data* ❭.

19.18.4.2 Running the Wyoming Gross Production Tax Report

Prerequisites

You have finalized the Wyoming severance tax report.

Context

You use this procedure to run the gross production report for a reporting year. This report pulls in both crude oil and natural gas into the Tax 2.0 WYGP Workplace. You can later display, adjust, and download reportable tax data.

Procedure

1. On the *SAP Easy Access* screen, choose ▶ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Production, Tax, and Royalty Reporting* ❭ *Tax Reporting* ❭ *Wyoming Gross Production* ❭ *WYGP Workplace* ❭.
2. To create a new run of the required tax report for the required reporting company, choose *New*.

   You create either a current report or an amended report.

   A current report reports tax for the year (this is an annual report). An amended report amends previously reported volumes and values for a given year.
3. On the *Admin/Execution* tab page, select the reporting steps that you want to execute.

In the standard, the following reporting steps are predefined in Customizing for execution in the following order:

1. Pre-Validate
2. Populate
3. Validate
4. Extract
5. Process
6. Post Validate
7. Finalize

4. To execute the selected reporting steps, choose *Schedule Selected Step*.

You can choose to execute the steps immediately or at a later time. To insure that all information is correct always run the pre-validate first and before you run the next steps.

In the standard, the reporting steps are configured so that you can execute the steps *Populate* through to *Post Validate* either one by one or all at once. You can also execute them as many times as necessary. This is in contrast to the *Finalize* step: You must execute this step on its own and you can execute it only once so that you do not post any data irreversibly before you have had a chance to review and adjust it if necessary.

The following table explains what the system does when you execute each of the reporting steps:

Table 161:

Reporting Step	What the System Does?
Pre-Validate	This step uses the gross production tax staging data (the Wyoming severance tax finalized transactional data) and populates the delivery network (DN) consistency table.
Populate	This step uses the data from gross production tax staging and moves it to gross production tax transaction tables. This data is held as the population of data for reporting the gross production data. This step also goes to the production tables and pulls in the well volumes to the (Gvol) tables in gross production and also pulls in the contract allocation volumes to the gross (GSAL) sales data.
Validate	This step uses the tax transaction data and checks whether: ○ Valid master data exists for reporting If no valid master data file exists for a particular record, it is flagged as *Rejected*. ○ All the cross-references required for reporting have been created If not all of the required cross-references exist for a particular record, it is flagged as *Rejected*.
Extract	This step uses all non-rejected records and moves them into the PRA details transaction.

Reporting Step	What the System Does?
Process	This step uses the PRA details and formats and summarizes the data into the proper forms for viewing the 4101 and 4201 transactions.
Post-Validate	This step does a footing checking to make sure that the data is totaling correctly based on the report rules.
Finalize	This steps moves the data to the gross production history tables.

An application log is available for each of the steps on completion. For example, the application log for the *Validate* step shows all rejected tax records with the reason for rejection.

5. On the other tabs in the Wyoming Gross Production Workplace, review the tax records of the current run. The following tabs are available:

   ○ *DN Consistency*
   You can display the dates and timestamps for each network that is processing in the Wyoming Gross Production Workplace. This tells the analyst whether the data and processes are consistent. For example, production should always be run first, CA run second and VL/RD run third for data consistency.
   To override inconsistent delivery networks, choose *Override Inconsistencies*. These inconsistent networks are not processed unless PPA'ed or overridden.
   To undo the previous override, choose *Undo Override*.

   ○ *PRA Details*
   You can display reportable transactions at detailed PRA level.

   ○ *4101 Details (Annual Gross Products for Oil)* and *4201 Details (Annual Gross Products for Gas)*
   You can display reportable transactions at the summarized reporting attributes level. You can also adjust transactions if necessary. This view of information has drill-down capability to access take-in-kind (TIK) information, school district information, and plant products detail information.

   > **i Note**
   >
   > This can be adjusted only when it is in Trial status. This means that you have not executed the Finalize step yet.
   >
   > ○ To display PRA details, choose *Show PRA Details*.
   > ○ To display the 4101 or 4201 details, choose *Show 4101 Details* or *Show 4201 Details*.
   > ○ To exclude the record from the ASCII file creation and finalize the record for the history tables with a flag reflecting that it was rolled to history and not reported, choose *Toggle Report Status*.
   > ○ To navigate to the finalized history and copy the previous adjustments into the transactional data for PPAs (amended reporting), choose *Copy Previous Adjustments*. The history records have a audit trail for determining the original records from the adjusted records. When you choose this push-button, the system retrieves the adjusted record for PPAs and pulls it into the report so that the analyst does not have to make the same adjustments more than once.
   > ○ To remove all adjustments from the detail 4101 and 4201 that have been manually done, choose *Remove Adjustments*.

6. When you are ready to finalize the report, run the *Finalize* step.

The system completes the processing of the reporting parameters for the year and moves the data to the history table for gross production.

Results

You can create an EDI file to submit the tax report to the state.

19.19 Royalty Reporting with the Report 2.0 Portal

Use

You use this process to report crude oil and natural gas royalties with the new Royalty 2.0 Reporting Model through the Report 2.0 Portal.

The Royalty 2.0 Reporting Model provides compliant reporting for the state of Wyoming and Texas is designed to accommodate the current and future legal requirements for Wyoming and Texas royalty reporting. It also addresses system limitations with both the old and new reporting frameworks and provides additional functions, such as the ability to define statute-of-limitations, auto-suspension functionality criteria and allows adjustments to reported history.

To access the Royalty 2.0 Portal, on the SAP Easy Access screen, choose ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Report 2.0* ❯ *Royalty 2.0 Portal* ❯

Prerequisites

- You have migrated royalty transaction data and master data into the new master data set-ups and history tables using the Migration Workbench. You do this after you have finalized your last royalty reports for a given reporting month and before valuation data has been posted for the next month and any prior-period adjustments have been initiated.
  To access the Migration Workbench, you can use the transaction O3UX3_MIGRATION. From this transaction, you can select the respective tax/royalty migration transactions for the specific report.
- You have configured the migration process in Customizing for *Industry Solution Oil & Gas (PRA)* by choosing ▶ *Production, Tax, and Royalty Reporting* ❯ *Report 2.0 Enhancements* ❯.
- General configuration settings have been made in Customizing for ▶ *Production, Tax, and Royalty Reporting* ❯ *Report 2.0* ❯ *General Configuration* ❯
- State-specific settings have been made in Customizing for *Industry Solution Oil & Gas (PRA)* by choosing ▶ *Production, Tax, and Royalty Reporting* ❯ *Report 2.0* ❯ *Royalty 2.0* ❯ *State Specific Configuration* ❯.
- Revenue documents have been posted with the correct royalty calculations.

Process

1. You review and maintain the required general and state-specific master data.
   Most of the data will have been migrated from the previous royalty frameworks. For more information, see Maintenance of Master Data in the Royalty 2.0 Portal [page 623].
2. You run the required royalty report in the Royalty Reporting Workplace on the *SAP Easy Access* screen by choosing ⫸ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Report 2.0* ❯ *Royalty 2.0 Portal* ❯ *Periodic /Ad Hoc Processing* ❯ by executing the individual royalty reporting steps. You can view, adjust, suspend, and extract the royalty transactions to be reported at various levels of detail from the workplace.
3. You can analyze reported tax transactions in a number of reports.

19.19.1 Maintenance of Master Data in the Royalty 2.0 Portal

Use

You use this function to review and maintain the master data required for royalty reporting. This includes the reporting profiles required for each royalty report, as well as the master data required for state-specifc royalty reporting.

Features

Reporting Profiles

You create reporting profiles by royalty report ID and reporting company. The reporting attributes to be maintained include taxpayer name, taxpayer number, and Taxpayer address.

- For Wyoming the royalty report IDs are *WYRG (Wyoming Royalty Gas)* and *WYRO (Wyoming Royalty Oil)*. Each report ID profile has an effective date, contact name, contact number, contact extension, and a contact e-mail address.
- For Texas GLO, the royalty report IDs are *GL01 (GLO Royalty Oil)* and *GLO2 (GLO Royalty Gas)*. Each report ID profile has an effective date, contact name, contact number, contact extension, and a contact e-mail address.

Once you have reviewed and maintained all the required master data, you can run the royalty report in the Royalty Reporting Workplace.

Activities

To access the master data maintenance, on the SAP Easy Access screen choose ⫸ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Production, Tax, and Royalty Reporting* ❯ *Report 2.0* ❯ *Royalty 2.0 Portal* ❯ *Master Data* ❯ `<State Name>` ❯

19.19.2 State-Specific Master Data: Wyoming

Use

You use this function to review and maintain the master data for the state of Wyoming.

Features

The following master data is relevant for Wyoming:

Reporting Profile Maintenance

You use transaction O3UX3_RPT_PROF to create the cross-reference record that should exist between a PRA business associate number and taxpayer number. This is necessary because the state of Wyoming has its own internal number representing the producer.

Wyoming lease

You use transaction O3UY6_WY_LEASE to define the Wyoming lease, which is the relationship between a state lease number, PSA number, tract allocation percentage, and royalty rate.

Wyoming master data

You use transaction O3UY6_WY_MASTER to link PRA entities (well/well completion, measurement point, venture/division of interest) to state-specific reporting attributes:

- Report ID
- PRA entity (Well completion, MP or Venture/DOI)
- Effective from-date and to-date
- Report only flag (report only and do not pay)
- Override flag –Derives the properties operator status or allows you to override as operated or non-operated
- State lease number, PSA, tract allocation lease factor, and royalty rate accessed from the lease master data
- Lease text (add the lease name)
- Reference field (add a free form text)
- Legacy lease number (add the old cross-reference number)

For audit purposes, this transaction also contains administration information including the user who last changed a PRA entity, and the date and time of the last change.

Reporting price

You use transaction O3UY6_WY_PRICE to maintain the reporting price at the state lease number/ PSA, Wyoming product code, effective-from and to-dates. This transaction allows you to value the transactional data for reporting to the state.

Coal bed methane override

You use transaction O3UY6_WY_CBMOVR to define at PRA entity level the scenarios, in which wet gas should be reported to the state as coal bed methane.

Auto-suspension criteria

You use transaction `O3UY6_WY_ASU` to specify auto-suspension criteria for the Wyoming tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting.

You can create suspension criteria by:

- Sales date, if you want to suspend all reporting activity prior to a specific sales date or across a range of sales dates
- PRA entity, if you want to suspend all reporting activity for a specific PRA entity (for example, well completion) prior to a specific sales date or across a range of sales date, for example
- State entity, if you want to suspend all reporting activity for a specific state lease number prior to a specific sales date or across a range of sales dates

Statute-of-limitations criteria

You use transaction `O3UY6_WY_SOL` to specify statute-of-limitations criteria for the Wyoming tax reports. This allows you to specify tax records that you do not want to be processed during tax reporting because they are out of statute.

You can create statute-of-limitations criteria by:

- Sales date, if you want to indicate that all reporting activity prior to a specific sales date is out of statute and is not to be reported
- Filing period, if you want to indicate that all reporting activity for specific number of months before the current month is out of statute and is not to be reported

Transactions that meet the specified criteria are not reported to the state, but the financial impacts of these adjustments are journalized. After you have run a report, you can view out-of-statute transactions and write them off in the *Out-of-Statute Write-Off Maintenance* report.

For more information, see Royalty Transaction Reporting [page 632].

Statute-of-limitations exceptions

You use transaction `O3UY6_WY_SOLE` to specify exceptions to the above statute-of-limitations criteria at the lease level for a specific sales date or range of sales dates. This allows you to specify the state lease and sales dates for which the statute-of-limitations criteria should be overridden. All tax data that meets these criteria is reported on the appropriate report.

> ⓘ Note
>
> You can suspend royalty data for a specific lease pending SOL regulations for a state. Howeve, due to litigation the state may require that it is reported, and you can use this transaction to override and report by property, lease or well.

Royalty zero volume master

A zero return is required on a group that had no production/sales for a given month, but it is still an active property. Any active property that is not reported results in a severance unreported properties letter being issued. Do not report zeros for shut in/plugged wells.

You would report a group for the first time based upon the well registration information that is provided to Wyoming. If a well becomes active in a certain month, but has no sales/production, Wyoming would have the well as active for that month and would issue the unreported letter if no return was filed with that group.

For zero reporting, a zero report master is created for a report ID, reporting company, payer code, state lease number, PSA, and Wyoming product code. To specify a zero-volume master, you use transaction `O3UY6_WY_ZVOL`.

Communication agreement percent override

There are scenarios where wells in units overlap the communization agreement. When the communication agreement overlaps into the unit, the production for that portion of the communication agreement is included in the gross production of the unit. The only part that is reported and paid on is the part of the communication agreement in the unit.

> 🧩 **Example**
>
> If 75% of the communication agreement overlaps into the unit, 75% of the production and sales are attributed to the unit. The remaining 25% of the communication agreement production and sales are attributed to the communication. However, there is no mechanism to calculate a percentage of the gross production and gross sales for a well, which is only partially included in the unit.

You use transaction `O3UY6_WY_CAPOVR` to add the percentage that should be applied to the unit.

19.19.3 State-Specific Master Data: Texas GLO (General Land Office)

Use

You use this function to review and maintain the master data for the state of Texas.

Features

The following master data is relevant for Texas GLO:

Reporting Profile Maintenance

You use transaction `O3UX3_RPT_PROF` to create the cross-reference record that should exist between a PRA business associate number and taxpayer ID number. This is necessary because the state of Texas has its own internal number representing the producer.

Business associate and report ID cross-reference

You use transaction `O3UYC_BA_RPTID` to create business associate (BA) parameters for each distinct report ID. The BA is used to tie the general land office owner number to the GLO1 and GLO2 reports.

Lease master

You use transaction `O3UY3_TX_LEASE` to define the Texas/GLO/TAMU lease master. This master is the relationship between a state lease number and royalty rate.

> **ℹ Note**
>
> Only use this transaction when new leases are set up.

Unit master

You use transaction `O3UY3_TX_UNIT` to tie a lease to a participation factor and determine the lowest lease in the unit. The lowest lease indicator is used to report the production volumes on the reports when multiple leases are tied to a unit.

Texas GLO/TAMU RRC master

You use transaction `O3UY3_TX_RRC` to link PRA entities (well/well completion, measurement point, venture/ division of interest) to state-specific reporting attributes:

- Report ID
- PRA entity (Well completion, MP, or Venture/DOI)
- Effective from-date and to-date
- District number
- Reference field (add a free form text for the name)
- Lease identifier
  - Oil lease
  - Gas lease
  - Drill permit
- Field name (RRC assigned)
- Lease name (RRC assigned)
- Property alias number (add a user description of the lease or tract being reported)
- Operator number (add the operator of the property or the PRA operator ID number)
- Prod disp report indicator (This places the production dispositions on the GLO1(oil) or GLO2 (gas). This is used to identify the non-operated for reporting purposes)

For audit purposes, this transaction also contains administration information including the user who last changed a PRA entity, and the date and time of the last changed.

Business associate cross-reference

You use transaction `O3UY3_TX_BAXRF` to assign the internal business associate to an external customer number for purchases of oil and gas. PRA BA to the state assigned customer ID. In this transaction, you enter the following values:

- Internal BA number
- Effective-from and effective-to
- External customer number

Texas GLO/TAMU master data

You use transaction `O3UY3_TX_MASTER` to define the master that ties the well to the lease, unit, tract factors, and an allocation factor. This ties the PRA entities to the external GLO1 (oil) and GLO2 (gas) lease numbers.

Reporting control master

You use transaction `O3UY3_TX_CTRL` to create a master including a report ID, reporting company, GLO lease, district, gas, or oil lease indicator to determine the number of expected reports for reporting. This master is also used to manage GLO TIK.

- You use this transaction to create a comprehensive list of each lease/RRC that must be submitted to the state in a given month. This transaction drives zero- report processing. When you enter information on the selection screen, the system creates a zero-report record based on a current month report if no revenue recordings exist for that month.
- If a lease/RRC should be reported to the state, you must create a record created using this transaction.
- Usually, you only create a record for a go-live or in case of a new or discontinued lease/RRC combination.

Auto-suspension master

You use transaction `O3UY3_TX_ASU` to specify auto-suspension criteria for the GLO royalty reports. This allows you to specify royalty records that you do not want to be processed during the current royalty report.

You can create suspension criteria by:

- Sales date if you want to suspend all reporting activities prior to a specific sales date or across a range of sales dates.
- PRA entity if you want to suspend all reporting activities for a specific PRA entity, for example, a well completion, prior to a specific sales date or across a range of sales dates.
- State entity if you want to suspend all reporting activities for a specific state lease number prior to a specific sales date or across a range of sales dates.

Statute-of-limitations criteria

You use transaction `O3UY3_TX_SOL` to specify statute-of-limitations criteria for the Texas GLO reports. This allows you to specify royalty records that you do not want to be processed during royalty reporting because they are out of statute.

You can create statute-of-limitations criteria by:

- Sales date if you want to indicate that all reporting activities prior to a specific sales date is out of statute and is not to be reported.
- Filing period if you want to indicate that all reporting activities for specific number of months before the current month is out of statute and is not to be reported.

Transactions that meet the specified criteria are not reported to the state, but the financial impacts of these adjustments are journalized. After you have run a report, you can view out-of-statute transactions and write them off in the out-of-statute write-off maintenance report, which you access using transaction `O3UY3_UPD_TX_OOS_WO`.

Statute-of-limitations exception

You use transaction `O3UY3_TX_SOLE` to specify exceptions to the above-mentioned statute-of-limitations criteria at lease level for a specific sales date or range of sales dates. This allows you to specify the state lease and sales dates, for which the statute-of-limitations criteria should be overridden. All royalty data that meets these criteria is reported based on the appropriate report.

> 🍱 Example
>
> You suspended the royalty data for a specific lease pending the outcome of a litigation process. However, during this time, the data to be reported aged to the point that it became out of statute. Now, you create an exception so that you can report the royalty data even though it is out of statute.

Production disposition cross-reference

You use transaction `O3UY3_TX_PDCXRF` to create the association between the PRA volume types and the disposition codes used on the GLO1 (oil) and GLO2 (gas) reports to define in which column the production volumes belong.

This is done for both report IDs and is used to map to the reports. This master is critical for correct reporting. It is used to identify formation production and non-formation production volumes. In this transaction, enter the following values:

- Report ID
- Well/well completion: This is used as an exception. Most records are set up without a well/well completion and should default for all scenarios at the higher level.
- Transportation method
- Volume type code
- Material
- Oil disposition code
- Gas disposition code
- Subtract
- Gas production code

Royalty disposition cross-reference

You use transaction `O3UY3_TX_RDCXRF` to create the association between the PRA volume types used for GLO and the royalty disposition codes used on GLO2 ONLY in the valuation section of the reports. This tells the royalty report which column to put the values.

Business associate tax IDs

You use transaction `O3UX3_TX_BATXID` to create the master, which allows you to tie a purchaser to their taxpayer IDs.

Owner level override

You use transaction `O3UY3_TX_OWNOVR` to override the state of Texas owner to either pay but do not report or to not pay but report on the GLO1 (oil) and GLO2 (gas) reports. In addition, you can use this transaction to override a lease number for a given venture/DOI.

19.19.4 Running a Royalty Report in the Report 2.0 Workplace

Prerequisites

You have maintained the necessary master data in the Report 2.0 Portal.

For more information, see Maintenance of Master Data in the Royalty 2.0 Portal [page 623].

Context

You use this procedure to run a royalty report for crude oil or natural gas in the Report 2.0 Portal. You can later display, adjust, suspend, and download reportable royalty data.

Procedure

1. On the *Royalty 2.0 Portal* screen, choose ▌▶ *Periodic/Ad Hoc Processing* ▶ *Report 2.0 Workplace* ▌.

   The initial screen of the Report 2.0 Workplace appears.

2. Create a new run of the required Royalty report for the required reporting company by choosing *New*.

   You can create either a current report or an amended report. A current report reports Royalty for the latest sales date. An amended report amends previously reported volumes and values.

3. On the *Admin/Execution* tab page, select the reporting steps that you want to execute. In the standard, the following reporting steps are predefined in Customizing for execution in the following order:

   1. Populate
   2. Validate
   3. Extract
   4. Process
   5. Journalize
   6. Finalize

4. Execute the selected reporting steps by choosing *Schedule Selected Step*.

5. You can choose to execute the steps immediately or at a later time.

   In the standard, the reporting steps are configured so that you can execute the steps *Populate* through to *Journalize* either one by one or all at once. You can also execute them as many times as necessary. This is in contrast to the *Finalize* step, which you must execute on its own and which you can execute only once (see step 6). As a result, you do not post any data irreversibly before you have had a chance to review and adjust it if necessary (see step 5).

   The following table explains what the system does when you execute each of the reporting steps.

   Table 162:

Reporting Step	What the System Does?
Populate	The system loads the relevant data from the Valuation application to a royalty transaction data table.

Reporting Step	What the System Does?
Validate	The system takes the royalty transaction data and checks whether: ○ Valid master data exists for reporting If no valid master data file exists for a particular record, it is flagged as *Rejected*. ○ All the cross-references required for reporting have been created If not all of the required cross-references exist for a particular record, it is flagged as *Rejected*. ○ Suspension criteria have been created If a record meets the suspension criteria, this indicates to the system that the specific PRA or state entity is not to be reported. The record in question is flagged as *Suspended*.
Extract	The system reads the royalty data to be reported into a pending transactions table.
Process	The system reads the pending transactions data and calculates the reporting information at detail (PRA) and summary (state entity) level. It applies statute-of-limiatations criteria to the summary reporting information so that out-of-statute records do not appear on the state report. You can later write off these records (see Tax Transaction Reporting).
Journalize	The system reads all the pending transactions and creates trial journal entries for reconciliation reporting. For transactions that are out of statute and therefore not reportable, the systems creates trial suspended journal entries that require further action (write-off approval and processing).
Finalize	The system posts the trial journal entries. Trial suspended entries are posted as pending write-offs.

An application log is available for each of the steps on completion. For example, the application log for the *Validate* step shows all rejected royalty records with the reason for rejection.

6. On the other tab pages in the *Report 2.0 Workplace*, review the royalty records of the current run.

   The following tabs are available:

   ○ *PRA Details*
   Here you can view reportable transactions at detailed PRA level. You can also adjust, suspend, and download them if necessary.

> **i Note**
>
> It is only possible to adjust and suspend data when it is in Trial status. This means that you have not executed the Finalize step yet.

- o *Report Details*

  Here you can view reportable transactions at the summarized state royalty level. You can also adjust transactions if necessary.

  > **i Note**
  >
  > It is only possible to adjust and suspend data when it is in Trial status. This means that you have not executed the *Finalize* step yet.

- o *Journal Entries*

  Here you can analyze the trial journal entries resulting from royalty reporting.

- o *Out of Statute*

  Here you can view transactions that meet statute-of-limitations criteria and do not need to be reported.

7. When you are ready to finalize the report, run the *Finalize* step.

   The system completes the processing of the reporting parameters for the month and year that you specified and creates offsetting journal entries.

Results

You can create an EDI file to submit the royalty report to the state.

19.19.5 Royalty Transaction Reporting

Use

The Report 2.0 Portal includes several reports that allow you to list the royalty transactions from current and finalized royalty report runs for analysis purposes. In some reports, you can also modify the data. You can access these reports through the Report 2.0 Portal by choosing |▶ *Periodic/Ad Hoc Processing* ❯ `<State>` ❯|

Features

Reports for Wyoming

The following table explains the reports that are available for tax transactions reported on the Wyoming oil and gas reports tax reports.

Table 163:

Report	Use
Royalty Transactions (transaction `O3UY6_DISP_WY_ROYTXN`)	You use this report to list the pending, rejected, or suspended tax transactions of a trial royalty report run.
Up-to-Date Reported Wyoming Transaction (transaction `O3UY6_DISP_WY_ROHST`)	You use this report to list the royalty transactions from a specific sales month that have already been reported to the state.
Royalty Variance (transaction `O3UY6_DISP_WY_RPTVAR`)	You use this report to show the difference between the royalty amounts reported for two reporting months.
List of Out-of-Statute Write-Offs (transaction `O3UY6_DISP_WY_OOSWO`)	You use this report to list the write-off records for out-of-statute transactions that have been written off.
Royalty Balancing Report (transaction `O3UY6_DISP_BAL_RPT`)	You use this report to display the current and amended reporting summary and detail transactions for a given report run ID. You can use this report to display a particular lease for a particular report run, or you can display it for all leases on a report run. This report provides you with a summary transaction amount record for a given sales month, lease, PSA, and product code. The PRA details for the key are displayed. In addition to the information provided on the summary report, it also provides the ventures, DOIs, and company code. If there is a difference between the transaction amount from the summary record and the sum of the detail records, the difference is displayed as well.
OPSL Balancing Report (transaction `O3UY6_DISP_PAY_RECON`)	You use this report to reconcile transaction amounts between the owner's payable (OPSL) subledger, the VL documents or journal entries that are the source for the Wyoming royalty report, and the amount the Wyoming royalty report shows will be paid to the state. This report provides you with a detailed reconciliation for a given venture, DOI, owner, sales month, and product code. For the key data, it displays the OPSL transaction amount, the extracted amount (which is the amount from the VL document or other posted journal entry), any suspended amount, any out of statute amount, and any rejected amounts.
User Royalty Transaction (transaction `O3UY6_UPD_WY_ROYTXN`)	You use this report to add a royalty transaction. This is an exception-based transaction. Consider the ramifications of the impact of adding in this window.
Out-of-Statute Write-Off (transaction `O3UY6_UPD_WY_OOS_WO`)	You use this report to list out-of-statute transactions and then write them off.

Report	Use
Royalty History (transaction `O3UY6_UPD_WY_ROYHST`)	You use this report to list the royalty transactions from a specific period that have already been reported to the state. Here, you can also adjust reported values. This is useful if discrepancies develop between your reported royalty history in your system and the state's official reported history for you.

Reports for Texas GLO/TAMU

The following table explains the reports that are available for tax transactions reported on the Texas GLO/TAMU reports tax reports.

Table 164:

Report	Use
Texas GLO/TAMU Royalty Transaction (transaction `O3UY6_DISP_TX_ROYTXN`)	You use this report to list the pending, rejected, or suspended tax transactions of a trial royalty report run.
Up-to-Date Reported Texas GLO Transaction (transaction `O3UY6_DISP_TX_ROYHST`)	You use this report to list the royalty transactions from a specific sales month that have already been reported to the state.
Texas GLO/TAMU Royalty Variance (transaction `O3UY6_DISP_TX_RPTVAR`)	You use this report to show the difference between the royalty amounts reported for two reporting months.
List of Texas GLO OOS Write-Offs (transaction `O3UY6_DISP_TX_OOSWO`)	You use this report to list the write-off records for out-of-statute transactions that have been written off.
Texas GLO/TAMU Balancing (transaction `O3UY6_DISP_BAL_RPT`)	You use this transaction to display the current and amended reporting summary and detail transactions for a given report run ID. This transaction can be used to view a particular lease for a particular report run, or you can view it for all leases on a report run. This report provides you with a summary transaction amount record for a given sales month, GLO lease, district no., RRC ID, and purchaser ID. In addition, the PRA details for that key are displayed. In addition to the information provided on the summary report, it also provides the ventures, DOIs, and company code. If there is a difference between the transaction amount from the summary record and the sum of the detail records, the difference is also displayed in the right screen area of the report.

Report	Use
Texas GLO/TAMU Payables Reconciliation (transaction `O3UY6_DISP_PAY_RECON`)	You use this report to reconcile transaction amounts between the owner's payable (OPSL) subledger, the VL documents or journal entries that are the source for the Texas GLO royalty report, and the amount the Texas GLO royalty report shows is paid to the state. This report provides you with a detailed reconciliation for a given venture, DOI, owner, sales month, and product code. For the key data, it displays the OPSL transaction amount, the extracted amount (which is the amount from the VL document or other posted journal entry), any suspended amount, any out of statute amount, and any rejected amounts.
Texas GLO User Royalty Transaction (transaction `O3UY6_UPD_TX_ROYTXN`)	You use this report to add a royalty transaction. This is an exception-based transaction. Consider the ramifications when you add information in this transaction.
Texas GLO/TAMU Out-of-Statute Write-Off (transaction `O3UY6_UPD_TX_OOS_WO`)	You use this report to list and write off records for out-of-statute transactions that must be written off.
Texas GLO/TAMU Royalty History (transaction `O3UY6_UPD_TX_ROYHST`)	You use this report to list the royalty transactions from a specific period that have already been reported to the state. You can also adjust reported values, which is useful if discrepancies develop between your reported royalty history in your system and the state's official reported history for you.

19.20 Escheat Process

Prerequisites

- You have configured the system using the following Customizing activities in Customizing for *Industry Solution Oil & Gas (PRA)* under ▐▶ *Process 2.0* ❯ *Enhancements* ▐:

  > **i Note**
  >
  > For these Customizing activities, predefined entries are delivered by SAP. Do not modify these entries.
  >
  > - *Maintain Process Types*
  >   This Customizing activity controls the workplace for each process type, which means Escheat, *Wyoming Escrow*.

- *Maintain Process Type Tabs*
  This Customizing activity controls the tabs that appear in the Process Workplace for a given process type.
- *Maintain Processes*
  This Customizing activity contains technical attributes for the particular process within the Process Workplace. Examples include the class, process type and so on.
- *Maintain Process Steps*
  This Customizing activity defines the steps that comprise each process.
- *Maintain Prerequisite Step Status*
  This Customizing activity contains the control table that defines prerequisites for each process step.

- You have configured the system using the following Customizing activities in Customizing for *Industry Solution Oil & Gas (PRA)* under ▌ *Process 2.0* ❯ *Specific Configuration* ❯ *Escheat* ▌:

> i Note
>
> You can configure these Customizing activities according to your requirements.
>
> - *Maintain Process Group*
>   This Customizing activity enables you to group several states to run as one process or setup individually to run at the individual state level.
> - *Maintain Minimum Age*
>   This Customizing activity enables you to set up escheat criteria for different states. Criteria include dormancy period (in months) and the *Pay to Current* checkbox.
> - *Maintain Process Group / State XRef*
>   This Customizing activity enables you to tie states to process group, which allows you to tie multiple states with the same reporting dates to one process group if desired.
> - *Maintain State Smartform Configuration*
>   This Customizing activity enables you to tie states to specific smartforms.
> - *Maintain Excluded Suspense Reason Codes*
>   This Customizing activity allows you to specify suspense reason codes to be EXCLUDED from the population of data to be considered for escheat.

Context

Escheat rules apply to the 50 states and the District of Columbia to report unclaimed funds [escheat. The basis for Escheat is PRA legal suspense and is based on the state of residency. You use this procedure to manage the process tracking and submitting payments for escheatable revenues to various states.

You use PRA Escheat for the following activities:

- Determine which suspended funds are eligible for escheat
- Filter PRA legal suspense subledger that is used during processing
- Create state reporting data
- Create escheat report
- Post offsetting journal entries

The escheat process is executed twice a year, once beginning in January for states that require reporting during the spring of the year, and once beginning in July for states that require reporting during the fall of the year.

Procedure

1. Use transaction `O3UE2_SFI` for the suspended funds inquiry.

   The detail and summary view of the owner suspense with filter criteria based on:

   - State level inquiry
   - Aging capability
   - Suspense reason codes
   - Debit balance inquiry
   - Minimum balance

   This transaction allows you to directly display information and determine the owners who will become escheatable. In addition, it enables you to monitor real-time suspense balances potentially subject to escheat, which serves the following purposes:

   - Legal suspense inquiry
   - Legal suspense inquiry leading up to escheat analysis

2. Access the Process 2.0 Portal on the *SAP Easy Access* screen under ▎▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Process 2.0 Portal* ❱, or use transaction `O3UE2_PORTAL_004`.

3. Create escheat master data:

   1. If you need to generate due-diligence letters for any owners:
      On the *Process 2.0 Portal* screen, choose ▎▶ *Master Data* ❯ *Escheat* ❯ *Escheat Due Diligence Address Maint* ❱ (transaction `O3UE2_ESCHEAT_ADDR`).
      The *Escheat Due Diligence Address Info* dialog box appears. Enter the necessary address information. Transaction `O3UE2_ESCHEAT_ADDR` allows you to enter the company address and contact info used in the due diligence letter.

   2. On the *Process 2.0 Portal* screen, choose ▎▶ *Master Data* ❯ *Escheat* ❯ *Escheat Holder Record Maintenance* ❱ (transaction `O3UE2_ESCHEAT_HOLDER`).
      Transaction `O3UE2_ESCHEAT_HOLDER` allows you to enter holder information for the NAUPA file reporting requirements.

   3. To ensure that the data you have for business associates complies with state rules and regulations regarding escheatable funds, you will need to maintain information for business associates.
      To do so, on the *Process 2.0 Portal* screen, choose ▎▶ *Master Data* ❯ *Escheat* ❯ *Escheat BA Info Maintenance* ❱ (transaction `O3UE2_ESC_BA`). You can modify existing data and add information, such as date of birth, that is not normally included in business associate records but is required for escheat processing.

4. View escheat process data and schedule process run steps. To do so, on the *Process 2.0 Portal* screen, choose ▎▶ *Periodic/Ad Hoc Processing* ❯ *Escheat* ❯ *Escheat Workplace* ❱ (transaction `O3UE2_WORKPLACE_002`).

   1. Enter a state or a group of states.
   2. Enter values on the selection screen.
   3. On the *Admin/Execution* tab, select the process group and process date. The *Process Run Steps* screen area displays the process run steps along with the status. The Process Workplace is broken down by a process of 5 steps:
      1. Extract

The state rules you have configured in Customizing are used to determine what is extracted. Dormancy period and pay-to-current are defined by state. The suspense reason code you have configured in Customizing for a company is used to determine the criteria for extraction.

2. Due Diligence Letters
This step creates the due diligence letters.

3. Process
This step marks the owners as escheated and creates the NAUPA format.

4. Journal Entry
This step creates the journal entries offsetting the entry to the escheat summary account.

5. Finalization
This step posts journal entries and creates escheat history for subsequent user inquiry of escheated balances.

From here, you can schedule process run steps or cancel steps that have been scheduled but not yet run.

4. On the *Owner Summary* tab, review the owner summary. Use the fields in upper screen area to filter the owners that are displayed under the *Owner Summary screen* area.
Owners data can be maintained and modified here. For instance, you can select the *Do Not Escheat* checkbox if you want to exclude an owner from the Escheat processing.
If you want to enter a comment to an owner, choose the link in the *CM (Comment)* column next to the relevant owner. You can review due diligence letters for an owner by choosing the link in the DD column next to the relevant owner. The *Esch Hist* checkbox indicates whether the owner has been involved in the escheat process in the past.

5. On the *Owner Details* tab, you can review further details of an owner.

6. The *Report Details* tab includes three subtabs:
   ○ On the *Holder* subtab, you can display the data you have created for the holder. (See step 2b, above.)
   ○ On the *Property* subtab, enter a state code in the *Resident State Code* field and execute it to display a data list concerning all escheatable properties for that state.
   ○ On the *Summary* subtab, you can display the high-level data concerning what you have escheated to the state.

7. On the *Journal Entries* tab, review the accounting history for of the funds for finalized escheats. Use the fields in the upper screen area to filter the journal entries that are displayed under the *Journal Entries* screen area.

5. Use the suspended funds inquiry to review balances for all suspended funds in the system.

   1. To do so, on the *Process 2.0 Portal* screen, choose ▶ *Periodic/Ad Hoc Processing* ❯ *Escheat* ❯ *Suspended Funds Inquiry* ❯ (transaction `O3UE2_SFI`).

   2. Enter the parameters for funds you want to review.

   3. In the *Output Option* screen area, either select the *Summary (with drill down)* radio button, if you want a report that allows you to review the suspended funds summed by owner and drill-down to the details per owner, or select the *Detail (no drill down)* radio button for a list of all records.

   4. A list of records that corresponds to your selected parameters is displayed indicating the total escheatable balances.

6. To view a full history, maintained for audit-trail purposes, for all escheat data, on the Process 2.0 Portal screen, choose ▶ *Periodic/Ad Hoc Processing* ❯ *Escheat* ❯ *Display Owner Escheat History* ❯ (transaction `O3UE2_ESCH_DISP_HIST`). Transaction `O3UE2_ESCH_DISP_HIST` allows you to to display escheated history and print out escheated detail for specific escheated BA.

19.21 Wyoming Escrow Process

Prerequisites

- You have configured the system using the following Customizing activities in Customizing for *Industry Solution Oil & Gas (PRA)* under ▶ *Process 2.0* ❯ *Enhancements* ❯:

  > **i Note**
  >
  > For these Customizing activities, predefined entries are delivered by SAP. Do not modify these entries.
  >
  > - *Maintain Process Types*
  >   This Customizing activity controls the workplace for each process type, which means Escheat, Wyoming Escrow.
  > - *Maintain Process Type Tabs*
  >   This Customizing activity controls the tabs that appear in the Process Workplace for a given process type.
  > - *Maintain Processes*
  >   This Customizing activity contains technical attributes for the particular process within the Process Workplace. Examples include the class, process type and so on.
  > - *Maintain Process Steps*
  >   This Customizing activity defines the steps that comprise each process.
  > - *Maintain Prerequisite Step Status*
  >   This Customizing activity contains the control table that defines prerequisites for each process step.

- You have configured the system using the following Customizing activities in Customizing for *Industry Solution Oil & Gas (PRA)* under ▶ *Process 2.0* ❯ *Process Specific Configuration* ❯ *Wyoming Escrow* ❯:

  > **i Note**
  >
  > You can configure these Customizing activities according to your requirements.
  >
  > - *Maintain Process Groups*
  >   This Customizing activity allows you to group several companies to run as one process or setup individually to run at the individual company level.
  >
  >   > **i Note**
  >   >
  >   > For group companies, only install company should be grouped with appropriate sub-companies (MUST match checkwrite configuration). All other companies must run individually (just as with checkwrite run requirements).
  >
  > - *Maintain Excluded Suspense Reason Codes*
  >   This Customizing activity allows you to specify suspense reason codes to be EXCLUDED from the population of data to be considered for Wyoming escrow.

Context

The Wyoming Escrow process is executed once a month and is executed for the state of Wyoming legal suspense for the state of production. You use this procedure to handle the process submitting payments for escheatable revenues to various states.

The Wyoming Escrow process is executed once a month and is submitted from the payment processing workplace through a checkwrite.

Procedure

1. Use the suspended funds inquiry to review balances for all suspended funds in the system.

   To do so, on the *Process 2.0 Portal* screen, choose ▶ *Periodic/Ad Hoc Processing* ❯ *Wyoming Escrow* ❯ *Suspended Funds Inquiry* ❯ (transaction `O3UE2_SFI`).

   1. Enter the parameters for funds you want to review.
   2. Detail and summary view of owner suspense with filter criteria based on the property interest in the state of Wyoming. The user can determine if this is the first time the owner is in suspense and/or the owner has been previously escrowed.
   3. In the *Output Option* screen area, either select the *Summary (with drill down)* radio button if you want a report that allows you to review the suspended funds summed by owner and drill-down to the details per owner, or select the *Detail (no drill down)* radio button for a list of all records.
      A list of records that correspond to your selected parameters is displayed indicating the total escrowed balances. The inquiry view for analysis prior to running the Wyoming Escrow process allows you to monitor real-time suspense balances potentially subject to Wyoming Escrow. Access the Process 2.0 Portal on the *SAP Easy Access* screen under ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Process 2.0 Portal* ❯, or use transaction `O3UE2_PORTAL_004`.

2. Create vendor record address data to ensure that it complies with Wyoming's escrow requirements regarding formatting, order, and content.

3. On the *Process 2.0 Portal* screen, choose ▶ *Periodic/Ad Hoc Processing* ❯ *Wyoming Escrow Address Maintenance* ❯ (transaction `O3UE2_WY_ESCROW_ADDR`). The transaction `3UE2_WY_ESCROW_ADDR` allows you to create the override bank address for BA's paid through the Wyoming Escrow process.

4. Display Wyoming escrow process data and schedule process run steps. On the Process 2.0 Portal screen, choose ▶ *Periodic/Ad Hoc Processing* ❯ *Wyoming Escrow* ❯ *Wyoming Escrow Workplace* ❯ (transaction `O3UE2_WORKPLACE_001`).

   1. On the *Admin/Execution* tab, select the process group and process date.
      The Process Run Steps screen area displays the process run steps along with status. The following Escheat process run steps are available: For a new run, enter parameters for the desired company and process date.
      The Process 2.0 Workplace is broken down by a process of 5 steps:

      1. Extract
         The user extract is based on dormancy period of 60 days post sales date and/or the owner has been previously escrowed. The suspense reason code you have configured in Customizing for a company is used to determine the criteria for extraction. After the extract is done, the owner summary and owner detail information is available for analysis. You can drill-down from the owner

summary information to details. In addition, at owner detail level, you can select the *Do Not Escrow* checkbox for individual entries.

2. Journalize
   This step creates the journal entries offsetting the entries from legal suspense to owners payable. When the Wyoming Escrow journalization is completed, you can display the trial journal entries created through the process.

3. Post
   This step posts the journal entries. After the post step is run, you can display the journal entries created to move the suspended entries to the payable subledger. These journal entries are the source transactions to be paid in Wyoming Escrow process.

4. Check Run
   This step reads in only the owners payable posted in the post step and creates a check print file. Journal entries offsetting owner's payable, and the entry to summary clearing. The check run process submits an owner level checkwrite and then collects the results of the run once complete. The tabs available after the check run create tabs with the following information:
   - the original run parameter
   - the check register information generated by the run
   - the check detail information generated by the run
   - rejections encountered during the check run

5. Finalization
   This step updates the status to final and creates escrow history for subsequent user inquiry and use in processing.

   From here, you can schedule process run steps or cancel steps that have been scheduled but not yet run.

2. The *Check Run* tab includes four subtabs: Use the *Parameters*, *Check Register*, *Check Details*, and *Check Rejects* subtab to view details for the check run.

3. On the *Owner Summary* tab, review the owner summary. Use the fields in the upper screen area to filter the owners that appear under the *Owner Summary* screen area. Owners data can be maintained and modified here. For instance, you can select the *Do Not Escrow* checkbox if you want to exclude an owner from Wyoming escrow processing. If you want to enter a comment to an owner, choose the link in the *CM (Comment)* column next to the relevant owner.

4. On the *Owner Details* tab, you can review further details of an owner. Also, at the owner detail level, individual entries can be flagged as 'do not escrow'.

5. On the *Journal Entries* tab, review the accounting history for of the funds for finalized Wyoming escrow. Use the fields in the upper screen area to filter the journal entries that appear in the *Journal Entries* screen area.

5. To display a complete history, maintained for audit-trail purposes, for all escheat data, on the *Process 2.0 Portal* screen, choose ▌▶ *Periodic/Ad Hoc Processing* ❯ *Wyoming Escrow* ❯ *Wyoming Escrow Owner History* ▌ (transaction O3UE2_ESCROW_HISTORY).

19.22 Taxes Payable Reconciliation

Purpose

You use this process to manage and reconcile taxes payable (TP) balances in the *Taxes Payable Reconciliation Portal* , which you access from the *SAP Easy Access* screen by choosing ▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Tax Reporting* ❯ *Taxes Payable Reconciliation Portal* ❯ .

TP balances arise when there are discrepancies between the taxes payable that are recorded in the taxes payable subledger (TPSL) and the offsetting journal entries that are created from tax reporting. In this process, you summarize TP balances from the TPSL to a TP summary table. You can subsequently manage and reconcile balances at a higher level than the detailed batch level of the TPSL. The summery tables also allows you to retrieve balances more quickly than in the TPSL due to the smaller amount of information.

Prerequisites

You have made the settings for taxes payable reconciliation in Customizing for *Industry Solution Oil & Gas (Production and Revenue Accounting)* by choosing ▶ *Production, Tax, and Royalty Reporting* ❯ *Tax Reporting* ❯ *Tax 2.0* ❯ *General Configuration* ❯ and ▶ *Production, Tax, and Royalty Reporting* ❯ *Tax Reporting* ❯ *Taxes Payable Reconciliation* ❯ .

Process Flow

1. You configure write-off accounts under account category 19 *Taxes Payable Write-Off* .
    For more information about setting up accounts, see JE Account Master Data Creation [page 436] .

You must set up a write-off account for every company, even if you are not reconciling taxes payable balances for all companies. Otherwise, an error occurs during the JE accounting period close.

1. You convert the TP balances from the TPSL to the summary balance table according to company code , venture number, DOI number, product, sales month, state code, and tax code .
    You do this in the *Taxes Payable Reconciliation Portal* by choosing ▶ *Periodic/Ad HocProcessing* ❯ *Taxes Payable Workplace* ❯ .

    > ℹ **Note**
    >
    > You can convert either current balances or historical balances. However, converting current balances will result in a lot of out-of-balance records.

2. You configure automatic write-off so that the system can automatically write off TP balances from a specific company code that are under both a certain age and a certain amount. The system writes off balances that meet the criteria during the JE accounting period close.
    You configure automatic write-off in the *Taxes Payable Reconciliation Portal* by choosing ▶ *Periodic/Ad Hoc Processing* ❯ *Set Up Taxes Payable Write-Off* ❯ .

For more information about the accounting period close, see Carrying Out the JE Monthly Accounting Period Close [page 454] .

3. You purge the relevant taxes payable account. This moves TP balances that equal zero from the summary balance table to a summary balance history table and the related TPSL record to the TPSL history table.

You run the purge process by choosing ▌▶ *Logistics* ❯ *Production and Revenue Accounting* ❯ *Revenue Accounting* ❯ *Journal Entry* ❯ *Utilities* ❯ *JE Offset Purge* ◤ .

For more information, see Carrying Out an Offset Purge [page 466] .

4. You create responsibility IDs and assign to them to users. You use these responsibility IDs later to assign summary balances to users.

You manage responsibity IDs in the *Taxes Payable Reconciliation Portal* by choosing ▌▶ *Periodic/Ad Hoc Processing* ❯ *Maintain Taxes Payable Resp. ID* ◤ .

Result

You can now open the summary balance table and manage TP balances as required. Summary balances are updated as the TPSL is updated in the JE posting process. In addition to inserting and updating summary balances, the JE post also automatically purges balances that equal zero. During JE accounting period close, the system automatically writes off balances that fulfil the automatic write-off criteria.

You access the summary table through the *Taxes Payable Reconciliation Portal* by choosing ▌▶ *Periodic/Ad Hoc Processing* ❯ *Taxes Payable Workplace* ◤ .For more information about the available features, see The Taxes Payable Workplace [page 643] .

19.22.1 The Taxes Payable Workplace

Use

You use this function to manage taxes payable (TP) balances.

Prerequisites

For more information, see Taxes Payable Reconciliation [page 642] .

Features

In the *Taxes Payable Workplace* , you can:

- View current and historical TP balances

- Create and update balance comments
- Categorize a balance with configurable category codes
- Perform mass categorization of balances
- Apply a target date for mass reconiciliation of balances
- Initiate, cancel, and approve the write-off of individual balances
- Drill down from a summary balance to the detailed TPSL entries
- View balances by age, responsibility ID, and write-off history
- View write-off history
- Use the standard SAP List Viewer (ALV) to sort, filter, total, sub-total, hide, or change the order of report columns

20   PRA Tools

Purpose

PRA provides the following tools:

Table 165:

PRA Tool	Description
Bitmap / Flashform Maintenance	Flashforms are templates that you can download, which you use to send reporting data to reporting agencies, in hard-copy (paper) form. Bitmaps are templates that you can use to graphically portray a network.
• The PRA Common Table	A central PRA table used in a wide variety of PRA applications.
The PRA Report Driver	The Report Driver is a centralized, standardized tool that is used to submit most of the tax, royalty, and production reports in Production & Revenue Accounting.
List Processing	Used to retrieve, sort, and review data.
Reviewing Changes to PRA Data	Tools for reviewing changes to PRA data.

20.1   Bitmap/Flashform Maintenance

Purpose

PRA provides tools for displaying transactional data in graphical form and for creating hardcopies (paper copies) of reporting data. Flashforms and bitmaps are templates stored in the ERP system, which you can download and use for those purposes.

Table 166:

Tool	Description
Flashforms	**Flashforms are pre-configured templates that allow you to put PRA reports into a format that allows you to print them and send them to regulatory agencies as a hardcopy (on paper).** **Flashforms are reporting templates stored in the ERP system, which are used to put specific report data into the proper form for printing. There is a flashform for each PRA report.**
Bitmaps	Templates that you can use to graphically depict a network.

You have to first download the flashforms from the ERP sytem to your local PC (this is a one-time activity), and then download the specific report data (a data file) from the ERP system to your PC.Then, you can print the report and send it to the relevant agency.

Prerequisites

Transactional data for the reports (production regulatory reports, tax reports, royalty reports) has to already have been created in the ERP system.

See also:

Downloading Reporting Flashforms [page 646]

Uploading Reporting Flashforms [page 647]

Deleting Reporting Flashforms [page 648]

Using Flashforms in MS-Word [page 649]

Printing and Submitting Reports [page 651]

20.1.1 Downloading Reporting Flashforms

Use

Use this to download and install reporting flashforms to a local drive (to your PC). In order to use flashforms, you have to first have them available locally. You download the flashforms from a table in the ERP system.

ⓘ

The folder that you download the templates to should be the same target folder on your PC that you are going to use to put the report data into your Word document in order to print it. The target folder should thus be the same as the target folder that you choose in Using Flashforms in MS-Word [page 649] .

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Flashforms Maintenance → Download Reporting Flashforms* .

The *Download Flashforms* screen appears.

1. Select *Execute* .

The *Browse for Folder* dialog box appears.

1. Using this dialog box, select the location on your PC (locally) that you want to download the flashforms to, and then select *OK* .

The *Download Bitmaps/Flashforms* screen is displayed. The screen lists all the flashforms that are available for downloading.

1. From the list, select the flashform(s) that you would like to download (to select them all, choose *Select All Entries*).
2. Select *Download Selected Entries* .

Result

The flashforms are downloaded to your PC to the folder you chose. You can now use them to create hardcopies for submitting reports (see: Using Flashforms in MS-Word [page 649]).

20.1.2 Uploading Reporting Flashforms

Use

Use this to upload flashforms from a local file. Flashforms have to be uploaded to the ERP system before other users can download them from the ERP system, and use them.

> ℹ
>
> SAP delivers standard reporting flashforms, which are stored in the ERP system. It is possible to create your own flashforms and upload them to the ERP system, using this transaction. The flashforms created in that way are, however, not considered part of the SAP standard flashforms.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Royalty Reporting → Flashforms Maintenance → Upload Reporting Flashforms* .

The *Upload Flashforms* screen appears.

1. Select *Execute* .

The *Select Flashforms to upload* dialog box appears.

1. From the dialog box, select the file that you would like to upload, and then select *Open* .

The *Bitmap/Flashform Maintenance* screen appears. On the screen, you will see the list of flashforms that you uploaded, as well as the status ("uploaded successfully").

Result

The flashforms are uploaded and can now be downloaded to individual users' PCs.

20.1.3 Deleting Bitmaps and Flashforms

Use

For information about deleting bitmaps or flashforms, choose one of the following:

- Deleting Upstream Graphics Bitmaps [page 83]
- Deleting Reporting Flashforms [page 648]

20.1.3.1 Deleting Reporting Flashforms

Use

Use this to delete flashform files that have been uploaded.

You might want to delete files that have already been uploaded, for example, if the version of the file has become outdated.

⚠️

Deleting flashforms files makes them not only unavailable to you, but also unavailable to other users. SAP recommends that you first consider this before deleting any files, and ensure that the file is indeed outdated and that no other users will need to use them in future, before you delete any of them.

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Production, Tax and Regulatory Reporting → Flashforms Maintenance → Maintain Reporting Flashform* s.

The *Bitmap/Flashform Maintenance* screen is displayed.

1. Select *Execute* .

The *Bitmap/Flashform Maintenance* screen is displayed, with the list of flashforms.

1. Select the files that you would like to delete.
2. Select *Delete* .

20.1.4 Using Flashforms in MS-Word

Use

Use this to format MS-Word for specific reporting flashforms.

In order to be able to print reports as hardcopy, you first need to format Word for flashforms, both generally, and also for each specific report that you want to print and submit. Formatting Word means:

Adding a macro to Word, which adds a *PRA Reports* menu option on your Word interface, and

Adding a drop-down menu option under that menu option for each report that you would like to print and send to the relevant regulatory agency.

Prerequisite

You have to have already downloaded flashforms for the reports that you would like to format here from the ERP system to your PC. You have to have the reports saved locally so that you can put them into Word format. The target folder that you access here has to be the same as the one you saved the flashforms to in .

Formatting MS-Word so that you can put your report data into Word documents consists of the following procedures (to be carried out in the order listed here)

Table 167:

I. **Formatting report templates into your MS-Word document:**

Open MS-Word.

Chose *File à New*

Select *General à Templates* **(this is the target folder that you saved your templates to).**

Select the report template that you would like to format into your Word document.

Under the *Create New* **screen area, select the** *Document* **radiobutton.**

Select *OK* .

The report is formatted into your Word document.

II. Installing a *PRA Reports* menu option on your MS-Word interface (one-time activity). This procedure runs a macro, which inserts a *PRA Reports* menu option into your MS-Word interface.

Proceed as follows:

1. From the Microsoft Word menu bar, choose *Tools → Macro → Macros* .

The *Macros* dialogbox appears.

1. From the Macros list that is displayed, select the 'SetUp*****.MAIN' macro for the flashform that you would like to use (where ***** is the name of the specific report), and then select *Run* (this runs the macro).
2. In the Word menu, verify that the installation worked – if there is a *PRA Reports* pushbutton on the menu now, installation is complete.

III. Using the PRA Reports menu item to display reporting data in Word

This puts the actual reporting transactional data (volumes, etc.) into your prepared report in Word:

1. Open MS-WORD
2. In Word, choose *PRA Reports* , and under it, the report that you would like to display.

A new document is created.

1. The *Insert File* dialog box appears, prompting you to choose the file on your local drive, where you saved the relevant report data.
2. In the dialog box, select the file. When you select it (which highlights that file in the dialog box), the *Insert* pushbutton is now visible and active in the dialog box.
3. Select *Insert* .

The reporting data that you chose is now placed into your Word document.

Result

You can now print and submit reports (see:).

20.1.5 Printing and Submitting Reports

Use

Use this to print out reports, in order to be able to send the paper copy of them to the relevant reporting agency.

Prerequisites

- You have to have first downloaded the flashform file for the report to your PC (see: Downloading Reporting Flashforms [page 646]).
- You have to have formatted your Word interface for your reports, so that a *PRA Reports* menu option appears on your Word interface (see: Using Flashforms in MS-Word [page 649]). This allows you to print the report data for each report.

Procedure

1. Open MS-Word.
2. In the Word menu, under the *PRA Reports* menu option, choose the report that you would like to submit.

The *Insert File* dialog box appears.

1. From the dialog box, select the relevant flashform file (from the list of files you downloaded). This inserts the reporting data for that report into your open Word document, formatted for printing.
2. Review the data in the Word document to ensure that it is formatted properly, and that the data is correct.
3. Print out a hardcopy of the report (paper copy).
4. Verify the copy and sign it.

Result

You can now send the copy to the regulatory agency.

20.2 The PRA Common Table

Definition

Within many PRA dialog screen fields, the dropdown list boxes (alternately referred to as "combo boxes") for fields such as 'Account Category', 'Major Product', etc., receive their values - their texts - from a single

"common table" (Table OIUH_CM_TT). The purpose of the Common Table is for validation of input field entries, and the Common Table is made up of a number of individual PRA tables. In effect, it functions as a central master table for PRA.

The various drop-down box texts are accessed based on the value of the TT_TT_NO column in that table, which identifies the dropdown table ID (the table against which validation is taking place).

Example

In transaction OIUH_DO08 ("DOI Owner Accounting Entry Code: Initial Screen"), the field 'major product' is linked to a pre-filled combo box. The contents of that dropdown box are extracted from the OIUH_CM_TT table using Table ID TBLCM03. Similarly, the contents of the 'Account Category' dropdown box are filled using table ID TBLRV016.

You can add a new text option in the dropdown box for a field. To do that, a new entry needs to be added in the Common Table. Each entry in that table has a Table ID (field TT_TT_NO), a description (field TT_ELEM_DE), and an internal code (field TT_ELEM_NO), unique within the Table ID.

When an end-user selects from the dropdown box, the dialog code receives the internal code associated with the text line in the dropdown box.

You can view the PRA Common Table and its contents (all the possible texts for the combo boxes). To do so, use the Data Browser (transaction code SE 16 and then enter the name of the table - OIUH_CM_TT).

20.2.1 Using the PRA Common Table

Use

This report is used to run a database search on the " PRA Common Table [page 651] " in PRA (Table OIUH_CM_TT). You can base your search on table group (PRA application) and/or table name.

From the Common Table maintenance screen, when you run a selection (by selecting Execute), you are taken to the Table Group List. The Table Group List is a list of all the relevant tabels for your search (all the tables for that PRA application or that table name).

On the Table Group List, when you select a table (the tables names are underlined in the list, and to select one, just put your cursor on the underlined table name), you are taken to the "Type Detail" screen, which is a list of individual records for that table. Also on that screen, you can often access documentation explaining the specific table. To access it, from the "Type Detail" screen, select the blue and white "I" (information) icon.

You can also search based on table name. For example, if you are interested in revenue-related tables, enter "revenue" in the Table Name field and execute your search.

On the initial screen, you can choose from the following table groups (PRA applications):

01 = Common Table

02 = Production

PR = Production

03 = Check Input

04 = Regulatory Reporting

CI = Check Input

CM = Common

CS = Contracts

RD = Revenue Distribution

RR = Regulatory Reporting

TR = Tax and Revenue

Procedure

1. From the SAP Easy Access menu, choose *Logistics → Production and Revenue Accounting → Tools → Common Table Maintenance → Common Table Maintenance* .
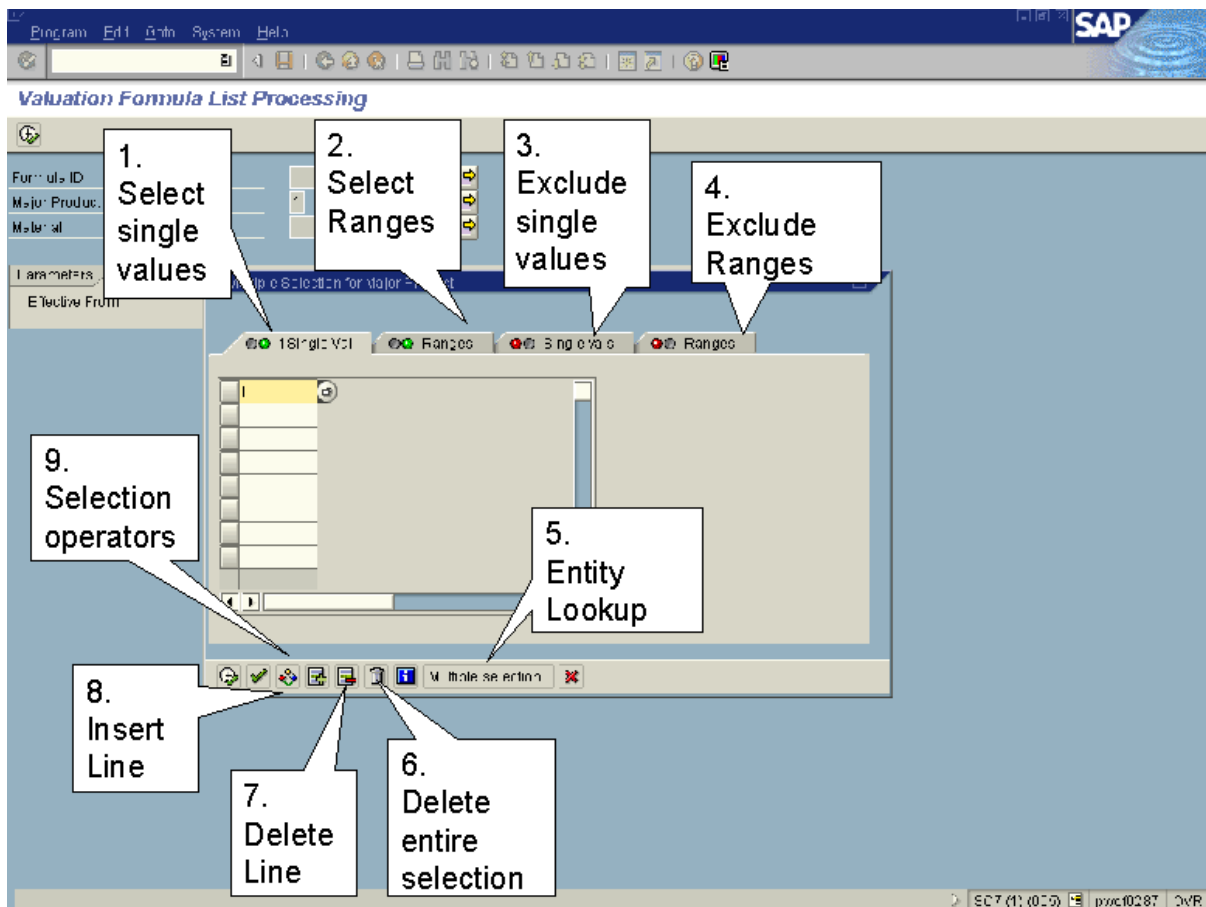
20.3 List Processing

Use

Use list processing to retrieve and review data as required.

Activities

Using Multiple Selection

Often to the right of the input fields the system displays an icon with a yellow arrow. This is the *Multiple selection* icon, which allows you to enter multiple sets of data as criteria for the system to use when executing a report. For example, you could use the Multiple selection feature to specify more than one range of numeric IDs (1-50 and 60-100) and at the same time exclude a value (not ID number 75).

If more than one selection is entered, the system displays the arrow in green because the system cannot display all of the selection criteria on the initial screen at one time.

Multiple Selection Features

Table 168:

Feature	Description
1. Select single values	Use this to enter single values to be retrieved for the report.
2. Select ranges	Use this to enter a range of values to be retrieved for the report.
3. Exclude single values	Use this to enter single values to be excluded from the report.
4. Exclude ranges	Use this to enter a range of values to be excluded from the report.
5. Entity lookup	Enables a lookup on the entity.
6. Delete entire selection	Delete all values that you entered in the dialog box.
7. Delete line	Deletes the value from the line in which the cursor is placed.

8. Insert line	Inserts a new line above the field on which the cursor is placed.
9. Selection operators	Retrieves a list of selection operators (, ≥ , , , ,) that can be used with the input values.

Using Selection Screen Variants

Use a variant to establish a set of values that will be used on a regular basis to run a report. By setting up a variant, you eliminate the need to enter a set of data more than one time. When you retrieve a variant, the values you specified in the variant default into the corresponding fields on the screen.

Creating a Variant

1. On the List Processing screen, enter the values to be included in the set of values for the variant.

2. **i**

   Any values that you include by using Multiple Selection are included in the variant.

3. Choose ▐ *Goto* ❭ *Variants* ❭ *Save as variant* ❭ .

4. In the *Variant name* field enter a name or ID for the variant. In the *Description* field enter a description for the variant.

5. Choose *Save* to return to the List Processing screen.

Retrieving a Variant

1. From the List Processing screen choose ▐ *Goto* ❭ *Variants* ❭ *Get* ❭ .

2. The system displays a dialog box with a list of variants.

3. Select a variant and then choose *Enter* to return to the list processing screen.

The system inserts the values specified in the variant into the corresponding fields.

List Viewer Navigation Functions

After you choose a variant and/or enter data on the initial screen and choose *Execute* , the system displays the results on a List Viewer screen. Some of the functions available on the List Viewer screen follow.

Table 169:

	Viewing Details of a Record 🔲
	• To view details of a record, select the appropriate record and choose *Details* .
	Viewing Data in Ascending Order 🖨
	• To sort data in ascending order, select the column by which you will sort in ascending order. Then choose *Sort in ascend. order* .
	Viewing Data in Descending Order 🖨

	• To sort data in descending order, select the column by which you will sort in descending order. Then choose *Sort in descend order* .
	Finding a Record 🔍
	• To find a record in the report, choose *Find* . Then enter selection criteria.
	Using the Filter 🔽
	• To limit the number of records shown in the report, select the column for which you will set the filter. Then choose *Set filter* and enter criteria for the filter.
	Printing the Report 🖨
	• To print the data displayed in the List Viewer, choose *Print* .
	Export the Report 📤
	• To save the data displayed in the List Viewer as a file, choose *Export* .
	Changing the Format of the Report 📋
	• To select a different format for the report, choose *Views* .

20.4 Reviewing Changes to PRA Data

Use

Use these transactions to identify changes to PRA data as well as related information about who made a change, when it was made, the name of the field containing the change, the old value in the field, and the new value in the field.

Procedure

Identifying the Object Name - Part 1 of 2

1. At the SAP Easy Access menu, choose ▶ *Tools* ❯ *ABAP Workbench* ❯ *Development* ❯ *Workflow* ❯ *Definition Tools* ❯ *Events* ❯ *Event Creation* ❯ *Change Documents* ❯ *Overview* ◗.
2. The *Change Document Object: Overview* screen appears.
3. In general, PRA objects begin with **OIU** . With this in mind, review the description of the object in order to identify the object name that relates to the changes you are looking for.
4. Note the object name (such as OIUREP_MRT_HIST, for example).

Identifying Data Changed in the Object - Part 2 of 2

1. At the SAP Easy Access menu, choose ▶ *Tools* ❯ *ABAP Workbench* ❯ *Development* ❯ *ABAP Editor* ◗.
2. The *ABAP Editor: Initial Screen* appears.
3. In the *Program* field, enter **RSSCD100** . Then choose *Execute* .
4. The *Display Change Documents* screen appears.
5. In the *Object class* field, enter the object name that you identified in the Change Document Object transaction (OIUREP_MRT_HIST, for example). Complete other fields as required.

6. ⓘ
   In the *From date* field, today's date defaults. To generate an overview that spans a broad range of dates, change the date in the *From date* field as required.
7. Choose *Execute* .
8. The *Change Documents for Object Class <X>* screen appears.
9. Double-click on an object to review the *Detail: Display* screen. You will then be able to review the data related to the change, such as user ID, date, time, transaction code, field name, the old value, and the new value.

20.5 Revenue Report Viewer

Use

Use this transaction to view a variety of revenue reports.

For each report, the following categories of information may be available, depending on the data that the system generates:

- Errors display errors that occurred during the execution of the batch job
- Sysout displays information about how many records or transactions were generated
- Reports provide details about the data that was generated from the batch job

> ⓘ Note
>
> The system displays data for these categories only when data is available; that is, if the system has not generated data for a particular category, you cannot access a view of a blank report without data.

Activities

To access the Report Viewer, choose ▌ *Logistics* ❭ *Production and Revenue Accounting* ❭ *Revenue Accounting* ❭ *Report Viewer* ❭ .

21 PRA Archiving

Purpose

Production and Revenue Accounting (PRA) includes archiving features that allow you to create and store archive files with data from the SAP ERP System resulting from business processes that, once complete, no longer require the data.

Constraints

⚠️

PRA Archiving does **not** support data retrieval for prior period adjustment (PPA) purposes.

21.1 Data Archiving with Archive Development Kit (ADK)

Context

Data Archiving removes mass data, which the system no longer needs, from the database, but which must still be available for reporting. For the most part, SAP's data archiving concept is based on the archiving objects of the *Archive Development Kit (ADK)*.

Archiving Objects

Archiving objects describe the structure and context of the data to be archived. Predefined archiving objects are available for the applications for which data is to be archived. In data archiving, the system writes the data to archive files according to the relevant archiving objects and stores these.

> 🔧 Example
>
> Financial Accounting documents are archived using the archiving object `FI_DOCUMNT`. This archiving object includes the document header, company code-specific postings, change documents, and related texts.

Steps for Data Archiving

Data archiving takes place in individual steps to ensure that only successfully archived data can be deleted. These are the three main steps:

- Writing the data to be archived to a new archive file
- Storing the archive files in an external store (optional)
- Deleting the archived data from the database starting from the archived files you have created

The following illustration describes the data archiving procedure.
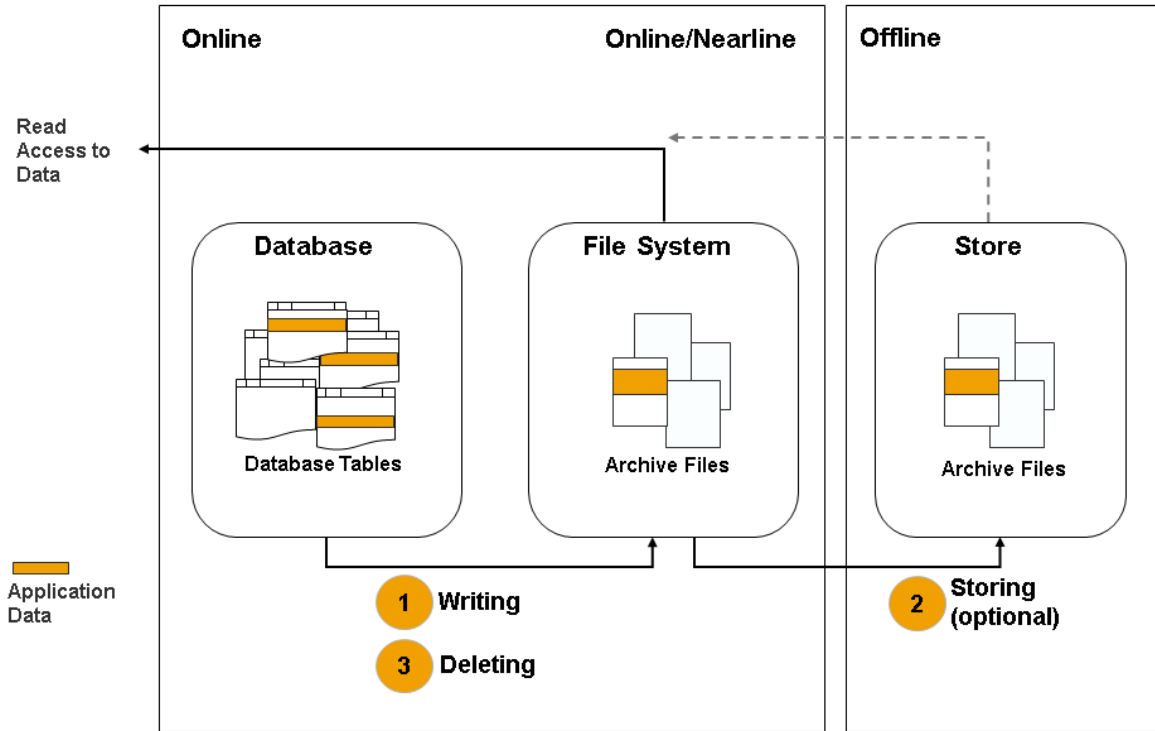
Figure 1: Data Archiving in the SAP System

Procedure

1. Familiarize yourself with the specifics of ADK-based data archiving.

   More information:

   Properties and Features of Data Archiving [page 661]

   Archiving Object [page 662]

   Archive Administration [page 664]

2. Make the settings required for Customizing for data archiving.

   More information: Customizing for Data Archiving [page 698]

3. Execute the data archiving.

   More information: Executing Data Archiving [page 720]

4. Use the options for viewing and analyzing archive files.

   More information:

   Archive Information System [page 737]

Next Steps

(available archiving objects)

21.1.1 Properties and Features of Data Archiving

Use

Properties of Data Archiving

As data archiving is integrated into the application, you have to be familiar with the semantics of the application data. Data archiving displays the following properties over and above saving table contents:

- Hardware independence
  As the encryption of the numeric fields, for example, the integer is dependent on the hardware, information has to be added to the archived data about the hardware used.
- Release independent
  As the data structure can depend on the SAP release, information about the record layouts and field definitions is also archived.
- Dependencies between data
  Dependencies between data objects can be checked and taken into account for archiving.
- Company and business structure
  Due to the possible dependence of archived data on the organizational structure of the company, the relevant information is also archived.

Data Archiving Features

- Data security
  As a result of the separation between writing the data to the archive file and deleting the data from the database, the archiving transaction can be restarted if you encounter transfer errors. You can only delete the data once it has been successfully archived. You can achieve maximum security by optionally storing the archive files in an external storage system before deleting the archived data. You can define the storage time in archiving object-specific Customizing.
- Connection to an external store
  You can use the following options for storing archive files:
  - Tertiary storage media, such as WORMs This can be done manually or automatically using the SAP Content Management Infrastructure (which also contains the ArchiveLink/CMS interface).
  - Hierarchical storage management systems (HSM systems) in the file system. The HSM system manages the archive files automatically. For storage of the archive files, the HSM system can also use tertiary storage media.
- Data compression
  During archiving, data is automatically compressed by up to a factor of 5. However, if the data to be archived is stored in cluster tables, no additional compression takes place.

- Archiving without database backup

  As the data is either in the database or an archive file, you can archive data without database backup during normal system operation. However, SAP recommends that you backup archive files before storing them.

- Access to Archived Data

  As the archived data has only been removed from the database and not from the application, it is available at any time. Archive Administration enables the following types of access:

  - (Read) access to a single data object, such as an accounting document
  - Analysis of an archive file (sequential read)
  - Reloading to the database (if supported for the archiving object)

- Automatic conversion of old archive files

  When archived data is read, the system automatically makes the conversions required by hardware and software changes.

  The *Archive Development Kit (ADK)* can make allowances for changes to database structures after the data was archived and for changes to hardware-dependent storage formats. The conversion does not affect the archived data. The following items are changed during automatic conversion:

  - Database table schema (new and deleted columns)
  - Data type of a column
  - Column length
  - Code page (ASCII, EBCDIC)
  - Number format (such as the integer on various hardware platforms)

  If database structures in an application have undergone more changes than the ADK can handle (for example, if fields have been moved from one table to another or if one table has been divided into several separate tables), then a program is provided by the relevant SAP Business Suite solution for the permanent conversion of existing archive files.

- Memory space gain

  As gaining an increase in memory space improves the performance of the application programs, you require information about the memory requirement of the data to be archived in the database and also the memory requirement of the archived files created.

  1. Call up the ABAP Dictionary (▶ *Tools* ❯ *ABAP Workbench* ❯ *Development* ❯ *Dictionary* ❯).
  2. Enter the name of each individual table, and choose *Display*.

21.1.2 Archiving Object

Use

The archiving object contains specifications for the archiving of your application data. It describes which database objects need to be bundled in order to obtain a completed business object that can be interpreted at the time of archiving, regardless of the technical conditions (such as release or hardware status).

An archiving object has a name of up to ten characters in length. You need this name to be able to execute the assigned archiving activities in Archive Administration (transaction `SARA`). The function for calling data archiving is often integrated in the application menu and the object name is set as the default.

Predefined Archiving Activities

The archiving activity options (programs and steps to be executed) are defined in the archiving object. You create and define archiving objects with transaction `AOBJ`.

More Information

21.1.2.1 Sample Data Description Using an FI Document

Use

To ensure that archived FI documents remain available for evaluation, you need to store the technical and business environments together in the archive file. The respective data description ensures this.

The archiving object for FI documents `FI_DOCUMNT`, includes the following data, which is stored in different database tables:

- Document header
- Document segment accounting
- Document segment control data
- Document segment posting procedures
- Document segment CPD data
- Document segment change data
- Change documents
- SAPscript texts

21.1.2.2 Data Object

Use

A data object is the application-specific instance of an archiving object. While the archiving object describes only the logical connectivity of the data, the corresponding data object contains all of the application data from the database that is needed for the complete and consistent archiving of a business object.

A business object can contain the following types of data:

- Master data objects, such as material masters, customer masters, bills of material
- Transaction data objects, such as financial accounting documents, billing documents, and deliveries.

Structure of a Data Object

A data object consists of the following:

- Header containing general information for identifying the data object
- Items that contain application data

Archiving

The *Archive Development Kit (ADK)* ensures that data objects are written sequentially to an archive file. All data objects in the archive file are set up according to the specifications in the archiving object.

More Information

Archiving object [page 662]

21.1.3 Archive Administration

Use

The most important actions relating to data archiving take place in *Archive Administration*. Archive Administration offers only those actions that have been defined for the archiving object.

You can access Archive Administration as follows:

- Transaction code *SARA*
- Menu path ▌ *Tools* ❯ *Administration* ❯ *Administration* ❯ *Data Archiving* ◗
- Application Menu

Executing the Archiving Actions

You can schedule the following actions, for example, as a background job in Archive Administration:

- Preprocessing
- Creating archive files
- Deleting data from the database
- Storing archive files
- Postprocessing
- Reading archive files
- Filling or emptying the index for archive files

More information: Executing Data Archiving [page 720]

Administration

You can display and evaluate administration information in the overview of all archiving sessions for an archiving object.

More information:

Archive Administration: Overview of Archiving Sessions [page 672]

Calling Archiving Session Administration [page 673]

Other Functions

You can choose the following menu options direct from the application bar or, depending on the action chosen, using *Goto* or *Environment*:

- Network Graphik [page 670]
- Reload [page 730]
- Customizing [page 698]
- *Job Overview*: Offers an overview of current archiving jobs and the functions available for processing them.
- Logs [page 692]
- Administration [page 672]
- *Stored Files*: Enables you to search for stored archive files according to various selection criteria.
- DB Tables [page 667]
- Information System [page 737]
- Statistics [page 688]
- Interrupting and Continuing [page 679]
- Check/Delete [page 695]: Cross-archiving-object check and delete function - available using *Environment*.

21.1.3.1 Archive Development Kit

Definition

The Archive Development Kit (ADK) is a tool for developing archiving solutions. It also prepares the runtime environment for archiving. From a technical viewpoint, it is an intermediate layer between the application program and the archive that provides all the functions required for archiving data.

Use

The ADK functions are required for archiving and for subsequent access to archived data. The ADK automatically performs the hardware-dependent adjustments (such as codepage and number format) and structural changes that are required when archive files are created. When the archive files are accessed later, the ADK temporarily converts data that was archived using earlier releases of the respective SAP Business Suite application (in the case of SAP R/3, this applies to releases back to and including 2.1).

Integration

The following graphic illustrates the ADK's role in the archiving concept.
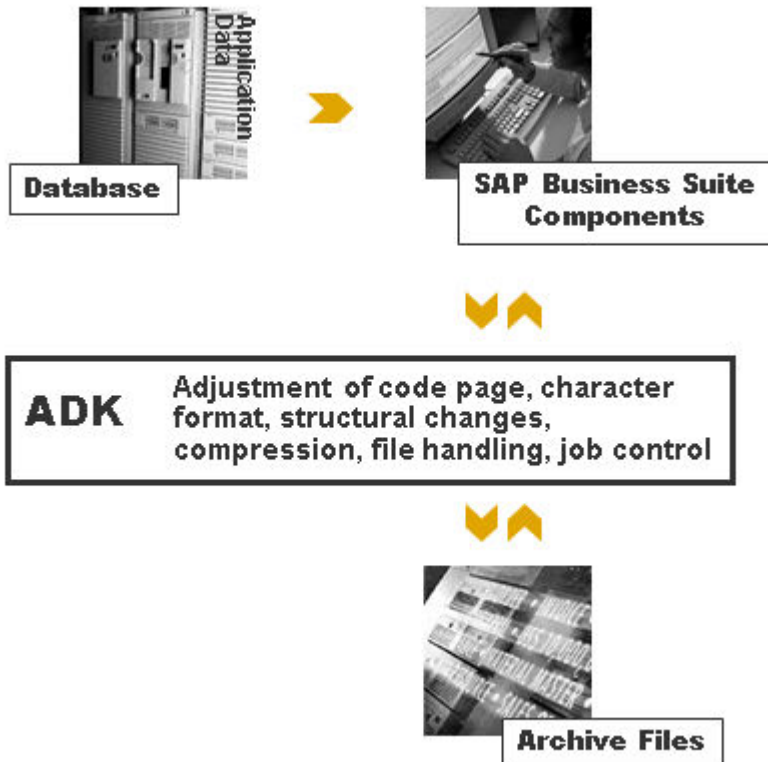
See also:

Archive Development Kit (Extended Function Library Applications)

21.1.3.2 Authorization Check

Definition

Authorization object S_ARCHIVE checks the authorization to carry out various archiving object programs. The Archive Development Kit (ADK) performs the check when an archive file is opened for one of the following actions:

- Write
- Delete
- Read
- Reload

Use

The following authorizations can be given per archiving object and solution (such as SAP Financials or SAP Human Capital Management):

- Everything is permitted
  Write, read, and reload archives; execute delete programs; change mode in archive management (notes)
- Change mode in archive management
  Maintain notes
- Read and analyze archives and display mode in archive management

Furthermore, you need the S_DATASET authorization to read and write data. There may also be additional access authorization checks for specific application components.

See also:

Authorization Checks in Archiving Programs

21.1.3.3 Tables and Archiving Objects

Use

You use transaction *DB15* to determine all the archiving objects that archive the data records from a specific table, or to display all of the tables for a specific archiving object. You can also call various statistics for the utilized database storage space.

Integration

This function is integrated in data archiving so that you have the option of calling it up from archive administration (transaction `SARA`) with DB tables.

Features

Archiving Objects

This pushbutton takes you to the part of the screen in which you can determine archiving objects. When you enter a table in the *Objects for Table* field and select *Display Tables*, you can display the archiving objects for this table.

Tables archived

This pushbutton takes you to the part of the screen in which you can determine tables. When you enter an archiving object in the *Tables for Object* field and select *Display Objects*, you can display the tables for this archiving object.

> **i Note**
>
> When you display archiving objects, those with the following properties are not included:
>
> - Read, but do not delete
> - Archive using a view or a structure
> - Archive using an archiving class for which no table information is maintained (transaction *ACLA*)

By default, the system displays only tables whose data records are deleted during archiving. By selecting *All Tables*, you can, however, display all tables that are linked to the archiving object (with the exception of those mentioned above).

More information: Displaying Archiving Objects and Tables [page 668].

Space (Statistics)

This transaction provides information from SAP tables that are filled by statistics determination runs. This also provides further information, such as the time and number of the last archiving session and various details on the client used.

21.1.3.3.1 Displaying Archiving Objects and Tables

Use

You use an archiving object to archive exactly those tables that are defined in this archiving object in transaction *AOBJ*. If you do not know which table a specific archiving object archives, or which archiving objects archive the contents of a specific table, you can use this procedure to find out.

Various export, filter and search functions are also available.

Procedure

Choose ▌ *Administration* ❯ *CCMS* ❯ *DB Administration* ❯ *Data Archiving (transaction DB15).* ❯ ▌. Alternatively, you can call Archive Administration (transaction SARA) and select DB tables.

The *Tables and Archiving Objects* screen appears.

Tables

1. To display a table for a specific archiving object, enter the name of the object in the *Table for Object* field and choose *Enter*.

   > **i Note**
   >
   > By default, the system displays only tables whose data records are deleted during archiving. To display all tables that the archiving object processes, choose *All Tables*.

2. To display all the archiving objects for one of the listed tables, select the table and then choose *Display Objects*.

The corresponding archiving objects are listed in the top part of the screen.

Archiving Objects

1. Choose *Archiving Objects*.
2. To display an archiving object for a specific table, enter the table name in the *Object for Table* field and choose *Enter* to confirm.

> **ℹ Note**
>
> In addition to the transparent tables, you can also enter pool or cluster tables here. *DB15* determines the transparent tables for the pool and cluster tables.

3. To display all the tables for one of the listed archiving objects, select the archiving object and then choose *Display Tables*.
   The corresponding tables are listed in the bottom part of the screen.

> **⚠ Caution**
>
> *DB15* does not display any archiving objects with the following properties:
>
> ○ Read data, but do not delete
> ○ Use views or structures to archive data indirectly

21.1.3.4 Network Graphik

Use

You can use the network graphic to show any existing dependencies between archiving objects. It shows business process flows and contexts that can influence the archiving sequence. In particular, at the start of an archiving object, you can use the network graphic to obtain a good overview of related documents.

> **⚠ Caution**
>
> Like a map, the network graphic is only for orientation purposes. It is not intended to show all the available document types and dependencies that exist in the system. This means that the network graphic cannot be used as a programming model for business processes.

Features

In an archiving session, you must take into account any dependencies between archiving objects that require a specific archiving sequence. In general, you cannot archive data for an archiving object that has preceding objects until these preceding objects have been archived.

You can use the network graphic to determine whether the archiving object that you want to use has preceding objects. If so, the preceding objects should be implemented before the current archiving object. The nodes in the network graphic represent the archiving objects. A node displays the following information:

- Achiving object name
- Application name
- Short description
- Date of last archiving displayed in the following colors:
  - Green: *Archiving and deletion successful*
  - Yellow: *Successfully archived, but not yet deleted,*, or *Archiving still running* or *Delete in progress* or *Delete canceled*
  - Red: *Not yet archived* or *Archiving canceled*

The network graphic is a standard tool for creating and displaying network plans and hierarchies.

Activities

You can use the network graphic to call Archive Management (transaction `SARA`) at the same time as the required object name:

1. Double-click the archiving object for which you want to perform an action (such as write or delete). You access Archive Administration. The system copies the name of the archiving object automatically.
2. You can now select the action that you want to carry out and schedule the relevant background job.

More Information

21.1.3.4.1 Calling the Network Graphic

Prerequisites

You are on the *Archive Administration: Initial Entry* screen of the transaction *SARA*.

Procedure

- 1. If you want to display the network graphic for all archiving objects, leave the archiving object name field empty.
     If you want to display all the predecessors of a particular object, enter the name of the archiving object in the *Object Name* field.
  2. Choose ▶ *Goto* ❯ *Network Graphic* ◀.
     The network graphic is displayed for the specified archiving object or all registered archiving objects.

> **ⓘ Note**
>
> If you have called the network graphic for all archiving objects, you can increase the display area by enlarging the rectangle in the bottom right-hand corner of the screen. Use the mouse to change the rectangle.

21.1.3.5 Access to Archived Data

Use

Data that has been archived using SAP Data Archiving has been removed from the database, but not from the application component. The data is still available for read access and analysis. In some cases, archived data can even be reloaded into the database.

Prerequisites

A prerequisite of read access and reload access, is that the file can be found in the file system. You can check this in Archive Administration.

Features

> **ⓘ Note**
>
> The uses of archived data described here are technically possible, but are not currently implemented in all application components. For more information, refer to the application-specific sections of the documentation on Data Archiving in the SAP Library.

They following types of access are possible:

- (Read) access to a single data object, such as an accounting document

Direct access or single document access requires an index that can be filled either during archiving or at a later point. A complex search of the documents stored in the archive files, in which all orders of an article in a particular batch are required for a product recall action, is not possible.

The Archive Information System (AS) supports direct access using archive information structures, which are a type of index that can be generated automatically either whilst the archive files are being written, or at a later point.

- Analysis of an archive file (Sequential Read)
  It is possible to run an analysis for one or several archiving sessions. The results of the analyzed data objects are displayed in a list. Furthermore, some archiving objects offer the option of a combined analysis. With this option, you can link current data and archived data in the database.

- Reloading to the Database
  Archived data does not usually need to be reloaded because it remains accessible to the applications. There is also a large amount of data that cannot be reloaded or for which reloading is problematic. For this reason, reload programs do not exist for all archiving objects.

21.1.3.6 Archive Administration: Overview of Archiving Sessions

Use

On this screen, you can display and edit administration information about archiving sessions.

Features

Within a status area, archiving sessions are, by default, organized in groups of 20. The sessions are ordered according to the following statuses:

- Archiving Sessions with Errors: The write process terminated before the first archive file was created.
- Incomplete Archiving Sessions: The write process has not been completed, the deletion program did not run for all archive files, or a write process was terminated.
- Completed Archiving Sessions: Both the write process and the delete phase were completed successfully.
- Archiving Sessions to be Reloaded: The content of the archiving session is to be reloaded into the database.
- Archiving Sessions Created during Reload: The archiving session contains data that could not be reloaded into the database during the reload. The archiving session is not accessible again until the reload program has been run successfully.
- Replaced Archiving Sessions: The archiving session was reloaded or converted.
- Invalid Archiving Sessions: The archiving session has been marked as invalid.
- Archiving Sessions Flagged for Archiving: The administration data for the archiving session can be archived and deleted using archiving object BC_ARCHIVE.
- Interrupted: The archiving session was interrupted. This was done either manually by the user or because the interruption parameters were reached (for example, the maximum runtime or a total number of data).

You can call up detailed information about sessions and files on the following screens:

- Archiving Session Detail [page 674]
- Archive File Detail [page 676]
  The *Goto* menu offers access to the following:
- Customizing [page 698]
- Job Overview Offers an overview of all archiving jobs and the functions available for their administration. For more information on the job overview, refer to .
- Logs [page 692]
- Stored Files: Enables you to search for stored archive files according to various selection criteria.
- Retrieved Files: Allows you to search for archive files that were retrieved into the file system, for a comprehensive analysis, for example. These archive files are no longer needed and can be deleted after they have been used. See Deleting Retrieved Archive Files [page 678].
- DB Tables [page 667]
- Information System [page 737]
- Statistics [page 688]
- Interrupting and Continuing [page 679]

See also:

Calling Archiving Session Administration [page 673]

21.1.3.6.1 Calling Archiving Session Administration

Procedure

1. Call Archive Administration (transaction `SARA`).

2. In the *Object Name* field, enter the name of the archiving object.

3. On the initial screen, choose *Administration*.

4. On the overview of archiving sessions, call the required function.
   - View the details of an archiving session or an archive file.
   - Store the archive file or retrieve the stored file, if there is a connection to the storage system.
     More information:
     Storing Archive Files [page 726]
     Retrieving Stored Archive Files [page 727]

5. If necessary, use the tool bar to call the following functions:
   - Overview of the current spool request for the archiving sessions
   - Function for storing or retrieving archive files
   - Customizing settings
   - Overview of all archiving jobs and the functions available for their processing
   - DB Tables

- o Information System
- o Statistics
6. To go to additional functions, choose *Goto*.

21.1.3.6.2 Displaying Archiving Session Details

Prerequisites

You are on the *Archive Administration: Initial Entry* screen of the transaction *SARA*. The name of the archiving object is entered in the *Object Name* field.

Procedure

- 1. Choose *Administration*.
  This takes you to the Archive Administration: Overview of Archiving Sessions [page 672] screen.
  2. Position the cursor on the list of archiving sessions with the relevant status and expand the list.
  3. Position the cursor on the required archiving session.
  4. Choose *Detail Screen*.
  The Archiving Sessions Details [page 674] dialog box appears.

Next Steps

Displaying Archive File Details [page 675]

21.1.3.6.2.1 Archiving Session Details

Use

You can display detailed information for each archiving session.

Features

General Information

- System ID for the system used for the archiving session
- Archiving session number
- Date, time, and user for the session
- Number of the spool assigned to the session

Current Jobs for the Session

This area only appears if there are still active read or write jobs for the current session. To go to the job overview, choose *Display Job*. Here you can release, cancel, or delete individual jobs.

For the current job, the following job activities can be indicated:

- **Active**: The job has status "ready", "scheduled", or "active".
- **Terminated**: The job was terminated.

Changeable Settings

You can create a note and a long text for the session or mark it for archiving or as invalid. You should mark a session as *invalid* if, for example. you discover after archiving that the data selection was incorrect. Invalid sessions are no longer offered for archive selection.

Mark Several Archiving Sessions for Archiving or as Invalid

You can use the report RSARCH_FLAG_SESSIONS to mark several archiving sessions

- For archiving
- As invalid

When selecting the archiving sessions, you can also differentiate between sessions whose archive files are in a storage system, and sessions for which no accessible archive files exist.

You can use this report, for example, to mark all the archiving sessions created prior to a specified date for archiving or as invalid. This can be useful, for example, as an initial run when archiving archive administration data using the archiving object *BC_ARCHIVE*.

See also:

21.1.3.6.3 Displaying Archive File Details

Prerequisites

You are on the *Archive Administration: Initial Entry* screen of the transaction *SARA*. The name of the archiving object is entered in the *Object Name* field.

Procedure

- 1. Choose *Administration*.
     This takes you to the Archive Administration: Overview of Archiving Sessions [page 672] screen.
  2. Position the cursor on the required archiving session.
  3. Expand the archiving session
  4. Position the cursor on the required archive file.
  5. Choose *Detail Screen*.
     The Archive File Details [page 676] dialog box appears.

Next Steps

Displaying Archiving Session Details [page 674]

21.1.3.6.3.1 Archive File Details

Use

You can display an archive file status dialog box for all archiving sessions except for incomplete sessions where no archive files have been created.

Features

General Information

- Archive file name
- Date and time or archiving
- Number of data objects
- Size of archiving file in MB
- Status of the archive file
- Information for storing the file in a storage system
- Index status

Archiving Status

An archive file can have the following statuses:

- ⚠
  Write Complete: The archive files have been written, but the data objects in the database have not been (completely) deleted.

- 🟢

Delete complete: Previously archived data objects have been deleted from the database.

-
  Reloaded: Data objects in the archive file have been reloaded into the database.

-
  Converted: The contents of the archive files have been written to a new archive file with conversion programs delivered by SAP.

-
  Saved: The content of the archive file is a backup copy of the data in the database.

Storage Status

An archive file can have the following storage statuses:

-
  Not stored: The archive file is still in the file system.

-
  Storage in Progress: The request to store the archive file in a storage system is running.

-
  Stored: The archive file has been successfully stored in a storage system.

-
  Storage Error: The archive file was not successfully stored.

-
  Retrieval in Progress: The request to reload the archive file in the file system has been issued.

-
  Retrieval error:: The file could not be reloaded into the file system.

-
  Storage Incomplete: The archive file could not be completely stored in a storage system.

Index

An index for an archive file can have the following statuses:

-
  Index Built: The index for this archive file was successfully built.

-
  Index Deleted: The index for this archive file was deleted.

-
  No Index Exists: No index exists for the archive file.

Accessibility Status

An archive file can have the following accessibility statuses:

-
  Accessible: The archive file can be accessed in Archive Administration.

-
  Not Accessible: The archive file cannot be accessed in Archive Administration.

Changeable Settings

The dialog box can also contain the following changeable information:

- Note written by the user
- File name of the archive file
- Platform-independent path specified during archiving in archiving object-specific Customizing
- The physical file name

Activities

21.1.3.6.4 Deleting Retrieved Archive Files

Use

This function enables you to delete copies of archive files retrieved to the file system that are stored in an external storage system. This is usually the case if you no longer need the copies and want to access the stored files directly.

Features

Overview of the Retrieved Archive Files

The program RSARCH_LIST_RETRIEVED provides you with the retrieved archive files. You can restrict the selection to archiving objects, archiving sessions, archiving files and Content Repositories. The list contains the following information about the retrieved archived files:

- Archive file name
- Related logical file path
- Creation date
- Content Repository name
- Document ID in the storage system
- Status of the stored file in the storage system
- Storage date and time

Deleting Archive Files

To delete retrieved copies of stored archive files, select the relevant entries and the list and choose *Delete Retrieved Files*. The program deletes the archive file on operating system level and automatically adjusts the administration entries in archive administration. After this, you can again access archive files directly in the storage system.

You can delete retrieved archive files **only** if the original archive files have the status **ONLINE** in the storage system, and the access check of the stored archive file is performed successfully. The system checks whether

the header information in the archive files corresponds with the administration data in archive administration. If it does not, you cannot perform the deletion.

For files that do not have the status ONLINE in the storage system, you can double-click on the *Status* field or use the *Errors Occurred* pushbutton to display additional information about the cause. If this information is not available, no message is displayed.

Activities

You can call up the program RSARCH_LIST_RETRIEVED either from ABAP program execution (transaction SA38) or from archive administration. To do so, choose ▶ *Goto* ▶ *Retrieved Files* ▶.

21.1.3.7 Interrupting and Continuing Archiving Sessions

Use

In order that Data Archiving can be seamlessly integrated into the production system, you can interrupt an active archiving session that is still in the write phase and continue it at a later time. This enables you to react, during archiving, to specific time constraints or hard-disk space shortages. You can continue and complete interrupted archiving sessions when you have more time or more storage space.

Integration

This function is a part of the Archive Administration (transaction SARA) and requires the support of the write program.

Prerequisites

If you want to interrupt an archiving session, the following prerequisites must be fulfilled:

- The archiving object must be registered in transaction *AOBJ* as *interruptible*, so that the *Archive Development Kit (ADK)* is able to inform the write program of the interruption request.
- The write program is able to process the interruption request.
- The archiving session must be run in production mode (not test mode) and be in process.
- The settings in transaction *AOBJ* allow the delete phase to start before the write phase has finished.

If you want to continue the interrupted archiving session, the following prerequisites must be fulfilled:

- The session was interrupted using this interruption concept. Archiving sessions that were interrupted for other reasons or that were terminated by *Archive Administration* cannot be continued.

- The delete phase must be completed for the data that was archived up to the point of interruption (status *Completed*).

Features

The write phase of an interruptible archiving session can be interrupted either implicitly (based on the values that are specified in Cross-Archiving Object Customizing [page 698] or explicitly (manually by an Application Programming Interface (API) Remote Administration Function.

Activities

21.1.3.7.1 Implicitly Interrupting an Archiving Session

Prerequisites

- The archiving object supports interruption.
- In *Cross-Archiving Object Customizing*, you have specified the runtime in hours or the storage space in MB, or both.

Context

When scheduling an archiving session, you realize that the time slot available or the amount of storage space is not sufficient. However, you want to start the archiving session, interrupt it, and continue it later.

Procedure

-
  1. Start the archiving session as usual.
  2. For each data object that function module ARCHIVE_SAVE_OBJECT writes, the ADK determines whether it is necessary to interrupt the archiving session.

ADK calculates the following:

a. The time that has elapsed since the write job was released.

b. The storage space, by adding the size of already closed archive files to the size of the archive file that is currently being written.

3. As soon as one of these values is reached, the ADK triggers the interruption by raising the exception TERMINATED_REQUESTED.

> **i Note**
>
> The write program must be able to process the exception and call function module ARCHIVE_CLOSE_FILE.

4. The ADK sets status of the archiving session to *Incomplete* as usual, but also marks it as *Interrupted*.

Results

The archiving session was interrupted and can be continued later. To continue an interrupted archiving session, see .

21.1.3.7.2 Explicitly Interrupting an Archiving Session

Prerequisites

- The archiving object supports the interruption of an archiving session.
- The archiving session to be interrupted is in the write phase.
- You are on the *Archive Administration: Initial Entry* screen of the transaction SARA. The name of the archiving object is entered in the *Object Name* field.
  Alternatively, you can interrupt an archiving session from archive administration.

Context

You want to interrupt an active archiving session manually and continue it later.

Procedure

- 1. Choose ▌▶ *Goto* ❯ *Interrupt* ▐.

2. Select the archiving session(s) to be interrupted. You have the following options:
   - All interruptible archiving sessions for all interruptible archiving objects
   - All interruptible archiving sessions for the specified archiving object
   - Specific archiving sessions that you can select in *Archive Selection*

   > **i Note**
   >
   > The selection of the archiving sessions is always cross-client if the archiving objects used are cross-client.

3. After you have selected the relevant archiving session, confirm your interruption request by choosing *Execute*.

Results

The archiving session is interrupted before the system starts writing the next data object. In archive administration, the session is marked as *Interrupted*.

21.1.3.7.3 Continuing an Interrupted Archiving Session

Prerequisites

- The delete jobs have been run for the archive files in the archiving sessions that were interrupted (the archiving session has the status *Completed*).
- You are on the *Archive Administration: Initial Entry* screen of the transaction *SARA*. The name of the archiving object is entered in the *Object Name* field.

Alternatively, you can continue an archiving session from administration.

Context

You can use this function to continue archiving sessions that you interrupted earlier.

Procedure

- 1. Choose ▶ *Goto* ❯ *Continue* ❚.

2. Select the archiving session(s) to be continued.
   You have the following options:
   - All interrupted archiving sessions for all interruptible archiving objects
   - All interrupted archiving sessions for the specified archiving object
   - Specific archiving sessions that you can select in *Archive Selection*

   > **i Note**
   >
   > The selection of the archiving sessions is always cross-client if the archiving objects used are cross-client.

3. Once you have entered the *Start Time* and *Spool Parameters*, schedule the continuation job by choosing *Execute*.

Results

The archiving session is continued at the specified time - that is, the data objects that still have to be archived (in accordance with your selection criteria) are written to archive files.

21.1.3.8 Database Actions Before and After Archiving

Use

When archiving application data, the way in which the database data is organized plays a central role. Therefore, you should only use database actions can be used to optimize organization of data in the database before and after archiving.

Process

1. Database Actions Before Archiving [page 683]
2. Database Actions After Archivng or Deletion [page 684]

21.1.3.8.1 Database Actions Before Archiving

Use

Archiving application data helps to prevent storage and performance bottlenecks. Since relocating data can, in some circumstances, in itself, impair performance - this is the case if you need to access archived data - you need to consider carefully what data to archive.

To determine whether or not you should archive data, consider the following questions:

- For memory problems: Can more memory be assigned to the table (MAXEXTENT, Tablespace)?
  If the answer is yes, and if you will need to access the archived data and you have no performance problems, you should consider enlarging the table. You can find the exact description in the SAP NetWeaver AS Documentation *SAP Database Guide: Oracle* (BRSPACE for Oracle) or *ABAP Dictionary*, section *Tablespaces und Extents* database-independent parameterization, MaxDB).
- How likely is it that you will need to access the archived data again and how often?
  If you need to access the archived data often and there are no performance problems, assign more memory to the tables in question (see above).
- For performance problems: Are you using an optimal index for the access?
  In some circumstances, a suitable index may be available but not being used. This depends on the database optimizer.
  You can check which index is actually used to access data by Performing an SQL Trace [page 685]. For more information on indexes, refer to the SAP NetWeaver AS documentation *ABAP Dictionary* and search for appropriate sections using "index" as your search term.
- Does the application perform a *full table scan* on the tables that contain the data to be archived?
  If the answer is yes and the table is fragmented, it may help to reorganize the table before archiving so that new records and any records that remain in the database are physically contiguous.

> ⚠ **Caution**
>
> Note that reorganization takes a long time and may need to be repeated after archiving.
>
> Throughput during a reorganization:
>
> - With export/import: approximately. 60-100 MByte/hour
>
> - With unload/load: approximately. 250-300 MByte/hour

21.1.3.8.2 Database Actions After Archiving or Deletion

Use

Oracle: Reorganization of the Index

If data has been archived or simply deleted and the associated tables were accessed via an index, the index should be reorganized. Deleting table entries leaves holes in the table which are still indexed. Reorganization can shorten the access paths, reducing response times.

For databases with a cost-based optimizer (CBO): Refresh the database statistics

If your database uses a cost-based optimizer, you must choose Update Statistics to recalculate the access paths.

Oracle: Reorganization of Tablespaces and Dbspaces

Whether you should reorganize the tablespace depends on the reason for archiving.

- Do you expect a lot of new data for the archived tables?
  If so, you should not reorganize.

On the other hand, if, for performance reasons, you have archived data that is no longer needed in the system and the table is otherwise rarely changed, you should reorganize.

- Do you want to make space for other tables?
  If so, you should reorganize the tablespaces and dbspaces of both the tables and the indices.
  This procedure is described in the SAP NetWeaver AS documentation SAP Database Guide: Oracle (BRSPACE for Oracle databases) and the ABAP Dictionary, section Tablespaces and Extents (database-independent parameterization, MaxDB).

21.1.3.8.3 Performing an SQL Trace

Procedure

- 1. Open a new window and choose ▶ *System* ❯ *Utilities* ❯ *Performance Trace* ❯.
     The *Trace Requests* screen appears.
  2. Choose *Trace On* to activate the trace.
  3. Perform a typical database access in the first window (for example, an application transaction or the transaction *SE16*).
  4. Choose *Trace Off* to deactivate the trace. Examine the SQL statement with *List Trace*.
  5. Position the cursor on one of the PREPARE, OPEN, or REOPEN statements, and choose *Explain SQL*.
     The system displays detailed information. The index used is specified in the line beginning with *Index*.

21.1.3.9 Archive Selection

Use

When executing certain archiving actions, it is necessary to select individual archive files or entire archive sessions and make them available for the relevant action. You do this using *Archive Selection*, which you access from the initial screen of the relevant action.

Archive selection is relevant for the following actions:

- Delete
- Read
- Build Index
- Reload
- Postprocessing

Prerequisites

Depending on the action, there are various criteria that define whether archiving sessions and archive files are displayed in the archive selection

Criterion 1:

Archive File Status

Table 170:

Action	Criterion
Delete	Archive file has the status *Archived or Stored (if the sequence "Store before deletion" has been selected in Customizing)*
Read	Archive file has the status *Archived* or *Deleted* or *Saved*.
Build Index	Archive file has the status *Deleted and the file is in the file system*
Reload	Archive file is in file system and the session has the corresponding status (see criterion 5)
Postprocessing	All archive files have status *Deleted*

Criterion 2:

The archive file must contain at least one data object. If you have performed an archiving session and maintained the variants so that no data objects were archived, the archive file is automatically deleted and no longer offered for selection.

Criterion 3:

If a file is not accessible in the file system, the file is not offered for selection. A file is only offered for read if all the files in a session are accessible.

While checking the accessibility of a file, the system performs a read access for each file. This check process can take a long time if a large number of files are involved. To optimize this process the access check can be activated or deactivated according to archive files in the file system and archive files in an optical archive in archiving object-specific Customizing.

Criterion 4:

In the case of client-dependent archiving objects, the system only offers you sessions for the current client.

Criterion 5:

An archiving session can only be reloaded if it has the status *Complete* or *Archiving session is reloaded*.

Features

You can select complete archive sessions or specific archive files from the archive selection window, which you can access by choosing *Archive Selection*, from the initial screen of the archiving action.

Activities

21.1.3.9.1 Selecting Archive Files

Prerequisites

- You have selected one of the following actions and are in the screen from which the relevant action is started:
  - Delete
  - Read
  - Build Index
  - Reload
  - Postprocessing
- At least one of the archive selection criteria is valid for this action.
  More information:

Procedure

- 1. Choose *Archive Selection*.
     The archive selection screen appears for the selected action.
  2. To select all files belonging to an archiving session, select the appropriate checkbox.
     As a confirmation, the small rectangle to the right of the checkbox is filled.
  3. To select individual files belonging to an archiving session, expand the required node and select the relevant checkbox.
     As a confirmation, the small rectangle to the right of the checkbox is only half-filled.

     > **i Note**
     >
     > You can select all sessions or cancel the selection by choosing *Select All* or *Deselect All*.

     > **i Note**
     >
     > The reload program can only ever process complete archiving sessions. For this reason, you cannot select individual files for reloading.

  4. Confirm the file selection by choosing *Continue*.
     You return to the initial screen.

Results

You have selected the archive file(s) for processing. If you have also entered the start date and spool parameters, you can schedule the required archiving action.

Next Steps

21.1.3.10 Statistics

Use

When writing, deleting, reading, or reloading, the system automatically generates statistical data on each archiving run (such as the storage space that has been freed in the database by deletions, or the number of deleted data objects), and stores it persistently in the database.

Data archiving administrators can analyze these key figures so that they can better plan future archiving projects and provide the necessary resources. Statistics also provide pertinent information on the role of data archiving in reducing the volume of data in the database.

Features

Statistics are collected by the Archive Development Kit (ADK). This occurs during the write, delete, and reload processes. In other archiving contexts, for example execution of preprocessing, postprocessing, or conversion programs, no statistical data is collected.

You can call the analysis transaction either directly from the initial Archive Administration screen (transaction *SARA*), or from the Management screen in Archive Administration, using the *Statistics* pushbutton. Alternatively, you can use the *SAR_DA_STAT_ANALYSIS* transaction.

As well as being displayed directly in the analysis transaction, the statistical information flows into the standard log of the write, delete, read, and reload program. You can analyze it there as well. As a prerequisite, the relevant application must call the standard log. In the programs mentioned, the standard log is output in the write program only, in both test mode and productive mode. In other programs, it is only output in productive mode. In other archiving contexts, such preprocessing, postprocessing, or conversion programs, no standard log is issued.

Selection

Statistical information is displayed on the basis of the selection data entered here. This includes:

* The client in which the archiving session was executed
* The name of the archiving object
* The date on which the archiving session data was created

- The status of the archiving session

Archiving Session Status

When selecting the archiving sessions for reporting, you can choose between archiving sessions with the following statuses:

- Incomplete
- Complete
- Replaced

To select a status, enter the corresponding code. You can mark one indicator, or a combination of several.

The status used here is the same as the archiving session status in the management part of Archive Administration. You can find more information under Archiving Session Details [page 674].

Displaying Statistical Information

To display statistical information, choose the *Display Statistics* pushbutton.

> **i Note**
>
> Via *Choose Layout*, you can change various statistics display settings, such as column width, column order, or column selection. You can also save this changed display as a user-specific layout variant. For a display that is easier to use, for example, you can hide columns that do not interest you.

In the full display (that is, if a user-layout has not been defined), the following information is displayed:

Table 171:

Column	Explanation
Session number	Number of archiving session
Object	Name of archiving object
Client	Client in which the archiving session was executed
Date	Date on which the archiving session was executed
Status	Status of the archiving session (incomplete, complete, replaced)
Disk space	Space on the (hard) disk occupied by the archiving session
Header data	Proportion of header data in the archiving session that classifies and describes the actual data
Total DB storage space (write)	Virtual storage space in MB that an incomplete archiving session occupies in the database
DB table storage space (write)	Occupied table storage space in the database in MB
DB index storage space (write)	Occupied index storage space in the database in MB
DB cluster storage space (write)	Occupied cluster storage space in the database in MB

DB structure storage space (write)	Occupied structure storage space in the database in MB
Total DB storage space (delete)	Virtual storage space in MB that was deleted from the database by a completed archiving session
DB table storage space (delete)	Deleted table storage space in the database in MB
DB index storage space (delete)	Deleted index storage space in the database in MB
DB cluster storage space (delete)	Deleted cluster storage space in the database in MB
DB structure storage space (delete)	Deleted structure storage space in the database in MB
Total DB storage space (reload)	Virtual storage space in MB that was reloaded into the database by a replaced archiving session
DB table storage space (reload)	Reloaded table storage space in the database in MB
DB index storage space (reload)	Reloaded index storage space in the database in MB
DB cluster storage space (reload)	Reloaded cluster storage space in the database in MB
DB structure storage space (reload)	Reloaded structure storage space in the database in MB
Written data objects	Number of data objects that were written for an incomplete archiving session
Deleted data objects	Number of data objects that were deleted from the database for a complete archiving session
Reloaded data objects	Number of data objects that were reloaded into the database for a replaced archiving session
Number of delete jobs	Number of executed delete jobs for an archiving session
Length of write job	Length in hours of the write job for an archiving session
Length of delete job	Average length in hours of the delete job for an archiving run
Length of reload job	Length in hours of the reload job for an archiving session

⚠ Caution

When calculating storage space in the database, the system uses the length of the respective object types in the ABAP dictionary. The value determined in this way can therefore only be an indication of the actual storage space in the database.

Archiving Statistics Information

Statistics information is saved persistently in the database table ADMI_STATS. You can archive it together with archive management data using the archiving object BC_ARCHIVE.

Activities

More Information

21.1.3.10.1 Creating Statistics

Prerequisites

You are on the *Archive Administration: Initial Entry* screen of the transaction *SARA*. The name of the archiving object is entered in the *Object Name* field.

> i Note
>
> Alternatively, you can call the statistics function from the archive management in Archive Administration, or in transaction *SAR_DA_STAT_ANALYSIS*. If you use this transaction, you must enter client and archiving object manually.

Context

You can display statistical information that was automatically generated by the archiving programs (write, delete, read, reload). Statistical information provides useful data on the individual archiving sessions for the database administrator.

Procedure

- 1. Choose *Statistics*.
     The *Display Statistics for Data Archiving* screen appears.
  2. In the *Selection* area, enter the date on which the archiving session was carried out.
     The client and archiving object are prefilled. However, you can change these values.
  3. In the *Archiving Status* area, select the required status for the archiving sessions for which you want to call statistics.
     You can select one or more checkboxes.
  4. Choose *Display Statistics*.

Results

The statistics are displayed in line with the entries made in the selection and status parameters.

More information: Statistics [page 688]

21.1.3.11 Logs

Use

This function provides a central access to the logs generated during data archiving. You can call this function from within Archive Administration by choosing *Logs* or ▶ *Goto* ❯ *Logs* ❭ as well as from Archive Administration.

Features

The following logs are written when an archiving program, such as a preprocessing, write, or delete program, is executed, and can be displayed in this function:

- *Job Overview*
  Information on the background jobs of the archiving program
- *Job Log*
  Log of the different steps of an individual background job
- Spool List [page 694]
  List generated by the archiving program and stored in the spool
- *Application Log*
  Log of all processed objects (summarized and detailed)

Job overview, job log, and spool list are generated only by programs that are executed in the background. The application log can be generated for programs that run in the background and in dialog mode.

> ⓘ Note
>
> Whether or not the log of the processed objects is to be updated in the application log, meaning that an application log is generated, can be set in the variant maintenance of the corresponding program in the entry field *Log Output*. See Variant Maintenance for Archiving Jobs [page 733].

> ⓘ Note
>
> Note that not all archiving objects offer the updating of an object log (entry field *Detailed Log* in variant maintenance).

Log Display

In the log function, the left area of the screen shows the available logs, organized by archiving object, action (for example, preprocessing, write, delete, and so on) date and time. The newest log is highlighted. If cross-

archiving-object logs were created, you can view them at the end of the log tree under the entry *Cross-Archiving-Object* (see below).

Under *Process Control*, you can see whether the process was started in the test or the productive mode. If the process control could not be determined, the field remains empty.

In the *Archiving Session* column, you can see the number of the archiving session that was generated by the corresponding program (for write programs) or processed (for example by delete programs). If the session number could not be determined (for example, in preprocessing programs), the field remains empty. In case of reload programs, the *Original Session* column contains the number of the reloaded session.

Due to technical reasons, the job overview, the job log, and the spool lists can only be displayed as fullscreen.

The **Application Log** is displayed directly on the right-hand side of the screen. It is used to inform the user about the results of processing the business objects he or she has selected. For example, in the write program the user learns which business objects have been archived and which could not be archived and why.

You use the two tab pages to choose between a summarized and a detailed application log (if available). f detailed information is available for an object, you can display it by using the magnifying glass icon in the *Detail* column. Click on the question mark icon in the *Long Text* column to view the message long text. If no application log was created, the relevant message text is displayed. Possible reasons for this are, for example, that the relevant archiving program does not support this function or the user wanted the log output in the list (spool) and not in the application log.

Cross-Archiving-Object Logs

Cross-archiving-object logs are created during the execution of the cross-archiving-object check and delete [page 695] function. In the log display, these logs appear at the end of the log tree under *Cross-Archiving-Object*. The logs are sorted by action, date and time of the action, and archiving object. For example, if you want to display the logs of all archiving objects for which the system performed a cross-archiving-object check, expand the *Preprocessing* node in the tree structure under the above-named heading and double-click the node with the desired date. In the right-hand area of the log display, the application log of the cross-archiving-object check session you have chosen appears. In the summarized view, the log contains a consolidated list of all summarized log messages of the archiving objects included in the check (these are listed as subnodes in the log tree). Due to performance reasons, the detailed messages of the different archiving objects are not included in the detail view.

It is not possible to display information on the next lower level, that is, on archiving object level. When you choose a node (document symbol) below the archiving object, the messages for this particular archiving object are shown in the form of a summary and as detailed information.

Activities

- You can limit the display of the logs to one specific archiving object by entering the object in the initial screen of Archive Administration. If you want to access the logs of all archiving objects, you must leave this field empty.
- To display the log for a specific log entry, select the entry in the log entries list and with a right mouse click choose the corresponding log, for example, the job log or the application log.
- To access only cross-archiving-object logs, first choose *Check/Delete* in Archive Administration and then *Logs*.

- You can delete selected application logs from the system by choosing ▶ *Environment* ❯ *Delete Application Logs* ❯. This function corresponds to the central delete function of logs using , the only exception being that the object ARCHIVING is already entered per default.

See also:

21.1.3.11.1 Standard Log

Definition

The executing program creates a log during reading, writing, deleting, or reloading. This is either a standard log or an application-specific log that is described in archiving object-specific documentation.

Structure

Depending on the archiving action you have performed, the standard log can contain information about the archiving session or the archiving file, as well as information about the processed business objects.

Archiving Session Archive File-Specific Log

- Number of archiving sessions
- Number of processed data objects
- Size of archiving session in MB
- Amount of header data in %
- Table space in MB occupied for
  - Tables
  - Indexes
- Number of processed table entries

This information is written exclusively in the list (spool).

Business Object-Specific Log

It is used to inform the user about the results of processing the business objects he or she has selected. For example, in the write program the user learns which business objects have been archived and which could not be archived and why.

First the summarized version of the is displayed. If the user wants the detailed version, he or she can request it on the selection screen of the relevant archiving program (see Variant Maintenance for Archiving Jobs [page 733]). If detailed information for an object is available, you can display the required object by double-clicking it. If detailed information for a message is available, you can display it by double-clicking the message.

If no application log was created, the relevant text is displayed. Possible reasons for this are, for example, the relevant archiving program does not support this function or the user wanted the log output in the application log and not in the list (spool).

You can call up the standard log with the *Archive Administration: Overview of Archiving Sessions* view with *Spool List*. If the user has defined in variant maintenance that the business object-specific information is to be output in the application log, you can display this information in archive administration with *Logs*.

21.1.3.12 Cross-Archiving-Object Check and Delete

Use

This function is used to schedule the cross-archiving object check or delete programs. These programs enable you to execute an archivability check or to delete application data from the database for several archiving objects at once.

Using these programs allows for a more pronounced separation between the moment of the archivability check and the actual write phase. It also allows you to merely mark data that has been archived for deletion from the database, instead of executing a delete session immediately. The data is later deleted with the cross-archiving-object delete program (see below).

By de-coupling the archiving phases, you can better control the archiving process and integrate it in the running system. Time-consuming program runs such as the archivability check or the physical deletion of data can be separated from the write phase, and be executed when the system is not busy. This concept is therefore particularly suitable for archiving large volumes of data.

Prerequisites

The cross-archiving-object check and delete functions can be used for all archiving objects that support these functions. To check if this is the case for a specific archiving object, see the archiving documentation for that application, available in the SAP Library.

Before you schedule either of these two programs you must activate the archiving objects to be considered in the *Customizing for Cross-Archiving-Object Programs* view.

More information: *Check and Delete*

Features

Check

Here you schedule the cross-archiving-object check program, with which you want to execute an archivability check for several archiving objects at once. During the check the program marks all business objects that fulfill the archivability criteria and are therefore ready to be removed from the database, with a specific status.

Different applications use different statuses to mark data for archiving. The statuses used can therefore change from one archiving object to another. SAP Customer Relationship Management, for example, uses the

status *Archivable* and has the technical ID `I1100`. A business object, such as a CRM sales order, is considered to be archivable if it fulfills the following criteria:

- It is closed, meaning that it has the status *Completed*. This means that it is no longer changed in the application.
- It has reached its set residence time. The residence time should be chosen in such a way that it only covers data that is very seldomly accessed for reading.

In addition to these general criteria, there may be additional, object-specific criteria for determining the archivability of business objects. These are described in the corresponding documentation available for the archiving object in question.

The business objects marked for archiving can then be archived in a second step using an archiving-object-specific write program. The deletion of the archived data then takes place via an archiving-object-specific delete program, or a cross-archiving-object delete program, if supported by the archiving object (see below).

Deletion

Here you schedule the cross-archiving object delete program. The program selects the business objects that were already archived and those only marked for deletion, and deletes them from the database. If this function is not supported by the archiving object, the *Delete* pushbutton is not offered.

The status used by the delete program for the selection of the data is application specific and can therefore differ from one archiving object to another. In SAP Customer Relationship Management, for example, the *Deletable* status has the technical ID I1102 and the *Archived* status the ID I1101. More information on whether a specific archiving object uses this status and what it is called is available in the corresponding documentation in the SAP Library.

Displaying the Log

The *Logs* function is used to display the application logs generated during the cross-archiving-object check and delete functions. For more information, see *Logs*.

Activities

You make the cross-archiving-object check and delete program settings in Archive Administration in ▶ *Cross-Archiving-Object Customizing* ❯ *Check and Delete* ◣.

You schedule the cross-archiving-object check and delete program in Archive Administration. To do so you must enter a variant, where you can make the following settings:

- In the *Server Groups* field, enter the group of application servers on which the processes are to run. If no server group is available, you can create one using Computing Center Management System (CCMS).
- In the *Number of Parallel Processes* field, enter the number of processes that are to be started in parallel.
- Under *Process Control*, you determine whether the process is to run in the test or production mode. In test mode the check or deletion process is only simulated and no actual changes occur on the database. The test or production mode settings you make in this variant override the settings in the Customizing variant. See *Check and Delete* and *Variant Maintenance for Archiving Jobs*.

> ℹ **Note**
>
> Both programs support parallel processing, meaning that it is possible to divide their processes among several jobs and application servers. This is generally positive in terms of performance, but also

generates a greater system load, as several tasks are being executed concurrently. Parallel processing cannot be used if no server group is specified.

21.1.3.12.1 Cross-Archiving Object Check Program

Use

The cross-archiving-object check program is used for the following purposes:

1. Selection of the data objects to be checked
2. Running the check
3. Setting the check status

The Check Process

First the data objects to be checked are selected using a special function module. The purpose of the preselection function module is to select the business objects based on the specifications entered in the Customizing variant. The function module takes the residence time and the resubmission date into account.

Through the preselection it is possible to exclude irrelevant data objects from the actual check. The result is a list of relevant objects that are transferred to the check program.

The check program then calls the check function module of the application to check the preselected data objects and if applicable, set their status to *Archivable*. The list generated by the preselection module is grouped into packages for parallel processing.

To prevent an object from being checked again and again, for every checked object the program enters the date of the last archivability check in a field in the corresponding header table. This date and the resubmission date, which can be specified in Customizing, are then used during the next program run to calculate whether the object can be checked again. Objects with the *Archivable* status are not checked again.

For SAP Customer Relationship Management archiving objects, the check function module initiates the sending of BDocs (Business Documents), after the check status has been set. BDocs contain change information about the archived business objects that are to be considered by the connected mobile systems.

The advantage of the background check is that it facilitates a more automated and therefore faster archiving of business objects. This type of check, however, also means a higher use of resources. Generally, SAP development decides whether the archivability check is executed via a cross-archiving-object check program or through an archiving-object-specific preprocessing program. In some cases you can choose freely.

Activities

The Customizing settings of the cross-archiving-object check program are made in Cross-Archiving-Object Customizing in the Check and Delete [page 701] function. The scheduling of the program takes place in Archive Administration with the Check/Delete [page 695] function.

21.1.4 Customizing for ADK Data Archiving

Use

In Customizing for data archiving, you to set parameters that affect the data archiving process.

Prerequisites

- You have Customizing authorization.
- Data types are entered.
- Organizational data is entered.

Areas

Archiving Customizing can be divided into the following areas:

- Cross-Archiving-Object Customizing [page 698]
- Archiving-Object-Specific Customizing [page 703]
- Basis Customizing [page 717]
- Application-Specific Customizing
  Some applications provide the option of specifying archivability criteria for application data, to be used during data archiving. Examples would be the residence time for sales documents or the account type life and document type life for accounting documents. If it is possible to enter archivability criteria, this function appears in the Customizing of the application in question and in Archiving Customizing of the corresponding archiving object.

> **ⓘ Note**
>
> For more information on archiving-object-specific and application-specific Customizing, see the application-specific sections of the archiving documentation available in the SAP Library.

21.1.4.1 Cross-Archiving-Object Customizing (ADK Archiving)

Use

The settings that you make here apply on a cross-application and cross-archiving object basis for all archiving objects.

The cross-archiving object Customizing includes the following functions:

- Technical Settings [page 699]
- Check and Delete [page 701]

21.1.4.1.1 Technical Settings

Use

With this function you can make the following settings to control the data archiving process. These settings apply to all archiving objects.

Data Archiving Monitor

Using this indicator, you can either switch the data archiving monitor (transaction `SAR_SHOW_MONITOR`) on or off.

If you set this indicator before the data is archived, the archiving-relevant information about the write and delete jobs is updated. You can analyze this information using the Data Archiving Monitor. In addition, *Alerts* (error messages) are triggered if there are errors.

The Data Archiving Monitor also provides the following information:

- Overview of all archiving objects that were executed
- Detailed information about individual archiving sessions
- Progress report on processed archive files
- Help with the analysis of open alerts

The Data Archiving Monitor is part of the CCMS monitor group (transaction `RZ20`), and is available under

▶ *SAP CCMS Monitor Templates* ❯ *Database* ❯ *Data Archiving* ❯.

For more information, see .

Check Access for Archive Selection

With this function you can check whether an archive file is available for access in archive administration, when you select archives for reading, deletion, analysis or reloading. The check can be performed separately for stored archive files and archive files that are still in the file system.

- If you select *For Files in File System*, the access check covers all archive files in the file system.
- If you select *For Stored Files*, the access check covers all archive files that are in a storage system.

Archive files for which the access check was negative are shown as "not accessible" in the selection screen.

> **ℹ Note**
>
> The access check for stored files requires accesses to the storage system. This means that the check can be very time-consuming and should only be used after careful consideration.

Verify Archive Files

With this function you can specify that archive files receive additional verification information, which is to be analyzed at a predetermined point in time. The saving of this additional information does not affect the size of the archive files. The verification information is necessary for later analysis during deletion, reading or reloading.

The information is used to verify the state of the archive files before the file is accessed. Corrupt files are recognized and reported at once, and as a result the data is not deleted from the database.

When archive files are written the system automatically saves the verification information. With the *Delete*, *Read* or *Reload* indicator, you can determine when this verification information is to be analyzed. You can set more than one indicator.

Implicit Interruption of the Write Phase

If supported by the archiving object, you can interrupt the write phase and resume it later. You can specify the time of interruption using the following criteria:

- *Max. Duration Hours*
  Here you specify how much time (in hours) has to pass since the write job was started, before the write session of all archiving objects that support interruption is stopped.
- *Max. MB per Session*
  Here you specify the amount of data (in MB) that has to be reached for the write phase of all archiving objects to be interrupted automatically.
  Both interruption criteria are independent of each other: The criterion that is first fulfilled automatically triggers the interruption; the other criterion does not have to be fulfilled.

> **i Note**
>
> You can see whether an archiving object supports the interruption function or not in transaction AOBJ, if the *Interruption Possible* indicator has been set.

Server Group for Background Processing

Here you can specify on which application server or servers the archiving jobs (write, delete, read, and so on) are to run in the background, irrespective of the archiving object. If no server group exists yet, you can create it using transaction `SM61`.

The system distributes the archiving jobs across the application servers of the server group.

Preprocessing, postprocessing and write jobs that were scheduled via Archive Administration (transaction `SARA`) have the following characteristics:

- These jobs are scheduled with a higher priority (job class A).
- If the specified server group contains an application server that runs on the database server, then the jobs are scheduled there.

> **i Note**
>
> The higher prioritization of the write jobs and the fact that the jobs are scheduled on the database server, decreases the network load during data selection and when the archive files are written to a file system that belongs to the database server.

> **i Note**
>
> Constraints on the side of the application server may increase the runtime of the entire archiving process, especially if fewer background work processes are active as delete programs.
>
> Choose only those servers for a server group on which background work processes are active during archiving.

If you have created a server group and entered it in cross-archiving-object Customizing, then other activities such as reloading, reading of archive files, and index build/delete functions, are performed on that server group.

More Information

Basis Customizing [page 717]

Archiving Object-Specific Customizing [page 703]

Implicit Interruption of an Archiving Session [page 680]

21.1.4.1.2 Setting Up Check and Delete Programs

Use

You can set up the cross-archiving object check and delete program according to your requirements. For example, individual parameters for the selection of the business objects to be checked for a specific archiving object, or you can activate specific archiving objects for the cross-archiving-object check or delete.

The check is based on the archivability of business objects. You can execute the check for multiple archiving objects in parallel. The deletion of business objects is also possible for multiple archiving objects.

Prerequisites

The cross-archiving-object check and delete functions can be used for all archiving objects that support these functions. Therefore, only this objects are offered In Customizing.

Procedure

You make the settings for the relevant parameters in the detail view for an archiving object. To go there, double-click the line with the required object, for example, BC_ARCHIVE (Archive Administration data).

You can set the following parameters:

- General Settings
  - *Check active*
    If you select this checkbox, the archiving object is taken into account by the next session of the cross-archiving-object check program, This covers all archiving objects for which you have selected the checkbox. The program periodically reads a control table to see which archiving objects are still active. Only those parameter values that were initially (at the time the program is started) read from this table by the check framework program are processed. In the standard system, this checkbox is deselected.

> **ⓘ Note**
>
> Framework programs control the cross-object check and delete programs. They are responsible for starting the corresponding check or delete function module in the application. This module then does the actual work.

> **ⓘ Note**
>
> Changing the Customizing settings during the runtime of the check program: Activating an archiving object does not affect the running program. An archiving object that was deactivated during the runtime of the program is removed from the program run, if it has not been processed at that point in time. If you want to stop the program prematurely, you must deactivate all active archiving objects.

- ○ *Delete active*

> **ⓘ Note**
>
> This indicator is offered only for an archiving object if the object supports this function. If this is the case, you can use the object-specific delete program.
>
> If you select this checkbox, the archiving object is taken into account by the next session of the cross-archiving-object delete program, This program runs in the background periodically and covers all archiving objects for which you have selected the checkbox. The program deletes all business objects with the *Archived* or *Deletable* status (however not *Archivable*). In the standard system, this checkbox is deselected.

- Settings for the Check Program
  - ○ *Number of Calls for Preselection Module*
    Determines total number of times the preselection function module is called. As soon as this value is reached, the archiving object is removed from the program session. The default value is 10,000 calls.

    > **ⓘ Note**
    >
    > The check program works with two archiving-object-specific function modules: The preselection function module and the check function module.

  - ○ *Package Size of the Preselection Module*
    Here you define the number of business objects that are selected in the database and passed to the check function module of the application per call of the preselection function module. The default value is 50,000 objects.
  - ○ *Package Size of the Check Module*
    The framework program divides the business objects transferred during the preselection process into subpackages, which are then processed in parallel. The package size is the number of objects that are processed per call of the check function module. The default value is 500 objects.
  - ○ *Resubmission Interval in Days*
    Here you define after how many days a business object, which was not archivable during a previous check, can be checked again. By setting the corresponding value, for example 10 days, you can prevent already checked business objects from being checked again, as this would unnecessarily prolong the check process. The default value is 10 days.

In the *Active Variant* field, you can set the variant to be used by the check program. It defines which data is to be processed by the check program.

- Settings for the deletion program

> **i Note**
>
> These settings are only offered for an archiving object, if the object supports this function.

  - *Number of Calls for Preselection Module*
    Determines total number of times the preselection function module of the delete program is to be called. As soon as this value is reached, the archiving object is removed from the program session. The preselection module of the delete program selects all the business objects with the deletable status, groups them and passes them to the cross-archiving-object delete program.
  - *Package Size of the Preselection Module*
    Here you define the number of business objects that are selected in the database and passed to the delete function module of the application per call of the preselection function module.
  - *Package Size of the Delete Module*
    Here you define the size of the subpackages that are to be processed by the delete program in parallel.

More information:

Cross-Archiving Object Check and Delete [page 695]

Cross-Archiving Object Check Program [page 697]

21.1.4.2 Archiving-Object-Specific Customizing (ADK Archiving)

Use

These settings are valid only for the relevant archiving object. You can set the following parameters:

- Technical Settings
  - Logical file name [page 704]
  - Size of an archive file [page 704]
  - Settings for the deletion program [page 705]
  - File storage to storage system [page 707]
- Check and Delete [page 701]
  This function enables you to navigate to Customizing for cross-archiving-object checking and deleting. Unlike when you access from cross-archiving-object Customizing, you can only make settings for Customizing of the current archiving object.
- Archive Routing [page 709]
  You use this to define the rules and conditions for the definition of the Content Repositories that are used to store archive files.

21.1.4.2.1 Technical Settings

Use

You use this function to make the following settings to control data archiving. These settings are valid only for the relevant archiving object.

21.1.4.2.1.1 Logical File Name

Use

This is where you enter the logical file name that is used for the archiving object when you store the archive files in the file system. During runtime, this logical name is converted to a platform-specific physical file name under which the archive files are stored in the file system.

Features

For information on how to define a logical file name, see Defining Logical Path and File Names [page 718]. This also provides information on the interplay between the logical and physical file and path names and the settings that you need to make.

> **i Note**
>
> Provided you have not defined a logical file name that differs from the standard, you do not need to make any further settings.

21.1.4.2.1.2 Size of an Archive File

Use

This parameter specifies the maximum size that an archive file can reach when running a write program.

Features

You have the option of specifying the

- Maximum size in MB
- Maximum number of data objects

. The value that is reached first triggers the creation of a new archive file. If you leave both fields blank, only **one** archive file is created.

Many archiving objects have a maximum files size of 100 MB by default. The maximum number of data objects is set to 0 by default. For these archiving objects, the maximum size of the archiving file determines the file size.

Note that the maximum size of an archiving file is limited by the operating system and also by the external storage system if one is connected.

> i **Note**
>
> Since the action *Start Deletion Program* is triggered automatically for each archive file, you can carry out delete and write jobs in parallel if relatively small archive files are created. This parallel activity can have a positive effect on the runtime of an archiving session, as the database is used more efficiently. If a file is too small, the number of processes rises and the system is negatively affected.

> i **Note**
>
> The size should usually be between 20 and 100 MB. The size must not exceed 2 GB, or no index can be constructed, thereby preventing single document access.

21.1.4.2.1.3 Settings for the Delete Program

Use

You define the control parameters for running the delete program here.

Features

- You can set up a *Test Mode Variant* by modifying the parameters accordingly. A test mode variant does not delete data from the database.
- You can set up a *Production Run Variant* by modifying the parameters accordingly. A production run variant deletes the archived data from the database.

> ⚠ **Caution**
>
> Delete program variants are client-specific. You must therefore make the variant settings in all the clients for which you want to carry out archiving sessions.

When archiving for the first time using a selected archiving object, the relevant test mode and production mode variants for the delete program must be fully maintained. Check whether both variants exist. Note especially, that if a production mode variant is not available, data is not deleted form the database when the delete program is run.

During a *delete job*, you specify when the delete program is to be run in the background:

- If you select the *Not Scheduled*, the delete program is not run automatically but can be run at any time following archiving.

  > ℹ **Note**
  >
  > Delete jobs can also be scheduled without using Archive Administration (transaction SARA). You so so using an external job scheduler or the program RSARCHD. For more information, see Scheduling Delete Jobs Outside of Archive Administration.

- If you have selected the *Start Automatically* button, the *delete program is run automatically immediately after an archive file is generated.* See also the note under Archive File Size [page 704] here. *If it was specified in Customizing that the file storage is to take place before the delete phase, the delete program is not started until the file has been stored.*
  This radio button is of interest primarily if you want to save the archive files before the delete phase. If there is a long time period between the write phase and the delete phase, there is a danger that the data could be changed before it is deleted, which means that the data in the archive and in the database are no longer the same. The delete phase should therefore be carried out as soon as possible after the write phase.

  > ℹ **Note**
  >
  > Since *Before Images* has been deactivated for the rollback segments, there should be enough space available (Oracle's Rollback Tablespace).

- If you have selected the *After Event* radio button, the delete program is run automatically once a specific event has occurred. You select the relevant event by using the `F4` input help for the *Event* field. an event requires that a parameter be set (an argument), enter the required parameter in this field. A parameter qualifies an event. See also .
  Once all delete jobs for an archiving session are complete, the ADK issues the event SAP_ARCHIVING_DELETE_FINISHED. The event parameter is the number of the archiving session. You can use this event for event-driven scheduling of accumulated archiving jobs, succh as the automatic backup of archive files using external tools.

  > ℹ **Note**
  >
  > You can use transaction *SM62* to display and maintain events.

- You can use the *Build Index* indicator to specify whether an index is to be constructed for a particular archiving object. You can use this index to access specific data objects from the archive file (single document access).

  > ➡ **Recommendation**
  >
  > Instead of using this function for single document access, we recommend that you use the Archive Information System (AS) [page 737].

21.1.4.2.1.4 File Storage to Storage System

Use

You can specify here whether an archive file is to be transferred automatically after successful processing to a connected storage system. This can be done manually or automatically using the *SAP Content Management Infrastructure* (which also contains the ArchiveLink/CMS interface). You can also specify the sequence of the delete and storage phases.

Prerequisites

A storage system is linked to the SAP Business Suite software.

Features

To start automatic storage of the archive file, select the *Start Automatically* indicator. Select the relevant content repository.

> **i Note**
>
> If rules and conditions have been defined for the specified archiving object for Archive Routing, it is no longer possible at this point to manually select the content repository as described above. During the archiving process, the Archive Routing settings always override the manual selection of the content repositories. In this case, instead of an input field for the content repository, the system displays the *Archive Routing* button, which you can use to access Archive Routing to maintain the rules and conditions.
>
> More information:
>
> Archive Routing [page 709]
>
> Routing of Archive Files to Different Content Repositories [page 711]

Under *Sequence*, you can specify when the storage is to take place:

- If you select *Delete Before Storage*, the archive file is not stored until it has been processed by the delete program. If the delete program is run in test mode, automatic storage is not carried out. This option improves performance.
  You can use this setting to perform storage manually if no delete program has been run for the archive file. In this case, the system informs you that this does not match the selected sequence. You must then ensure that the file is not stored at the same time as the delete program is active.
- If you select *Store Before Delete*, the archive file is stored as soon as the write program has created the archive file, but before the delete program has edited it. The delete program can therefore only remove the contents of an archive file from the database once the archive file has been stored. option offers enhanced backup, as the archived data is not deleted until it has been stored.

During storage before delete, you can choose *Delete Program Reads from the Storage System* to control the read behavior of the delete program during the delete process:

○ Indicator selected: After storage, the stored archive file is deleted from the file system. Consequently, during the delete phase, the delete program reads the archive file from the storage system. ensures that the data is only deleted from the database if it was successfully stored in the storage system.

○ Indicator not selected: After storage, the archive file is not deleted from the file system. The delete program reads the archive file from the file system. This setting results in improved performance of the delete program without neglecting backup considerations.

○ If in the settings for the delete program, the radio button *Start Automatically* is also selected, the delete program is started automatically following storage. It therefore makes no difference whether the delete program is run in test or production mode.

Similarly, if you select *After Event*,delete jobs are scheduled, but they are not run until triggered by the event that has been configured in the settings for the delete program.

21.1.4.2.1.5 Settings for the Postprocessing Program

Use

Here you can schedule a postprocessing program to run after the delete phase. Postprocessing programs carry out operations following an archiving session, such as updating statistics and cleaning up secondary indexes. Most archiving objects do not require a postprocessing program.

Prerequisites

- The archiving object being used has a postprocessing program.
- To start the postprocessing program, you need to fulfill the following prerequisites:
  ○ The last delete program in the archiving session is finished.
  ○ No archive file has the status *Archived*, *Archiving in Progress*, or *Delete in Progress*.

Features

In the *Variant* input field, you define with which variant you want to schedule the postprocessing program.

By selecting the *Start Automatically* checkbox, you define that the postprocessing program starts automatically after the delete phase.

21.1.4.2.2 Archive Routing

Use

You can use this function to create rules and conditions, based on which archive files are automatically routed to specific areas in the file or storage system. You have the following options: You can enter one or morel logical file names to determine one or more directories in the file system into which the archive files are written. You can also enter one or more content repositories to which the archive files are to be routed during the store phase.

Which of these two options you choose depends on whether you are using a file system or a storage system connected through ArchiveLink in your archiving strategy. However, it is also possible for you to specify both a logical file name and a content repository for one archiving session. In this case, the specified directory would be used as an exchange directory before the storage phase. It is also possible to specify only directories at first and then to extend the rules later by specifying content repositories for storage of the archive files.

The criteria used in the rules and conditions for both directories and content repositories should be on the organizational unit level (such as company code) or time-based (such as fiscal year).

Due to legal compliance issues, companies, especially those with international locations, are increasingly forced to keep archived data separately in order to comply with different retention requirements for different kinds of data, lines of business or countries. Compared to the manual selection of content repositories or the use of a standard directory such as ARCHIVE_GLOBAL_PATH, Archive Routing offers companies more flexibility and automation options for this purpose, especially as the latter permits you to specify only one content repository for all data of one archiving object.

Integration

Customizing

The routing rules and conditions are entered for individual archiving objects in Archive Routing. The function is available under *Archiving-Object-Specific Customizing* in Archive Administration (transaction SARA). If no rules have been entered, the directory or content repository are selected the traditional way. For more information, see Defining Logical Path and File Names [page 718] and File Storage to Storage System [page 707].

Archiving Process

The system checks the rules during the write phase of the archiving process. If you are also storing your archive files, then the system checks the rules again during the store phase. It is important to note that Archive Routing does not use the actual contents of the archive file to determine the directory or content repository, but the selection criteria entered in the variant for the write session. Note that the set of data covered by the selection criteria in the variant does not have to be exactly the same as the set of data covered by the routing rules and conditions. However, it is important rather the set of data for the variant selection is **within** the set of data specified by the rules. If it is the case, the archiving session is carried out and the archive files are routed to the appropriate directory or content repository. If not, the archiving session is terminated.

Features

In Customizing, you can create rules for each archiving object that determine which directory or content repository is to be chosen based on the selection criteria of the write program variant. For each rule, you enter conditions that contain a selection criterion and a corresponding value or interval. It is possible to create one or more rules per archiving object and one or more conditions per rule. The complexity of the rules depends on how specific your criteria for separating your archived data into different directories or content repositories is.

The smallest unit for which a directory or content repository can be determined using Archive Routing is an archiving session. This means that the individual archive files, and therefore all the data objects (documents) in an archiving session are routed to one and the same directory or content repository. If you want to route data to different directories or content repositories, you must start a separate session for each directory or content repository.

Example

You define the following rules and conditions for archiving object SD_VBAK:

Table 172:

Sales Organization	Creation Date	Content Repository	Logical File Name
0001	Any	A1	
0002	01.01.2000 to 12.31.2002	A2	
0002	01.01.2003 to 12.31.9999	A3	

These rules are checked during the write phase of the SD_VBAK archiving session. If the selection criteria of the write variant match the values entered in the rules and conditions, as described above, then the data is routed to the appropriate content repository during the storage phase. If not, the archiving session is terminated during the write phase. In this example, no logical file name was specified. This means that prior to the storage phase the data is written to the previously defined standard exchange directory (determined, for example, by ARCHIVE_GLOBAL_PATH).

More Information

21.1.4.2.2.1 Routing of Archive Files to Different Content Repositories

Use

This process describes how you can use archive routing to define rules and conditions that enable archive files to be stored in specific content repositories automatically during archiving. The actual storage process is also described here.

Process

1. Define Rules and Conditions for Archive Routing
   You define the rules and conditions in the *Customizing settings for specific archiving objects* in archive administration (transaction SARA) under *Archive Routing*.
   1. Archiving Object
      You first specify here the archiving objects for which the content repository is to be determined using archive routing. By specifying a content repository here, you can override the content repository entered in the technical settings.
      The system requires this information so that it can assign a content repository. Archiving is not possible without this.
   2. Rules
      You select an archiving object and enter one or more rules with the respective content repository here.
   3. Conditions
      You select one of the rules and enter the condition(s) that the system can use to determine a content repository that is suitable for the rule. Enter a selection here, such as airline or posting date and the associated value or interval. (Note the following: You can only enter single values and not ranges for selection values such as airline. The single value, such as the ID *LH*, is entered in the *From* field.) You can use the possible entries (F4) to select the selection values.
2. Routing of Archive Files
   During an archiving session, the system checks the rules and conditions you have specified twice: Once during the write phase and then again during the storage phase.
   As described under Archive Routing [page 709], it is essential that the system uses the selection values or the content of the write program variants to determine the content repository in which the archive files in an archiving session are to be stored. You should therefore ensure that the data quantity covered by the selection values in the write variant is found within the data quantity defined by the rules. If this is not the case, the system terminates the archiving session during the first check before the write phase.
   Archive files are first routed during the storage phase if all conditions described here are met and it was possible to uniquely determine a content repository.
   You can only define one content repository for each archiving session. If you want to use more than one content repository for the same archiving object, you must start a separate archiving session for each content repository.

   > **i Note**
   >
   > Following storage: Changes to the routing rules do not usually affect archive files that have already been stored. When an archive file is created, the system transfers the content repository to archive

administration and then always reads it from there. This means that the system also finds an archive file even if the new routing rules would mean that it would be stored in a different content repository.

The storage is not reorganized even if the routing rules are changed. This means that archive files that have already been stored are not moved.

Result

During the storage phase, the system stored the archive files in the content repository according to the rules that you specified.

Example

The following examples show various archive routing scenarios.

You have created the following routing rules in archive routing:

Table 173:

Sales Organization	Creation Date	Content Repository	Logical File Name
0001	Any	A1 (rule 1)	
0002	01.01.2000 to 12.31.2002	A2 (rule 2)	
0003	01.01.2003 to 12.31.9999	A3 (rule 3)	

In words, these rules mean the following:

- Archive files for sales organization 0001 are stored in content repository A1.
- Archive files for sales organization 0002 and a creation date between 2000 and 2002 are stored in content repository A2.
- Archive files for sales organization 0002 and a creation date up to and including 2003 are stored in content repository A3.

> ℹ **Note**
>
> The creation date refers to the selection field "Created On" in the write variant and not the date on which the archive was written.

Example 1:

You start an archiving session with the following variant:

Selection variant

Table 174:

Sales organization	From	0002	to	
Created On	From	01.01.2000	to	31.01.2000

Archive files that are to be generated using this variant should be stored in content repository A2. The sales organization is the sales organization in the second rule and the date range is found in the date range for the same rule.

Example 2:

You start an archiving session with the following variant:

Selection variant

Table 175:

Sales document	From	1	to	100.000
Sales Organization	From	0002	to	
Created On	From	01.01.2000	to	31.01.2000
Or	From	01.01.2001	to	31.01.2001
Without	From	06.01.2001	to	

This variant means that sales documents are to be archived if their document number is found between 1 and 100,000, which belong to sales organization 0002 and were created in January 2000 or January 2001 but not on 6.1.2001.

The system would determine content repository A2 for these selection values. The system ignores the line in the sales document, since this selection criterion does not appear in the rules. The system ignores the last line, since this selection is already found in the range between 01.01.2001 to 01.21.2001 This leaves the following for archive routing:

Selection Variant

Table 176:

Sales Organization	From	0002	to	
Created on	From	01.01.2000	to	31.01.2000
	From	01.01.2001	to	31.01.2001

This is suitable for the requirements in rule 2.

Example 3:

Selection Variant

Table 177:

Sales Organization	From	0002	to	

Created On	Greater or equal to	01.01.2003	to	

The system was unable to determine any content repository here. It initially appears that the third rule should apply and the system would use content repository A3. This is not however the case, since the system does not know here that all data that is equal or later to 1.1.2003 is automatically suitable for the range "From 1.1.2003 to 12.31.9999".

See also:

If the archive routing function available in the standard system does not meet your requirements, you can use the Business Add-In (BAdI) ARCH_ROUTING_EXTERN. For more information, see Business Add-In: Archive Routing [page 714]..

21.1.4.2.2.1.1 Business Add-In: Archive Routing

Use

You can implement the Business Add-In (BAdI) ARCH_ROUTING_EXTERN (for the Routing of Archive Files to Directories [page 715] in the file system this BAdI is only available as of the next major release of SAP NetWeaver), if the standard Archive Routing function does not sufficiently meet your specific requirements. The main purpose of this BAdI is to replace the standard Archive Routing process with customer-specific code. This is possible for individual archiving objects. The BAdI is filter-dependent, with the archiving object being the filter.

An active implementation of this BAdI for an archiving object replaces the entire Archive Routing for that archiving object. In this case the system uses neither the rules as described under Archive Routing [page 709] nor the content repository specified in technical Customizing (V_ARC_USR). Other application-specific settings are not run either. The basic concept of Archive Routing, however, remains the same - the content repository is still determined using the information in the selection variant.

The BAdI has two methods for determining the content repository from the selection variant:

- PARAMS2CREP
- PARAMS2PATH_EXTENSION

A detailed description of these methods is available in the system documentation of this BAdI.

> ⚠️ Caution
>
> From a technical standpoint it is possible to insert other information into a customer-specific program for determining the content repository, than that taken from the selection variant. However, keep in mind that the content repository is not physically determined until the storage phase. During the write phase it is merely checked. This means that the algorithm should be delivered at both points in the process. The system itself (ADK) only remembers the content repository at the time of storage.

21.1.4.2.2.2 Routing of Archive Files to Different Directories

Use

This process describes how you can use archive routing to define rules and conditions that enable archive files to be automatically stored in specific directories in the file system during archiving. The way in which archive files are actually stored is also described here.

If you are not using a storage system that is connected using ArchiveLink, or you initally want to only store your data in the file system, you can specify logical file names in Archive Routing to define directories in which archive files can be stored automatically. If archive files are subsequently to be stored in content repositories, you can subsequently assign the correct content repository to the rules. The system observes this assignment in the storage location.

Prerequisites

In Basis Customizing (transaction *FILE*), you have defined logical file names for use in Archive Routing and assigned them to the individual logical file names. For more information, see Defining Logical Path and File Names [page 718].

Process

1. Define Rules and Conditions for Archive Routing
   You define the rules and conditions in the Customizing settings for specific archiving objects in archive administration (transaction SARA) under *Archive Routing*.
   1. Archiving Object
      You first specify here the archiving objects for which the directory is to be determined using archive routing.
   2. Rules
      You select an archiving object and enter one or more rules with the respective logical file names here.
   3. Conditions
      You select one of the rules and enter the condition(s) that the system can use to determine a directory that is suitable for the rule. Enter a selection here, such as carriier ID or booking date and the associated value or interval. (Note the following: You can only enter single values, such as carrier ID, and not intervals for selection values, The single value, such as the ID *LH*, is entered in the *From* field.) You can use the possible entries (F4) to select the selection values.
2. Routing of Archive Files
   During the write phase of an archiving session, the system checks the rules and conditions that you have specified in the Customizing settings for specific archiving objects.
   As described under Archive Routing, it is essential that the system uses the selection values or the content of the write program variants to determine the directory in which the archive files in an archiving session are to be stored. You should therefore ensure that the data quantity covered by the selection values in the variant is found within the quantity defined by the rules. If this is not the case, the system terminates the archiving session during the first check before the write phase.

Archive files are first routed to the respective directories during the write phase in the production mode, if all conditions described here are met and it was possible to uniquely determine a directory using the logical file name.

You can only define one directory for each archiving session. If you want to use more than one directory for the same archiving object, you must start a separate archiving session for each directory.

Result

During the write phase, the system stored the archive files in the directory according to the rules and conditions that you specified.

Example

Before archiving using SD_VBAK, define the routing rules as follows:

Table 178:

Sales Organization	Creation Date	Content Repository	Logical File Name
0001			Z_MY_LOG_FILE1
0002	01.01.1999 to 12.31.1999		Z_MY_LOG_FILE2
0002	01.01.2000 to 12.31.2000		Z_MY_LOG_FILE3
0002	01.01.2001 to 12.31.2001		Z_MY_LOG_FILE4

In words, these rules mean the following:

- Archive files for sales organization 0001 are created in the directory associated with the logical file name Z_MY_LOG_FILE1.
- Archive files for sales organization 0002 and a creation date during 1999 are created in the directory associated with the logical file name Z_MY_LOG_FILE2.
- Archive files for sales organization 0002 and a creation date during 2000 are created in the directory associated with the logical file name Z_MY_LOG_FILE3.
- Archive files for sales organization 0002 and a creation date during 2001 are created in the directory associated with the logical file name Z_MY_LOG_FILE4.

Archive files are not stored, since no content repository was specified. They remain in the file system. However, they are created in the directories for the corresponding logical file names. Once archives have been generated for both sales organizations, you decide to store the archive files. To do so, you extend the rules as follows:

Table 179:

Sales Organization	Creation Date	Content Repository	Logical File Name
0001		A1	Z_MY_LOG_FILE1

0002	01.01.1999 to 12.31.1999	A2_1999	Z_MY_LOG_FILE2
0002	01.01.2000 to 12.31.2000	A2_2000	Z_MY_LOG_FILE3
0002	01.01.2001 to 12.31.2001	A2_2001	Z_MY_LOG_FILE4

Since the files have already been generated for the rules you defined previously and routed to the appropriate directories, you can easily store these here.

These examples show it can be necessary to change routing rules for sessions that have not yet been stored. This is often the case if a storage system is to be introduced at a subsequent stage.

More Information

21.1.4.3 Basis Customizing (ADK Archiving)

Use

In Basis Customizing you can specify the file names under which the archive files are to be created. The logical file name is composed of a name and a path. The path is a logical path, meaning that you must follow predefined conventions that determine the physical format of the path during runtime (platform-specific) based on your specifications. File names and file paths can be client-specific (transaction SF01) or cross-client-specific (transaction FILE).

For more information, see .

> ➡ Recommendation
>
> We recommend that you maintain the platform-independent file names as cross-client files names.

> ⓘ Note
>
> If you want to transfer archive files to a storage system using the SAP Content Management infrastructure, ensure that the correct content repository is set up in .

21.1.4.3.1 Defining Logical Path and File Names.

Use

To specify the platform-specific physical path and file name under which the archive files (which were created during archiving using this archiving object) are to be stored, you define logical path and file names assign them to the archiving object.

> **i Note**
>
> By default, the system uses the logical file name ARCHIVE_DATA_FILE and the logical path name ARCHIVE GLOBAL PATH. Consequently, the names only need to be changed if they have to be adjusted to meet special requirements.

Prerequisites

- If you intend to transfer the archive files to a storage system using the Content Management Service (includes ArchiveLink and the CMS interface) , you must ensure that this storage system has access to the archive files.
- In the case of HSM systems, you must make sure that the archive files can be written to the file system of the HSM system.

Procedure

1. Defining logical path names

1. Start transaction *FILE*.

   Alternatively, from the initial screen for Archive Administration (transaction *SARA*), choose ▶ *Customizing* ▶ *Basis Customizing* ▶ *Cross-Client File Name/Paths* ▶.
2. To enter a new path name, select an existing path name, such as ARCHIVE_GLOBAL_PATH, or choose *New Entries*. This must be as descriptive as possible.
3. In the *Logical File Path Definition* dialog structure, double-click on the *Assignment of Physical Path and Logical Paths* substructure.Double-click to select a syntax group or create a new syntax group.
4. Assign a physical path name to the logical path name.

   > **⚠ Caution**
   >
   > When assigning path names, the symbol <FILENAME> must appear at the end. At runtime, this symbol is replaced by the physical file name (without path name). No part of the physical file name in the path name must be defined.

   > **➡ Recommendation**
   >
   > If you want to store your archive files, enter the placeholder <F=ARCHIVELINK> in the logical path. With <F=ARCHIVELINK><FILENAME> the files are created directly in the basis path of the content repository

that has been assigned to the archiving object. This way you can avoid an internal copy process during the store phase.

> ➡ Recommendation
>
> You have created the subdirectory "data_archiving" for archive files in the global directory. You then specify a path name:

· <P=DIR_GLOBAL>/data_archiving/<FILENAME> (Syntax group UNIX)

· <P=DIR_GLOBAL>\data_archiving\<FILENAME> (Syntax group WINDOWS NT)

In a heterogeneous system landscape (such as UNIX and Windows NT servers) all system-specific syntax groups must be maintained. Ensure that the definitions for the various syntax groups point to the same directory.

1. Save your entry.

2. Defining Logical File Names

> ℹ Note
>
> Logical file names client-specific (transaction *SF01*) or cross-client-specific (transaction *FILE*). A client-specific definition always overrides a cross-client definition. Therefore, ensure that in every client any unnecessary client-specific definitions are deleted.

The following describes the procedure for creating a cross-client definition using the transaction *FILE*. You create the client-specific definition in the same way using transaction *SF01*.

1. Start transaction *FILE* for cross-client file names.
   Alternatively, from the initial screen for Archive Administration, choose ▶ *Customizing* ❯ *Basis Customizing* ❯ *Cross-Client File Name/Paths* ❯.
   For client-specific definitions, from the initial screen for Archive Administration, choose ▶ *Customizing* ❯ *Basis-Customizing* ❯ *Client-Specific File Names* ❯.
2. To enter a new file name, select an file path name, such as ARCHIVE_DATA_FILE, or choose *New Entries*. This must be as descriptive as possible.
3. Double-click on the *Logical File Name Definition, Cross-Client* dialog structure.
   You can access the *Change View: Logical File Name Definition, Cross-Client: Overview* screen.
4. Maintain the *Physical File* and *Logical Path* fields.
   In the *Physical File* field, enter the physical file name you require.
   The following parameters are of particular interest here:
   ○ PARAM_1: Two-character application abbreviation (such as HR; CO, MM) for classifying the archive files in the system. The value is determined from the definition of the relevant archiving object at runtime.
   ○ PARAM_2: Single-character alphanumeric code (0-9, A-Z). If, when a new archive file is created, an existing file with an identical physical name would result in a conflict, the ADK increases this value. This must therefore always be a part of the physical name.
   ○ PARAM_3: At runtime, this parameter is filled with the name of the archiving object. In archive administration, this enables you to check the file contents or to store the archive files by archiving object.

> **→ Recommendation**
>
> To enable maximum space in the name range for the archive file, the following entry is recommended for this field:
>
> <PARAM_1>_<DATE>_<TIME>_<PARAM_2>.ARCHIVE

In the *Logical Path* field, you assign the logical path name defined previously to the current logical file name. You can assign a logical path name to multiple logical file names.

5. Save your entry.

3. Assigning a Logical File Name to the Archiving Object

Once you have defined the logical path name and file name, you need to assign the logical file name to the archiving object. Proceed as follows:

1. In the initial screen for Archive Administration, enter the name of an archiving object and choose *Customizing*.Under Archiving Object-Specific Customizing, choose *Technical Settings*.
2. In the *Logical File Name* field, enter the required logical file name .
3. Save your entries.

21.1.5 Executing Data Archiving

Prerequisites

- You have defined the necessary settings.
  More information: Customizing for Data Archiving [page 698]
- You have executed or checked the necessary preparatory steps according to the checklist for data archiving.
  More information: Archiving Checklist [page 721]

Context

In addition to the main steps (creation and storage of archive files and the deletion of archived data from the database), data archiving also includes other activities. These include scheduling preprocessing an postprocessing as well as reloading or reading archive files.

Procedure

- 1. Call Archive Administration.
     More information: Archive Administration [page 664]

2. Enter the archiving object.

   When you call from the application, the system automatically transfers the archiving object to Archive Administration.

   You can branch to the network graphic to view the available archiving objects, their status and possible dependencies. From the network graphic, you can access the initial screen for Archive Administration by double-clicking an archiving object.

3. Select the required **Activity** for the archiving object and schedule the corresponding background job.

   1. Optional: If you want to prepare data for archiving(for example, selecting the delete checkbox), schedule the preprocessing program.

      More information: Scheduling Preprocessing for Data Archiving [page 722]

   2. Schedule the creation of archive files as your first archiving step.

      More information: Creating Archive Files [page 723]

   3. Schedule the storage or the deletion of archived data. Decide on the sequence of these actions according to the following criteria:

      ○ If security is your main concern, you should schedule the storage of the archive files first. In addition, you can set the delete program to read the data from the storage system and not from the file system.

      ○ If the performance of the archiving program is more important to you, schedule the delete program first. To do so, you need to have selected the *Delete before Storage* checkbox in archiving object-specific Customizing.

      More information:

      Storing Archive Files [page 726]

      Deleting Archived Data from the Database [page 728]

   4. Optional (if offered by the archiving object): Schedule the postprocessing program.

      More information: Scheduling Postprocessing for Data Archiving [page 729]

   5. Fill (or empty) an index for the archive files. The index is required for the display of individual documents belonging to archiving objects.

      More information: Filling and Emptying the Index [page 731]

   6. Access archived files, if necessary.

      More information:

      Retrieving Stored Archive Files [page 727]

      Reading Archive Files [page 732]

   7. In emergencies only (if data was archived incorrectly): Reload data to the database.

      More information: Reloading Archived Data [page 730]

21.1.5.1 Archiving Checklist

Use

This checklist helps to ensure that you complete the necessary archiving steps and that you perform them in the correct order.

Procedure

Before the first archiving session

1. In Basis Customizing, check that the logical file names are entered.
2. In cross-archiving object Customizing, check that the Central Repository for storage is maintained using the SAP Content Management Infrastructure.
3. In application-specific Customizing, check that the residence times are defined.

Before using an archiving object for the first time

Check archiving object-specific Customizing settings:

- Was the file name correctly assigned?
- Are the deletion program variants maintained? (Note that the variants are client-specific)
- Is the maximum archive file size correctly set?
- Is the delete program set to run automatically?
- Is index creation scheduled?

For each archiving session

1. Ensure that the user department and system administration coordinate their activities.
2. Check the network graphic to determine whether interdependencies exist (do other data objects have to be archived first?)
3. Schedule the archiving session (create variant).
4. If the delete program does not start automatically, start it manually.
5. If the archive files are not to be stored automatically by the *Content Management Infrastructure,*, trigger storage manually.

21.1.5.2 Scheduling Preprocessing for Data Archiving

Context

You have the option of preparing the data in the database for archiving. For example, the preprocessing program selects the data for archiving.

Procedure

- 1. Call Archive Administration (transaction `SARA`).
  2. On the initial screen, enter the name of the archiving object in the Object Name field.
  3. Choose *Preprocessing*.
     This takes you to the *Archive Administration: Preprocessing* screen, in which you can schedule a background job for the program.

4. Use the `F4` help to choose a variant. If there is no variant available, choose *Variant* and enter the relevant variant.

> **i Note**
>
> You can use a variant only in one job. Otherwise you risk the data being archived more than once. If you use a variant again, a dialog box notifies you of this. Choose *Jobs with Selected Variant* to access the overview of all jobs that already have variants created. In the job overview, you can delete jobs that use a specific variant.

5. Enter the start date and the spool parameters.
   More information:

> **i Note**
>
> You use the *Archive Directory* to determine the amount for available storage space in the current object-specific archive directory.

Results

You have now entered all data required for the background job. To create the job, choose *Execute*.

21.1.5.3 Creating Archive Files

Context

Archiving begins with the creation of an archive file. This includes the following steps:

1. Creating an archive file with the write program
2. Reading the data to be archived from the database (in background processing)
3. Writing the data to the archive file

The creation of an archive creations continues until archiving is complete or until a restriction defined in archiving object-specific Customizing (maximum size or an archive file or maximum number of objects in archive file) has been reached. If archiving is not completed due to a restriction, the write program creates an additional archive file for the data that has not been archived.

If a restriction defined in Customizing is reached during archiving, Archive Administration continues with the deletion phase (if none of the following checkboxes have been selected in archiving object-specific Customizing. *Start Automatically* and *Deletion Phase before Storage*).

> **ⓘ Note**
>
> It is always possible to schedule a write job, even outside of Archive Administration (transaction *SARA*), by using an external Job Scheduler. This enables an improved reconciliation of the data archiving processes with the other processes in your system environment.
>
> More information: Scheduling Write Jobs Outside of Archive Administration.

Virus Scan

When you write archive files, you can run a virus scan on the data to be archived. The virus scan checks all data objects, which contain records with XSTRING fields (length of Byte sequence variable) or X fields (Byte sequence). Only these byte sequences or date types potentially contain viruses.

The ADK virus scan is integrated in the virus scan interface for SAP NetWeaver. You can activate and implement it as described there. The virus scan profile is called `/SARC/ARCHIVING_ADK`. It is deactivated when delivered. When the profile is active, the message "`Virus Scan with Virus Scan Profile/SARC/ARCHIVING_ADK Active`" appears in the job log of a write job. This message is always issued, even if no suspicious data objects has been detected.

If a virus is found, the ADK issues the message as follows: `Virus <Name> found in Object <Structure Type> <Component>`. The write program terminates with a system exception. The relevant session is handled the same as other terminated session (for example, technical reasons) in Archive Administration. Non-infected archive files that were written and completed correctly before the termination, remain intact.

Write Run Followed by Event

After the creation of all archive files for an archiving session has been completed, the *Archive Development Kit (ADK)* triggers the system event `SAP_ARCHIVING_WRITE_FINISHED`. As a result of the reaction to the system event, you have the option of scheduling subsequent archiving jobs automatically. These include refilling indexes or value help as well as saving archive files prior to deletion. The event parameter is always the number of the archiving session.

For additional automation of the archiving process, you can transfer the archiving session number to the function module `ARCHIVE_GET_FILES_OF_SESSION`. This determines the platform-independent name and path of the archive files that were written for an archiving session.

To define new jobs, use transaction *SM36*. To maintain events, use transaction *SM62*.

Procedure

- 1. Call Archive Administration (transaction `SARA`).
  2. On the initial screen, enter the name of the archiving object in the *Object Name* field.
  3. Choose *Write*.
     A new screen, on which you can schedule a background job for the write program, appears.
     If archiving for the archiving object was executed or interrupted and if archiving files that have not yet been processed by the relevant deletion program still exist for the archiving session, the systems points this out.

> ⚠ **Caution**
>
> Multiple archiving of data can lead to problems. For this reason, some archiving objects required that data does not exist multiple times this could lead to incorrect results, for example, in totals formation.
>
> Make sure that:

- ○ The new write job you want to plan does not select any data contained in the archived files that have not yes been processed by the deletion program.
- ○ No variants with overlapping selection values are used at the same time.

> ℹ **Note**
>
> If the variant you have chosen is already being used in another jobs, display these with the *Jobs with Selected Variant* pushbutton and delete if necessary.

4. Use the F4 help to choose a variant. If there is no variant available, choose *Variant* and enter the relevant variant. For more information about variant maintenance, see Variant Maintenance for Archiving Jobs [page 733].

> ⚠ **Caution**
>
> If, in archiving object-specific Customizing for the deletion program, the *Start Automatically* checkbox is selected and you have chosen a product variant for the write program, the deletion program then starts its product variant. This means that after archiving, the data is deleted from the database.

5. Enter the Start Date [page 736] and the Spool Parameter [page 735].

> ℹ **Note**
>
> Before you start archiving, you can use the *Archive Directory* pushbutton to determine the amount for available storage space in the current object-specific archive directory. However, this function is not suitable for HSM system.

Results

You have now entered all data required for the background job. To create the job, choose *Execute*.

> ℹ **Note**
>
> After all archive files have been completely written for a run, ADK starts the system event SAP_ARCHIVING_WRITE_FINISHED. This triggers subsequent processes, such as file backup using external tools.

The *Goto* menu offers access to the following:

- Customizing [page 698]

- Job Overview Offers an overview of all archiving jobs and the functions available for processing them. For more information on the job overview, refer to .
- Administration [page 672]
- DB Tables [page 667]
- Information System [page 737]

> ℹ **Note**
>
> You can view the logs for the started process from the initial screen of Archive Administration by choosing Logs [page 692].

21.1.5.4 Storing Archive Files

Prerequisites

- An external storage system is linked to your SAP System. If you use a Hierarchical Space Management system (HSM) as a store, enter the file path in transaction `FILE`,
- The content repository, to which you want to transfer the file, has been maintained in archiving object-specific Customizing for the archiving object.
- You are in Archive Administration of the archiving object for which you want to store files.

Context

If you have not specified in archiving object-specific Customizing that archive files are to be transferred automatically after their creation to a connected storage system, you can store the archive files retroactively by using the *SAP Content Management Infrastructure*.

Procedure

- 1. Choose *Storage System*.
     The *Store/Retrieve Archive Files menu* selection screen appears.
  2. Choose *Store Files*
     The *Archive Administration: Store/Retrieve Archive Files* selection screen appears.
  3. Use *Archive Selection*, to select the archive files you want to store and specify the start date.
  4. *Confirm the storage request by choosing Execute.*
     The selected archive files will be transferred to the storage system at the specified time.

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Next Steps

21.1.5.5 Retrieving Stored Archive Files

Prerequisites

- You are in Archive Administration of the archiving object from which you want to retrieve files.
- The archive files for retrieval are accessible from Archive Administration.

Context

You use SAP Content Management Infrastructure (also contains the ArchiveLink/CMS interface), to retrieve archive files stored in a storage system into the SAP system for further processing such as evaluation.

Procedure

- 1. Choose *Storage System*.
     The *Store/Retrieve Archive Files menu* selection screen appears.
  2. Choose *Retrieve Files*
     This takes you to the *Archive Administration: Retrieve Files* screen.
  3. Use *Archive Selection*, to select the archive files you want to retrieve and specify the *Start Date* for the retrieval.
  4. Confirm the retrieval by choosing *Execute*.

Results

The selected archive files will be retrieved into the SAP system at the specified time for further processing.

See also:

21.1.5.6 Deleting Archived Data from the Database

Prerequisites

- In Archive Administration, there are archiving sessions for which the delete phase is not yet complete.
- You have waited for the write phase to be completed.
  More information: Settings for the Delete Program [page 705]

Context

In the third archiving step (after creating and storing archive files), Archive Administration starts the delete program. This reads the archived data from the archive file and deletes it from the database.

Depending on the settings you have made in archiving object-specific Customizing, the deletion process for an archive file can run at the same times as the creation of new archive files.

If you want to save the archive files prior to deletion or if you the next available timeframe for the delete phase is insufficient, you can schedule the delete program manually. You do the scheduling in Archive Administration (transaction *SARA*), directly with an external job scheduler, or you use the program RSARCHD.

> **i Note**
>
> If you do not carry out deletion until after the archive file has been stored, you can make a setting in Archiving Object-Specific Customizing so that the system will read archive files the from the storage system during deletion. In this way, you can detect early on errors that might arise when transferring or saving the archive files in the storage system.

Delete Run Followed by Event

After all delete jobs for an archiving session have been completed, the Archive Development Kit (ADK) triggers the system event SAP_ARCHIVING_DELETE_FINISHED. As a result of the reaction to the system event, you have the option of scheduling subsequent archiving jobs automatically. These include refilling indexes or the value help as well as saving archive files. The event parameter is always the number of the archiving session.

For additional automation of the archiving process, you can transfer the archiving session number to the function module ARCHIVE_GET_FILES_OF_SESSION. This determines the platform-independent name and path of the archive files that were written for an archiving session.

To define new jobs, use transaction SM36. To define events, use transaction SM62.

> **i Note**
>
> You can also schedule *event-controlled* delete runs to start automatically. You can define the event that triggers the delete program in the *Settings for the Delete Program* group box in archiving object-specific Customizing.

Procedure

- 1. Call Archive Administration (transaction `SARA`).
  2. On the initial screen, enter the name of the archiving object in the *Object Name* field.
  3. Choose *Delete*.
     This takes you to a screen in which you can schedule a background job for the program.

     > **i Note**
     >
     > If you only want to run the delete program for test purposes (so that the data is not deleted from the database), select the *Test Mode* checkbox.

  4. Choose *Archive Selection*.
     This takes you to a dialog box that contains the archiving sessions for this archiving object. This should be the current archiving session.
  5. If you want to edit a complete archiving session, select an archiving session and choose *Continue*. You return to the initial screen.
     f you want to edit one or more specific archive files, expand the archiving session. Select the required archive files, than choose *Continue*.
  6. Enter the start date and the spool parameter.
     More information:
     Entering the Start Date [page 736]
     Entering the Spool Parameter [page 735]

Results

You have entered all data required for the background job. Start the job with *Execute*.

> **i Note**
>
> You can view the logs for the started process from the initial screen of Archive Administration.
>
> More information: Logs [page 692]

21.1.5.7 Scheduling Postprocessing for Data Archiving

Prerequisites

A postprocessing program exists for the archiving object (not all archiving objects have a postprocessing program).

> **i Note**
>
> The postprocessing program processes the data after the archiving session in the database, for example, by deleting log data that is no longer required or by updating statistics. For this, no access to the archive files is required. Postprocessing is not usually necessary.

Procedure

- 1. On the initial screen for Archive Administration, choose *Postprocessing*.
  2. On the *Archive Administration: Postprocessing* screen, you schedule the archiving job by entering the variant, the start date, and the spool parameter.
     More information:
     Creating the Archiving Job Variant [page 733]
     Entering the Start Date [page 736]
     Entering the Spool Parameter [page 735]

     > **i Note**
     >
     > You use the *Archive Directory* pushbutton to determine the amount for available storage space in the current object-specific archive directory.

Results

You have scheduled a background job and can execute it.

21.1.5.8 Reloading Archives

Prerequisites

> **⚠ Caution**
>
> The reloading function is intended for emergencies, such as an error in Customizing or selecting the wrong documents for data archiving. Therefore, data should be reloaded immediately after the erroneous archiving session. If you reload the data later you may end up with inconsistencies in your database.

- You are on the *Archive Administration: Initial Entry* screen of the transaction *SARA*. The name of the archiving object is entered in the *Object Name* field.

- Archive Administration has access to the archive files to be reloaded.

> **i** Note
>
> When reloading data, the system can only process complete archiving sessions. Archive files can be reloaded completely or partially. In either case the archive file is marked as reloaded. Objects that were not reloaded are written to a new archive file.

Procedure

- 1. Choose ▶ *Goto* ▶ *Reload* ▶.
     This takes you to a screen in which you can schedule a background job for the program.
  2. Choose *Archive Selection*.
     This takes you to a dialog box that contains the archiving sessions processed by the delete program.
  3. Select the desired archiving session and choose *Continue*.
     You return to the initial screen.
  4. Enter the Start Date [page 736] and the Spool Parameters [page 735].

Results

You have now entered all data required for the background job. To create the job, choose *Execute*.

See also:

Creating Archive Files [page 723]

Archive Selection [page 685]

21.1.5.9 Filling and Emptying the Index

Prerequisites

You are on the *Archive Administration: Initial Entry* screen of the transaction SARA. The name of the archiving object is entered in the *Object Name* field.

Procedure

- 1. Choose *Index*.
     The *Filling and Emptying Index* dialog box appears.
  2. Choose *Fill Index* or *Empty Index*.
  3. Define the variant, select the archive, and enter the start date and the spool parameter.
     More information:
     Selecting the Archive [page 685]
     Entering the Start Date [page 736]
     Entering the Spool Parameter [page 735]
  4. Choose *Execute*.

21.1.5.10 Reading Archive Files

Use

In addition to the data in the online database, archived data can also be read or analyzed. When data is analyzed, it is read sequentially and elementary information such as item number, customer, and order date is displayed in list form. It is possible to run an analysis for one or several archiving sessions. Not all archiving objects offer an analysis program.

Prerequisites

- The archive files to be read are accessible from Archive Administration.
- There is at least one read program for the archiving object used.
- You are on the *Archive Administration: Initial Entry* screen (transaction `SARA`). You enter the name of the archiving object in the *Object Name* field.

Procedure

1. Choose *Read*.
   This takes you to the *Archive Administration: Start Read Program* screen, where you can schedule jobs.
2. In the *Batch/Dialog* field, you define whether the read program will run in the background (batch) or online (dialog).
3. In the *Read Program* field, enter the required read or analysis program and choose *Execute*.
   Depending on the selected archiving object, you access a specific selection screen. You more information, see the documentation for the relevant archiving object.
4. Enter the your selection and choose *Execute*.
   This takes you to the *Archive Administration: Select Files to Read* dialog box. For more information, see Archive Selection [page 685].

5. Select the archive file that you want to read or analyze and confirm the selection by choosing *Continue*.

The *Goto* menu offers access to the following:

- Customizing [page 698]
- Job Overview Offers an overview of all archiving jobs and the functions available for processing them. More information: .
- Administration [page 672]
- DB Tables [page 667]
- Information System [page 737]

More Information

Archive Information System [page 737]

Reporting Information Structures [page 742]

21.1.5.11 Variant Maintenance for Archiving Jobs

Use

When you schedule jobs for the execution of archiving programs, such as the preprocessing, write or delete programs, you must enter a variant. The purpose of this variant is to define which data is to be processed and to allow the user to make other settings that are necessary for the processing of the data.

These variant settings can be made when you are scheduling jobs, using the *Maintain* function.

Features

Variant maintenance is always dependent on the corresponding archiving object. Therefore, the variants may vary considerably depending on the archiving object. These differences, however, occur mainly in the section of the variant maintenance, in which the data selection takes place. For more information about the variant maintenance for a specific archiving object, see the corresponding documentation for the archiving object in the SAP Library.

The rest of the variant maintenance is the same for most archiving objects. The following settings are possible (depending on the type of program to be scheduled: write, delete, and so on).

Under **Process Control**, you determine whether the process is to run in the test or production mode.

- *Test Mode*
  In the test mode, the program is only simulated. Depending on the program, either no archiving files are written, or no data is deleted from the database.
- *Productive Mode*

In this mode the data is physically processed, according to your selection criteria and, if applicable, additional archiving-object-specific criteria. For example, during the delete phase data is actually removed from the database by the delete program.

Additional settings you can make in the variant maintenance function:

- *Detailed Log*
  In this field you can decide whether a detailed log (*Complete* option) is to be generated in addition to the summarized log during the execution of the program. The summarized log contains each message only once. For each message the number of affected objects is listed as well as an example of an object. The detailed log contains all processed objects including the corresponding messages. If you choose *Without Success Messages*, no success messages are written to the detailed log.

  > ➡ Recommendation
  >
  > Detailed logs should only be generated if you are processing a small number of objects, or, for example, in the test mode. Otherwise the program may terminate, due to a memory overflow.

- *Log Output*
  Here you can determine, whether the log should be output into the *List* (spool for background programs), to the *application log*, or to both.
  The advantage of the application log output is that the log messages are displayed during the program runtime. (With background programs this occurs every 30 minutes and with dialog programs, every 10 seconds). Logs that were output to the list can only be viewed after the program has finished.
  With the list output you have the option to automatically store the log in a storage system (see *Spool Parameters* under job scheduling). Logs that were written to the application log can only be stored manually from within the display view. Moreover, logs that were output to the list, are automatically removed when the corresponding background job is deleted. Logs written to the application log must be deleted manually.

  All logs can be displayed from within Archive Administration by choosing ▐ *Goto* ▶ *Logs* ▌. For more information, see Logs [page 692].

- *Comment on Archiving Session*
  Here you can enter a short text that helps you identify and better find the archiving session in Archive Administration.

See also:

Logs [page 692]

21.1.5.12 Entering the Start Date and Spool Parameters

Use

On the initial screen for scheduling the following archiving activities, you need to enter the start date and the spool parameters:

- Write
- Delete
- Read

- Fill and Empty the Index
- Store and Provide Archive Files
- Schedule Preprocessing
- Schedule Postprocessing
- Reload

Features

The *Start Date* and *Spool Parameters* pushbuttons are followed by a traffic light icon and a note. The table lists the three possibilities.

Table 180:

Traffic Light	Note
Red	The values are not entered.
Yellow	The values have already been maintained in this session, for the current action or the values for the spool parameters were taken from the user settings or from the user-specific print parameters.
Green	The values are entered.

Activities

21.1.5.12.1 Entering Spool Parameters

Prerequisites

You are in Archive Administration (transaction `SARA`) and have selected one of the following actions:

- Write
- Delete
- Reload

> **ⓘ Note**
>
> If the spool parameters are already maintained in the user-specific print parameters, these values are automatically copied Otherwise, you only have to maintain the spool parameters once after entering the Archive Administration transaction. The settings remain valid until the end of the archiving session.

Procedure

- 1. Choose *Spool Parameter*.
     The *Background Print Parameters* screen is displayed. Here, you can maintain the settings for the printing the archiving log.
  2. Enter the general parameters for the *printer*, *number of printouts*, and *number of pages*.
  3. Under *Attributes*, you can maintain a range of further attributes for spool requests.
  4. Choose *Continue*.

Results

The spool parameters for printing the archiving log are entered. If you have also made your archive selection and entered the start date, you can now schedule the required archiving action.

Next Steps

Entering the Start Date [page 736]

21.1.5.12.2 Entering the Start Date

Prerequisites

You are in Archive Administration (transaction *SARA*) and you have selected one of the following actions: Write, delete, or reload.

> **ⓘ Note**
>
> You have to enter the start date only when you execute the first action of an archiving session. The start date is retained until the end of the archiving session.

Procedure

- 1. Choose *Start Date*.
     You reach the screen for maintaining the start date values.
  2. Choose one of the buttons for defining the desired start date, and maintain the parameters in the fields available.
     To schedule periodic jobs, use the *Period Values* function to enter the required start values.
     Use the *Restrictions* pushbutton to define restrictions for the start date.
  3. Choose *Continue*.

Results

You have entered the start date for the archiving action. If you have also made your archive selection and entered the spool parameters, you can now schedule the required archiving action.

Next Steps

21.1.6 Archive Information System

Use

The *Archive Information System (AS)* is a generic tool for indexing data archives that is fully integrated into the SAP data archiving environment . The indexes that are created, and which are called the *Archive Information Structure*, let you display the archived data.

> **i Note**
>
> In this documentation the terms archive information structure and information structure (or infostructure) are used as synonyms.

Features

The archive information structure includes the following components:

Archive Retrieval Configurator (ARC)

The ARC enables you to create archive information structures with the help of field catalogs, and to fill the structures with data from the archive. The archive information structure, which represents a kind of archive index, provides the basis for archive data reporting.

In the Archive Retrieval Configurator, you can decide whether you want to store your archive information structures on the standard database of the SAP system or on a secondary database (Sybase IQ). Storing archive information structures on a Sybase IQ database provides faster access to your data and relieves the SAP system database as the archiving indexes are stored on an "external" database. For more information, see SAP Library for SAP ERP under ▶ *Cross-Application Functions in SAP ERP* ❯ *Cross-Application Components* ❯ *Information Lifecycle Management* ❯.

Archive Explorer

The Archive Explorer enables fast searches of archived data. It does this by accessing the archive information structures that have been created and then stored in transparent database tables using the Archive Retrieval Configurator. Furthermore, the Archive Explorer allows direct access of individual data objects in the archive, which can then be displayed in both technical and application-specific views.

See also:

Using the Archive Information System [page 738]

21.1.6.1 Using the Archive Information System

Use

This process describes the step-by-step procedures for using the Archive Information System (AS).

> **i** Note
>
> Reloading archived data can lead to problems with the Archive Information System, as the available information structures are not updated automatically.
>
> More information: Procedure for Reloaded Archives [page 743]

Procedure

1. Checking available information structures

First you should check if an information structure already exists that you could use for reporting archived data. You can then change this information structure to suit your needs. If there is no information structure available that you can use, you can create a new one.

2. Creating the information structure

You define the information structure to be used for archive reporting. In doing this, you specify which source fields from the archive are copied to which fields in the information structure. You do this with the help of application-specific field catalogs, which are included in the features of the Archive Information System.

An information structure is only ever valid for one archiving object. Multiple information structures can be defined for one archiving object. For more information, see Creating Information Structures [page 739].

3. Activating the information structure

After you have created an information structure, you need to activate it. Alternatively you can use a standard information structure, provided that it fits your requirements.

At this stage, the system generates a transparent database table and the reporting program. For more information, see Activating Information Structures [page 740].

4. Filling the information structure

During an archiving delete run all (activated) archive information structures belonging to an archiving object are filled automatically. To do so, the *Archive Development Kit (ADK)* transfers all data records found in the archive to the AS interface. From the defined infostructure, the AS filters the data from the data records transferred and enters it in a transparent database table together with an access key. This table serves as the basis for later searches.

As well as the automatic fill using the delete program, an information structure can also be filled later for already available archives This can be useful if you want to fill the information structure, report data that was already archived, or if you have changed the fields of an information structure. For more information, see Filling Information Structures [page 741].

5. Reporting information structures

In *Archive Explorer*, define the archiving object and the information structure from which you want to report. In the selection screen, where necessary, specify the display parameters for the archived data. Select a data object from the list of data objects and, where possible, specify the view in which it is to be displayed. For more information, see Reporting Information Structures [page 742].

> ℹ **Note**
>
> As well as standard reporting, there is also a special *ad-hoc reporting* function available that enables direct reporting from archives. There is no need to fill the archive information structure with data from the archive.

21.1.6.1.1 Creating an Information Structure

Procedure

1. On the initial screen for *Archive Retrieval Configuration (ARC)*, choose ▶ *Archive Infostructure* ❯ *Create* ❯.

2. Enter the required data.

   This includes the name of the new archive information structure, the archiving object for which the information structure is intended, as well as a field catalog that you can select by choosing the *F4* input help. In the field on the right you can also enter a short text for the information structure.

3. Choose *Create*.

4. In the *Selectable Fields* frame, select all the fields that you want to include in the information structure.

5. Choose *Include Selected Fields*.

   The selected fields are included in the information structure in the *Infostructure Fields* frame.

6. Save your entry. Choose *Return* to go back to the ARC entry screen.

Next Steps

21.1.6.1.2 Activating and Deactivating Information Structures

Procedure

You are in the initial screen of the Archive Retrieval Configurator (ARC).

Activating an Information Structure

1. Choose ▌▶ *Archive Infostructure* ❯ *Activate* ❯. The information structure is activated. This structure will be filled automatically during the next delete phase for this archiving object.

2. Optional: If necessary, you can fill an active information structure for existing archives retroactively. More information:

The consequences of activation are:

- The archive info structure can be reported in the Archive Explorer.
- You can display status information about this information structure.
- You cannot make any changes to the information structure.

Deactivating an Information Structure

In the menu, choose ▌▶ *Archive Infostructure* ❯ *Deactivate* ❯.

This ensures that the system ignores this information structure during the next delete phase for the archiving object or if the archive information structure is filled retroactively.

> ℹ Note
>
> You can make changes to an inactive information structure. However, if you make changes, note that you might also have to regenerate the table. When doing this, you must delete the data in it. Finally, you must refill the information structure.

21.1.6.1.3 Filling and Emptying Information Structures

Prerequisites

- You are in the initial screen of the Archive Information System (transaction `SARI`).
- The information structure to be filled has been created and activated.

> **i Note**
>
> An information structure can only be filled for archive files that have already been processed by the delete program.

Procedure

Filling Information Structures

1. Choose *Status*.
   You are now in Status Administration:
2. Enter the name of the archiving object for which you want to fill and information structure.
3. Choose *Status per Infostructure*.
   This takes you to the selection screen for archive information structures.
   More information: Status per Infostructure [page 746]

   > **i Note**
   >
   > When filling the info structure, you can also select individual archiving sessions. Choose *Status per Archive*.

4. Select the archive infostructures that are to be filled with data from the archive.
5. Choose *Fill Structures* and enter your desired processing type in the dialog box that appears. Confirm your entry. The information structure is filled.

   > **i Note**
   >
   > Alternatively you can trigger the filling of an info structure from the Archive Retrieval Configurator entry screen. Enter the relevant information structure and then select ▌ *Environment* ❯ *Fill Structure* ▌. This takes you to the *Status per Info Structure* screen.

Emptying Information Structures

1. Select the archive information structures or archiving session that you want to empty.
2. Choose *Empty Structures*.
   The system empties the information structures.

21.1.6.1.4 Reporting Information Structures

Prerequisites

- You have created and filled the information structure on which reporting is to be based.
- The initial screen of the Archive Explorer appears.

Procedure

- 1. Enter the name of the information structure. It must be active.
     To select an information structure, you can also enter the name of an archiving object and use `F4` to display all active information structures belonging to the object.
  2. Choose menu option ▶ *Archive Infostructure* ❭ *Reporting* ❭.
     This takes you to the Archive Explorer selection screen.
  3. Enter selection criteria to establish which data you want the reporting to read.
     If you do not want to restrict the selection, choose *Execute*.
  4. Choose *Execute*.
     The system displays the information structure list. It contains all of the data that the reporting program has read from the fields contained in the information structure.
  5. Double click on the entry you want to access the archive directly. If more than one view is defined for this object, a dialog with a choice of views appears.

     > **i Note**
     >
     > Depending on the archiving object, the dialog box offers a technical view or a business view or both. Multiple business views are also possible.

  6. Select the desired view and confirm with *Continue*.
     This takes you to the table overview for the selected data object.
  7. To display the table contents, click on the magnifying glass symbol for a table (similar to the display function in transaction *SE16*).

Results

You are now at the lowest level of data, that is the field level for the archived object. You can take the information directly from the table.

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PRA Archiving

Next Steps

21.1.6.1.5 Procedure for Reloaded Archives

Context

After archived data has been reloaded, the system does not automatically update the archive information structures, so the Archive Information System status display displays an error. You must therefore perform the update manually.

Prerequisite

- Archived data has been reloaded into your system.
- You are in Status Administration of the Archive Information System.

Procedure

- 1. Choose the *Status per Archive* view.
  2. Select all of the archiving sessions whose files were reloaded (these sessions have the status *Reloaded*).
  3. Empty the information structures for the reloaded archive files using *Empty Structures*. You can usually do this online. Scheduling as a background job is not necessary.

Results

The reloaded files have now disappeared from the display. If new archive files have been created during the reload, proceed as follows:

1. Continue with the *Status per Archive* view.
2. Select the archiving sessions that were created by the reload (these sessions have the comment *Created by reload from <session>*).
3. Fill the information structures for the newly created archive files.
   More information: Filling and Emptying Information Structures [page 741].

> **i Note**
>
> If you performed this sequence in reverse order, in certain circumstances, the fill status of the newly created archive files can appear as *Incorrect*. If this occurs, empty all of the information structures for which the fill status is *Incorrect*. Perform the steps according to the standard procedure.

21.1.6.1.6 Status

Use

The Status function allows you to check whether an information structure has already been filled. Using this information, you can then fill or empty specific information structures. Furthermore, you can check the actual indexing as well as the retention of archive files.

You can go to the status screen either from the initial screen of the archive information system or from the *Archive Retrieval Configurator* (choose ▶ *Environment* ❯ *Fill Infostructure* ❯).

Prerequisites

There must be at least one activated information structure for the archiving object.

Status per Archive

This function provides a list of the available archiving sessions and the information structures assigned to them. You can see from the list for which archiving sessions the activated structures have been completely filled.

More information: Status per Archive [page 745]

Status per Infostructure

This function provides a list of the statuses of the activated information structures. From this, you can see whether an information structure has been completely filled with all archived data or data otherwise removed from the database.

More information: Status per Infostructure [page 746]

Checking Indexing

This function checks the actual indexing of an archive file, that is, it checks whether data has been passed from the source fields to the information structure. The affected archive files are marked accordingly.

You can call the *Check Indexing* function from the *Extras* menu.

Displaying File Residence

This function checks the residence of an archive file, that is, it checks whether Archive Administration can access the file. The affected archive files are marked accordingly. A file can only be used to fill an information structure if is accessible by Archive Administration. Otherwise direct access to the data object is only possible with the Archive Explorer.

You can call the *Display Residence* function from the *Extras* menu.

Filling or Deleting Information Structures

- Use *Fill Structures* to fill information structures with data from the archive.
- Use *Empty Structures* to delete the contents of information structures.

More Information

21.1.6.1.6.1 Status per Archive

Use

The following status information is displayed:

- Archiving session identification, date, and status
- Information structure fill status per archive file
- Description of the information structure
- Name and status of the archive file

> **i Note**
>
> Choose *Compress* to restrict the display to the archiving sessions. This gives you a better overview when you want to select individual sessions. This function cannot be applied to individual archiving sessions.

The traffic light displays the following statuses:

Green: The system has already filled an information structure for this session.

Yellow: The system has filled an information structure for this session, however, all of the archive files could not be fully reported.

Red: The system has not yet filled an information structure (indicated by -) or has only partially filled an information structure.

An archive file can have the following statuses:

1) Complete

This archive file has been completely incorporated into the specified archive information structure.

1) Errors

This archive file has *not* been completely incorporated into the specified archive information structure.

1) -

This archive file was not selected when the archive information structure was filled.

The *Complete* status tells you that these archive files have been searched completely for source fields. However, it does not tell you anything about the indexing of the files, that is, whether data has actually been moved from the source fields to the information structure. You can check the indexing with the help of the *Check Indexing* function in the *Extras* menu.

More Information

21.1.6.1.6.2 Status per Infostructure

Use

The following status information is displayed:

- Description of the information structure
- Archiving object name
- Archiving session identification, date, and status
- Information structure fill status per archive file
- Name and status of the archive files

> **i Note**
>
> Choose *Expand* to display the complete list of status information. This expands the list to include the fill status for the information structure. The name and status of the archive file are also displayed. This function cannot be applied to individual information structures.

The traffic light displays the following statuses:

- Green: The system has fully reported all archiving sessions for this information structure.
- Yellow: The system cannot report, or can only partially report, some of the archiving sessions for this information structure.
- Red: The system has not yet reported any archiving sessions for this information structure (indicated by "-").

An archive file can have the following statuses:

- *Complete*
  This archive file was completely incorporated when the archive info structure was filled.

  > **i Note**
  >
  > The status tells you that the archive file has been searched completely for source fields. However, it does not tell you anything about the indexing of the file, that is, whether data has actually been moved from the source fields to the information structure. You can check the indexing with the help of the *Check Indexing* function in the *Extras* menu.

- *Erroneous*
  This archive file was *not* completely incorporated when the archive info structure was filled.

- *-*
  This archive file was not selected when the archive info structure was filled.

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More Information

21.1.6.1.7 Creating Database Indexes

Use

To avoid long runtimes when archive information structures are accessed, we recommend that you create a database index for every infostructure. The index helps speed up accesses to the database table of the infostructure. If you are using an infostructure that does not have a database index, you can use this function to create an index.

> ➡ Recommendation
>
> Do not create your own database indexes for SAP infostructures, because this may create problems during the transport of the infostructures, due to naming conventions. Instead, copy the relevant SAP infostructure into your own namespace and then create an index for the new infostructure.

Integration

The data of the infostructure is saved in the database table, which is generated when the infostructure is activated, that is, directly in the production system. Because productive systems are protected against changes to cross-client objects (settings in system change option), it is not possible to create database indexes for generated Archive Information System tables. Instead, you can use the function described below, provided by the Archive Information System, to do so.

Features

To create a database index for an infostructure, simply define it The index will then be generated when you activate its infostructure in the database. The index definition is stored in table AIND_STR8.

To use the function for the definition of a database index from the Archive Information System, choose
▌ *Customizing* ❯ *Goto* ❯ *Database Index* ▐.

You will see a table whose rows correspond to the fields of the index you want to define. The columns of the table have the following meanings:

Table 181:

Column	Meaning

Index Name	Name under which the index is saved in the ABAP dictionary
Position	Position of a field in the index
Field Name	Technical name of the filed in the infostructure

Assign the relevant fields to the table. If you need the field MANDT (Client), then you must incorporate it manually.

Note the following when you work with database indexes for archive information structures:

- Entries in table AIND_STR8 are transported automatically together with the infostructure. You only need to trigger the transport manually if the infostructure itself is not to be transported.
- If you delete an infostructure, the corresponding entries in table AIND_STR8 are also deleted.
- If you remove a field that is also part of an archive index from an infostructure, you must adapt table AIND_STR8 manually, otherwise you will encounter problems when you try to activate the infostructure.
- The system only recognizes index definition entries if no database table exists yet for the infostructure. Therefore, you may have to delete the database table of the infostructure. You can find this function in the Archive Information System under ▶ *Customizing* ❯ *Utilities* ❯ *Delete Table* ◗.

> ℹ **Note**
>
> Creating or changing a database index for an already existing infostructure generally means long runtimes, because you must deactivate the infostructure, delete the corresponding tables, activate the infostructure, and then refill it. You can use program ASCORRINDX to make changes to database indexes without having to delete the corresponding infostructures and fill them again. For more information about how to use this program see the corresponding program documentation.

Example

The index definition for the standard infostructure SAP_FI_DOC_002 contains the following rows:

Table 182:

Index Name	Position	Field Name
LIF	10	MANDT
LIF	20	LIFNR
LIF	30	BUKRS
REF	10	MANDT
REF	20	AWKEY

When you activate the infostructure a database table with two indexes is creates: The index LIF contains the fields MANDT, LIFNR, and BUKRS (in that order), and the index REF contains the fields MANDT and AWKEY.

21.1.6.1.8 Partitioning

Use

The database tables that are generated when you create new archive information structures can become extremely large over the duration of their usage. This puts an increased pressure on the database and makes it more difficult to handle the infostructures and tables. To combat this effect, you can use partitioning to divide up the infostructures in such a way that the system distributes the data across several tables instead of writing it into one single table. This facilitates the administration of the database, which is more difficult with large data volumes.

Features

Configuration of Partitioning

You can call partitioning from the Archive Retrieval Configurator (transaction SARJ) by entering an infostructure and choosing ▶ *Goto* ❯ *Partitioning* ❩.

To configure the partitioning function, in the *From Date* field, enter the date as of which the system is supposed to write the entries for the infostructure into a new table. The date refers to the **creation date of the archiving session**. If required, you can also enter the name of the table that is to be generated in the *Table Name* field. If you do not want to specify a name, the system automatically generates a table name that corresponds to the infostructure. The tables are not generated until the first data record is written, which would be either during the delete phase or during the subsequent filling of the infostructure.

> 🟧 Example
>
> The following configuration data has been entered for partitioning:

Table 183:

From Date	Table Name
01.01.0001	
01.02.2005	
14.04.2005	

Based on these entries, the system would generate a separate database table for the following time periods: "Until 01.31.2005", "02.01.2005" until "04.13.2005"and as of "04.14.2005".

For a detailed example of a partitioning scenario, see Example: Partitioning an Infostructure [page 753].

> ⚠️ Caution
>
> The configuration entries for partitioning logically belong to the infostructure. This means it is cross-client and is transported and shipped together with the infostructure. Changing the configuration settings means a modification of the infostructure. Therefore, never change the partitioning of infostructures that are not

The partitioning concept is so flexible that you do not have to specify that partitioning is to take place from the outset. In the case of large data volumes, rebuilding the infostructure would be very resource intensive. This means that data that has already been built does not need to be changed. All accesses to the Archive Information System remain intact. This applies to the Archive Explorer and to programmed accesses with the function module AS_API_READ or other interfaces to the Archive Information System.

Predefining Tables

In addition to partitioning you also have the option of predefining a table or several tables for a specific infostructure. This has the following advantages:

- The name of the predefined table is determined when configuration takes place. You can choose a name from within your namespace or a name that matches your requirements. If you do not specify a table name the system automatically generates a name, which you cannot influence.
- The table you specify is generated in the development or Customizing system and is then transported to the production system. This allows you to still make changes to the table, such as other technical settings or a different short text. In addition, the table has the same name in all systems, which is not the case for the automatically generated AS tables (ZARIX tables). This facilitates the administration of the system landscapes.

When you specify a table in the configuration, the system checks whether this table already exists. If so, it checks whether the table matches the infostructure and rejects the entry you made if necessary. If the table does not exist, the system asks you whether you want to generate the table. If you say yes, the table is generated in such a way that it corresponds to the infostructure.

> ℹ **Note**
>
> We recommend that you always instruct the system generate these tables. This means you can be sure that the structure of the table always matches the infostructure. We also recommend that you enter the same data for the object directory entry as that of the infostructure. This is particularly important for package assignments.

Displaying Partitioning

You can use the display function to view the current settings of the partitioning of an infostructure. You can call up the display function from within the status management of the Archive Information System by choosing ▶ *Goto* ▶ *Partitioning* ▶ or from within the display of an infostructure in Customizing by choosing *Technical Data*.

- *Partitioning Configuration*
  This area on the display screen shows how partitioning was configured.
- *Current Partitioning*
  This area shows which tables the system used during which time periods so far. For the time periods that were entered in the configuration and that appear in this area, the system uses the assigned table also in the future. When the first record for the corresponding interval is written to the infostructure, the system sets the *Change On* date for that particular table. The entry that does not have a change date contains the table that was generated when the infostructure was first activated (normal AS table). This table only serves as a reference structure for partitioned infostructures.
  Tables that have the *G (Generated)* indicator, have been generated.

If an entry only has the indicator *N (Read Only)* indicator, it means that the Archive Information System does not write any more entries to this table. It only reads from this table. This happens when you change partitioning, by, for example, grouping several time periods together. this is the case, the system sets the tables used up until then for the individual tables to read only mode.

- *Assignment of Tables and Files*
  This area shows all the archive files that have entries in the infostructure. It lists the corresponding tables where the entries can be found. This relationship is unique. A table always contains the complete set of entries of an archive file. The system uses this information especially for the deletion of infostructure contents.

See also:

21.1.6.1.8.1 Copying of Infostructure Data

Use

You can use this function to copy data from one infostructure to another.

Similar to other standard objects in the SAP system, SAP infostructures cannot be changed without running the risk of a modification. This also includes changes to the partitioning of SAP Infostructures. If, however, a SAP Infostructure contains data that you want to copy, you must delete all that data and rebuild it, in order for the data to be copied to one of your own infostructures. This procedure is possible, but, depending on the amount of data to be copied, can take a long time.

A good alternative for your purpose is the function for copying infostructure data.

Prerequisites

The prerequisites must be fulfilled so you can copy data from one infostructure to another.

- The target infostructure already exists. The system only copies the data from source infostructure, not the definitions of the data.
- Both infostructures are consistent. This applies to the definition of the infostructures and for their fill status. The copying of infostructure data is not a correction program.
- The source infostructure may not have a predefined table in the partition configuration. f the source infostructure lies within your own namespace (such as a customer-specific infostructure), you first remove this table from the configuration of the source infostructure. After you have copied the data you can enter this table in the configuration of the target infostructure.
- The source infostructure contains all the fields of the target infostructure. In addition, all the key fields of the target infostructure must also be key fields of the source infostructure. Note that the target infostructure may have fewer fields than the source infostructure.
- The field types of the target infostructure correspond to the field types of the source infostructure. This only applies to the technical field types. The data elements may be different, but not the field length.
- The target infostructure should be empty.

> ➡ Recommendation
>
> To avoid functional changes or problems when using the AS modules, we recommend that you fill the target infostructure on the basis of the same field catalog as that of the standard infostructure that you want to copy.

Features

You can call this function from within the Archive Retrieval Configurator (transaction SARJ) by choosing ▶ *Utilities* ❯ *Copy Data* ❯ or by executing the program AS_DATA_MOVE.

To copy the data you need to enter a *Source Infostructure* and a *Target Infostructure*.

Executing this function only takes a few seconds. It may, however, take longer, if the infostructures contain several thousand archive files, for example. However, the runtime does not depend on the number of entries in the infostructures. After you have executed the program, the source infostructure is empty and inactive. The target infostructure contains the data of the source infostructure and is active if it was active before, or if the source infostructure was active.

The data transfer does not actually take place through copying, but rather by "moving" the tables. The system simply assigns the tables of the source infostructure to the target infostructure by entering the tables of the source infostructure into the current partitioning of the target infostructure and adjusting the status administration. For this simple moving of data to take place, however, the above prerequisites must be fulfilled.

Example

You have an active SAP infostructure that already contains a large amount of data. This infostructure does not use partitioning and does not have any predefined tables. You want to copy the data of an SAP infostructure to one of your own infostructures. To do this, proceed as follows:

1. In the development or Customizing system (the system in which you make the developments and changes that are not permitted in the productive system) you create your own infostructure. The new infostructure should look exactly like the infostructure to be copied.
2. You make the desired changes to the new infostructure. In particular, you can configure the partitioning.
3. You transport the new infostructure into the productive system and leave it as inactive.

> ℹ Note
>
> Make sure that during the next step no archiving session, delete session, or filling of an infostructure takes place for the archiving object in question.

4. In the productive system, you copy the data of the SAP infostructure to the new infostructure (see above).

As a result of this procedure, the infostructures now have the following characteristics:

Table 184:

The SAP infostructure is	The new infostructure is
Inactive	Active
empty and without references to any tables.	Filled for those archive files for which the SAP infostructure was built

See also:

21.1.6.1.8.2 Example: Partitioning an Infostructure

Use

You have an infostructure that already contains a large number of entries. The related ZARIX table is becoming to large. Since the infostructure has not been partitioned yet, you want to do so now.

You want to change the infostructure so that no more data can be written to the existing table. You also want to set up the partitioning so that the data for the current year, the last two years, and the next three years are written to a separate table.

To do this, proceed as follows:

1. Configure partitioning in the development or Customizing system (the system in which development and changes that are not permitted in the live system take place) as follows:

   Table 185:

From Date	Table Name
01.01.0001	
01.01.2003	
01.01.2004	
01.01.2005	
01.01.2006	
01.01.2007	
01.01.2008	

   1. You transport these settings to the live system. It does not matter whether you enter the changes to the partitioning configuration in a transport oder or whether you transport the infostructure from somewhere else. A complete definition of the infostructure is always sent to the target system.

2. Continue archiving in the live system as usual.

After you have transported the configuration to the live system, the partitioning of the infostructure looks like this:

Table 186:

From Date	To Date	Table Name	Change Date	G	N
01.01.0001	31.12.9999	ZARIXBC62		X	

The infostructure is not partitioned yet. Table ZARIXBC62 is already a very large database table for the existing infostructure. As long as you do not make any new entries in the infostructure, read access is from this table only. Not until further set up of the infostructure does the system generate a new table, which it then fills. It is ensured that the system does not add any additional data to the old table since the configuration of the partitioning covers the entire period for which data can be entered. After an additional archiving session, partitioning could look like this:

Table 187:

From Date	To Date	Table Name	Change Date	G	N
01.01.2005	31.12.2005	ZARIXBC64	28.06.2005	X	
01.01.0001	31.12.9999	ZARIXBC62		X	

The system has now generated database table ZARIXBC64 for the period from 01/01/2005 to 12/31/2005 that is specified in the configuration. In 2006 the system will create the next table. Read access is possible from both tables.

You have two options for how to proceed: Either you use partitioning only for new entries to the infostructure or you ensure that old entries are entered according to partitioning.

o Partitioning for new entries only
  In this case you do not need anything. New entries are written automatically to the infostructure according to partitioning. When you delete the infostructure for older files, the system recognizes that these entries are still in the old table ZARIXBC62. Once the infostructure is no longer set up for old files, then table ZARIXBC62 is empty and the actual partitioning corresponds completely to the configuration.
  Information from the configuration relating to the period prior to 2005 is not required for this scenario.

o Partitioning for all entries
  If you also want the partitioning to correspond to the configuration for the older files, you need to delete the infostructure for all old sessions and then recreate it. In this case, the system uses the configuration entries for the periods prior to 2005 and generates the relevant tables.
  However, this procedure is usually not necessary and therefore we do not recommend it. It is necessary only if the old table cannot be handled, even if no more new entries are made to it.
  It is possible to combine both methods or to do a partial implementation.
  After a conversion, you can remove empty tables that are no longer needed by deactivating the infostructure and then immediately reactivating it. The system deletes tables that have been created unnecessarily.

21.1.6.2 Archive Retrieval Configurator

Use

The *ARC* allows you to create and configure information structures that are required by the Archive Information System (AS) to execute archive searches.

Features

Creating Archive Infostructures

You use this function to create a new information structure based on application-specific field catalogs.

More information: Creating an Information Structure [page 739]

Activating an Information Structure

With this, you can activate an available information structure so that during a subsequent archiving program delete phase of the archiving object it automatically fills with data from the archive.

More information: Activating and Deactivating Information Structures [page 740]

Filling Information Structures

This function allows you to fill an information structure with data from the available archives if the delete program has already processed those archives. Normally this is not necessary because activated information structures are filled automatically during the archiving program delete run.

More information: Filling and Emptying Information Structures [page 741]

Field Catalogs

This function enables you to create new field catalogs or change customer-specific field catalogs.

More information: Field Catalogs [page 755]

Other Functions

Additional ARC functions allow you to empty, deactivate, change, display, and delete archive information structures.

21.1.6.2.1 Field Catalogs

Use

A field catalog includes all of the fields that can be selected when creating or maintaining an archive information structure. You can use it to specify which fields are incorporated in the information structure, and whether they should be key fields or data fields. You can decide whether key- or data fields should be incorporated into the information structure. The fields contained in a field catalog are always archiving object-specific.

You can create new field catalogs and edit existing ones.

> **i Note**
>
> Standard catalogs, which are designed to cover most application requirements, are supplied with the standard system's archive information system. You should therefore create your own field catalogs only if the fields contained in the standard catalogs do not meet your requirements.

> **i Note**
>
> If the standard transaction in the application permits only standard SAP field catalogs, the system does not take customer-specific field catalogs into account.

Prerequisites

You need to have some expert knowledge to use this function. For example, you should be familiar with the data model of the archiving object up to table level.

Features

Editing Available Field Catalogs

You can change the definition of the available field catalogs, for example, by adding further source fields or changing the allocation of data- and key fields. The procedures for creating field catalogs are applicable in this case (see below).

> **i Note**
>
> You must copy a standard field catalog from the SAP namespace into your own namespace before you make any changes to it, that is, before you change it to a customer-specific catalog. All entries that begin with "SAP" belong to the SAP namespace and you should not make changes to them.

Creating New Field Catalogs

To create a new field catalog, you have the following options:

- Use fields from a source table
- Use fields from multiple source tables

For more information, see .

Deleting Field Catalogs

Before you delete a field catalog, you must first delete all of the archive information structures that use this field catalog. A deletability check prevents the deletion of catalogs that are still in use. If you try to delete an SAP standard field catalog, the system issues a warning message to this effect.

21.1.6.2.1.1 Creating Field Catalogs (One Source Table)

Procedure

- 1. In the initial screen of the Archive Retrieval Configurator (ARC), choose ▷ *Environment* ❯ *Field Catalogs* ❯ and then *New Entries*.
  2. Enter the name of the field catalog (it cannot begin with SAP), a description, and the archiving object for which the field catalog is intended.
     In the fields *File in Index* and *Offset in Index*, you can specify how the name of the archiving file and the offset of the data object are included in the information structure. You can use the following values:
     - Values for file names

       Table 188:

Value for file names	Description
D	Includes the file name as a data field. This is the minimum value. It causes the archive file name to be entered in the data area of the structure table.
K	Includes the file name as a key field. Select this value if the entries in the table would otherwise not be unique.

     - Values for the offset

       Table 189:

Value for offset	Description
D	Includes the offset name as a data field. This value is sufficient for a direct access to archived data.
K	Includes the offset name as a key field. Select this value if the entries in the table would otherwise not be unique.
No value	The offset is not included in the structure table. Choose this setting if you do not want direct access. This allows you to reduce the size of the structure table.

       > ℹ **Note**
       >
       > If you include the offset as a key field, you must also include the archive file as a key field, otherwise a clear distinction between archived objects by the offset cannot be guaranteed. If an archived

object, such as a sales document, has already been clearly identified by the document number in the field catalog key, then you do not need to include the offset in the key.

3. To perform the field assignment, first select the catalog and then the *Field Selection* node in the navigation area. Choose *New Entries* and enter the required data.
   - You can choose the field number and target field yourself. The name of the target field appears in the generated table and should have a definition that makes sense for reporting. The field number describes its position in the information structure and serves as a sort criterion.
   - However, the source field must correspond with the actual field name from the source table.
   - The source field entered directly in the field selection is also the reference field. The data type of the relevant field in the information structure is derived from this reference field.
   - The source table must be a table for which the archiving object in the information structure writes data to the archive. These tables are maintained in the transaction *AOBJ* for the archiving objects.
   - If you mark a *Key* field, that field is included in the key to the structure table. A table's key fields must come at the beginning, that is, the field numbers of the key fields must be smaller than the field numbers of the data fields. Furthermore, the key fields must be connected, that is, no non-key fields are allowed to come between key fields.
   - The *Mandatory Key Field* checkbox is valid only for key fields. If you select this checkbox, the data record will be included only if the relevant field in the source table is not empty.

   > **i Note**
   >
   > Tables that are processed by archiving classes can also be used as source tables. However, to do so, you must create a normed read function module for each archiving class used.

4. Save your entries.

21.1.6.2.1.2 Creating Field Catalogs (More than One Source Table)

Prerequisites

- You have created a field catalog with at least one field.
- You are at the field selection for the field catalog.

Context

You can add additional source fields to field catalogs. This means:

- For key fields, the system establishes field similarities between the join conditions of the different source tables.

- The system can fill data fields with data from different source tables in an archive information structure.

Note the following special features:

- For each source table, there must be a unique combination of fields in the key of the information structure. This means that there can never be two data records with the same value combination within one data object.
- For each key field, the system establishes the field similarity between the reference field and the additional source fields.
- The system fills the information structure with archive data using an *outer join* based on the field combination. The system writes a record for the data object if at least one of the source tables contains data.
- When the system is filling an information structure, an incorrectly defined field catalog can cause a program termination. Read the long text in the error message Q6234. Here you can also find a detailed example of how to create field catalogs.
- The source field entered directly in the field selection is also the reference field. The data type of the relevant field in the information structure is derived from this reference field. The fields entered in *Additional Source Fields* must be compatible reference field type.

Procedure

- 1. Choose the field to which you want to add source fields.
  2. In the navigation frame, choose the *Additional Source Fields* node.
  3. Choose *New Entries* and enter the source table and the source field that are to be joined with the target field.
  4. Save your entries.

Results

There is now a logical link (join) for key fields between the target field and the additional source field. When the system fills the information structure, it moves the contents of the source fields assigned to the target field to the data fields.

21.1.6.3 Archive Explorer

Use

The *Archive Explorer* enables you to search for archived data and allows individual objects to be displayed from the archive.

Integration

You can go to the Archive Explorer from either the initial screen of the archive information system or from the *Archive Retrieval Configurator* (choose ▶ *Environment* ▶ *Archive Explorer* ▶).

Prerequisites

To use Archive Explorer, you need to perform the following activities:

- Create a suitable archive information structure
- Activate the information structure
- Fill the information structure

Features

On the Archive Explorer selection screen, the fields appear as in the archive information structure.

In the selection screen, you can define which archived data should be read by the Archive Explorer reporting program. An object list from the set information structure is displayed as a result of this selection, from which you can access single data objects in the archive.

A standard viewer is available to display the data objects. Independent of the underlying archiving object, there are also application-specific viewers. The interface used can also be used for customer-specific extensions.

Activities

Report information structure [page 742]

More Information

Creating an Information Structure [page 739]

Activating and Deactivating Information Structures [page 740]

Filling and Emptying Information Structures [page 741]

21.1.6.3.1 Reporting

Use

You can use this function to report from the archive information structure that was created for the selected archiving object.

Prerequisites

You have created and built the archive information structure to be reported.

Features

Depending on the selection criteria entered, the system displays an object list for the archive information structure. You display a data object by accessing the archive directly. If an application-specific view is realized for the archiving object used, you can choose between the technical or the application-specific presentation of the data objects.

Activities

Reporting Information Structures [page 742]

More Information

Ad Hoc Reporting [page 761]

21.1.6.3.2 Ad Hoc Reporting

Use

You can use this function to report from the archive information structure that was created for the selected archiving object, without this structure having to be filled first .

Prerequisites

The archive information structure to be reported has been created and activated.

Features

Depending on the selection criteria entered in the selection screen, an object is displayed for the set archive information structure.

To display a data object, the system accesses the archive directly. If an application-specific view is realized for the archiving object used, a dialog box appears in which you can choose between the technical or the application-specific presentation of the data object.

Unlike the standard reporting function, which requires that the archive information structure is filled with data from the archive, the ad hoc reporting function reads directly from the archive. This enables you test archiving and report archived data that has not yet been deleted from the database.

Activities

Report information structure [page 742]

More Information

Report [page 761]

21.1.6.3.3 Using List Variants

Use

In the *Archive Explorer*, you can save list variants with which you specify, for example, a selection of fields to be displayed.

Integration

You can operate the variant functions using the menu entries and function buttons of the SAP List Viewer.

Features

You can create both user-specific and cross-list variants to display the data for an archive information structure as well as the table contents (as part of the technical view).

List Variants for Archive Information Structures

In the display of information structure data (the first list in the Archive Explorer), list variants are stored per archive information structure. A list variant is only valid for the archive information structure for which it was created and cannot be used for other archive information structures.

Once an archive information structure has been changed (but has kept the same name), the related list variants can still be used. However, a list variant can be invalidated by the change, for example, where the field displayed in the list variant has been deleted from the archive information structure. You should therefore modify the list variants accordingly.

> ⚙ Example
>
> Example: When you display the archive information structure *CO_ORDER_001*, use the list variant *MY_VARIANT* to specify that the fields *AUFNR* (Order Number) and *KTEXT* (Short Text) are to be displayed. You cannot use these variants for the archive information structure *CO_ORDER_002*, even if both archive information structures have identical structures.
>
> If the archive information structure *CO_ORDER_001* is changed so that the fields *AUFK* and *KTEXT* no longer appear, then the list variant *MY_VARIANT* can still be used. However, is pointless as no fields are displayed. You can therefore modify these variants using the relevant function of the ALV to fit the changed archive information structure.
>
> For the archive information structure *CO_ORDER_002*, you can also create a list variant called *MY_VARIANT*. However, this is not identical to the list variant of the same name for *CO_ORDER_001*.

List Variants for Tables

The technical view for single document display is used to display the table contents for the selected data objects. You can save list variants per table here, which are independent of the archive information structure used. A list variant created for a specific table is only valid for this table and cannot be used for other tables. However, a list variant for a specific table is always independent of the archive information structure used. This is also valid where the archive information structure belongs to different archiving objects. Therefore, it does not matter which archiving object was used to archive the table entries.

> ⚙ Example
>
> Example: You are using the archiving objects *SD_VBAK* and *PP_ORDER* and the related archive information structures *SD_VBAK_001* or *PP_ORDER_001*. Both archiving objects contain the table *COEP*. To display the table *COEP*, save the list variant *MY_VARIANT* in the Archive Explorer. In contrast to the above list variants, this variant is only assigned to the *COEP* table.
>
> You can then use *MY_VARIANT* to display the *COEP* table, and it does not matter whether you enter the Archive Explorer via the archive information structure *SD_VBAK_001* or *PP_ORDER_001*.

Activities

In the Archive Explorer list display, you can access the list variant functions. Choose ▶ *Settings* ❯ *Display Variants* ❯.

More information: Documentation about the SAP List Viewer

21.1.7 Archive File Browser

Use

Archive File Browser (AFB) provides functions for displaying the contents of archive files. It offers a technical view of the archived tables in much the same way as the *Data Browser* does for data from the database.

Implementation Considerations

The AFB is a technical tool for data archiving administrators and anyone who needs to investigate problems with data archiving and in archived data.

The data is only displayed in technical form, there is no business view formatting. The system structures the data from a technical point of view according to session, file and data object. AFB ignores application-specific connections (such as logical data objects that are composed from several technical data objects). Some archived structures (for instance `COVP11`) do contain the actual data for particular database tables (for example, `COEP` and `COBK`).

Integration

- You do not need to make any system settings in Customizing to be able to use the AFB.
- Make sure that the user has the necessary authorizations, and that it is possible to access the archive files. For more information, see Archive Files [page 765].
- To accelerate the start of the AFB, you can set the selection of archive files for the start of the transaction. More information: Speeding up the Start of the AFB [page 786].

Features

- Displaying the Contents of Archive Files and Archiving Sessions
  The AFB displays archived files. The way the data is structured corresponds to the structure in the archive. Evaluations of archived tables together with data in the database are not offered.
  More information:
  Archive Files [page 765].
  Displaying Data Object [page 767].
- Searing for archived data
  In addition to a search for archive files, a technical search for field contents is also possible in which the AFB searches for the contents of fields in a table (similar to transaction SE16).

When making the search, the AFB always reads through the files and focuses on finding missing data. The focus on completeness, even at the cost of poor performance.
More information:
Searching for Table Contents [page 778]
Searching Efficiently for Table Entries [page 783]

Constraints

- The search for data in the AFB is not intended for the retrieval by end users, but for finding missing data.
- When searching for data in the AFB, no index of the archived data is constructed. To do so, use the Archive Information System [page 737].
  Comparison with the Archive Information System

Table 190:

Archive Information System (AS)	Archive File Browser (AFB)
The main focus is on creating an index for archive files. This index can be used to find archived data quickly.	When searching for the contents of archive files, the AFB reads through the area to be searched sequentially.
Search is only possible using specific criteria (fields in info structures)	Search is possible using any fields
The index can be used by applications such as the Document Relationship Browser or line item reports for cost accounting to access archived data quickly.	No comparable interface
To access archived data, you have to first create and activate an info structure. In the production system this usually involves time and effort.	Access to archived data is possible immediately.
Business views, consequently also of interest to end users	Technical representation of data, only of interest to administrators

21.1.7.1 Archive Files

Definition

The AFB operates using data objects. An archive file is divided into a header and several data objects. A data object is often an instance of the business object that corresponds to the archiving object.

> ### Example
>
> For archiving object SD_VBAK the data for an individual sales order is saved in one data object. However, this type of correspondence does not have to apply to every archiving object.

Structure

A data object always consists of exactly the data that is written to the archive by the write program between calling up the function modules ARCHIVE_NEW_OBJECT and ARCHIVE_SAVE_OBJECT. Consequently, everything that can be read between the first and second call up of function module ARCHIVE_GET_NEXT_OBJECT belongs to the same data object.

The AFB operates using these data objects. Except for the hex display, the AFB always displays exactly one object. During the search, the system looks for data objects that correspond to particular criteria.

You can specify a data object by entering the archive file and the offset, or by entering the archive file and the number of the data object. In the AFB there is always a current data object that is represented at least by the entry of archive file and offset. The system often displays the number of the data object in addition. All displaying functions and functions for relative navigation (*Next File*, *Previous File*, *Continue*) relate to the current object.

Sequence of archive files

The AFB always arranges archive files and data objects according to the same pattern. The data is sorted according to archiving object, session and archive file key. The runs are always displayed in descending order, so that the most recent runs are at the top.

The AFB sorting rules:

* Files are arranged alphabetically in ascending order according to their archiving objects.
* More recent archiving runs come before older ones
* Within the sessions the files are in ascending order

Use of this sort order:

* In the archive file overview
* When searching in the list of the files to be searched
* During the search the files are dealt with in this order
* For the functions for relative navigation (*Next File*, *Previous File*, …) this sequence is used as the basis.

Authorization checks

In addition to checking the authorization to access the archive (authorization object S_ARCHIVE), checks have been implemented in the AFB that allow or forbid the display of archived data in a similar way as for the Data Browser (transaction SE16). This involves the display authorization for authorization object S_TABU_DIS. The authorization to display data from a table should not change due to it being archived. The same should apply for archived data as for data from the database.

Required authorizations for different areas

Table 191:

Area	Prerequisite

Data Object	User requires display authorization for the table to be displayed. This means not all data is necessarily displayed for a data object (you receive corresponding messages in the log).
	If the user does not have authorization for any of the tables of the data object, then nothing is displayed for the current data object.
Table	User requires display authorization for the table. Only those tables for which the user has authorization can be displayed.
Hex display	User requires display authorization for all tables that relate to the archiving object of the file to be displayed.
	If the user lacks authorization for one or more tables then nothing is displayed for the archive file.
Search	A user can only search for the content of tables for which he or she has authorization.

21.1.7.2 Displaying Data Objects

Context

You want to display a data object with AFB.

Procedure

- 1. Expand the navigation tree in the archive files overview until you can see the key for the archive file you want.
  2. By double-clicking the key of the archive file call up the first data object of this file. On the *Data Object* tab page, you will see the data object with an overview of the table entries it contains.
  3. Use the scroll keys to navigate to other data objects.

21.1.7.3 User Interface for the Archive File Browser

Use

The user interface is made up of the following areas:

Table 192:

Interface Area	Description
Archive files overview	Overview divided according to archiving object, session, and file. More information: Archive Files Overview [page 768]
Header information	This area shows you which archive file and which data object are displayed. More information: Header Information [page 771]
Scroll keys	For navigating in the data objects and files. More information: Navigation [page 775]
Display area	To display data. Here you see the content of the archive file in the desired view. In this area you can define and execute a search. More information: Display Area [page 772]
Messages	Collection of notifications and error messages that are generated. More information: Messages [page 774]

21.1.7.3.1 Archive Files Overview

Use

On the left side of the screen, the system displays an overview of the archive files in the form of a tree structure. The files are grouped according to archiving object and archiving session. The files themselves are the end nodes of the tree structure.

You can set the fields displayed and also influence the quantity of archive files displayed using a filter function. You can also determine an initial layout (including filter criteria).

For an overview of the screen areas in AFB, see User Interface [page 768].

Features

Double-click on an archive file in the overview to open a file. The first data object in this file for the current data object appears in the display area. In the case of functions that select a data object (relative navigation, find), the system expands the archive file for the current data object in the overview and selects it.

You can show the following fields in the archive files overview using the layout editing:

Fields in the archive file overview

Table 193:

Field	Description
Number	Number of data objects in the archive file The system automatically totals this number at the archiving sessions level. The total refers only to the files in the overview; not to all of the files in the system.
	If, for example, you have set the filter so that only archiving sessions from a certain creation data are displayed, then the total at archiving object level contains only the data objects of the files for these sessions, and not for every file of the archiving object.
	The AFB obtains the number of objects from archive administration. When certain errors occur, you may find that these differ from the actual number of objects in an archive file
User	Name of user who started the archiving. This field remains blank on archiving object level.
Size (MB)	File size in MB, shown to three decimal places. This number is determined from archiving administration, and may (like the number of data objects) differ from the actual size in certain circumstances.
	The file size is totaled at the level of the sessions and archiving objects, using the same mechanism as for the number of data objects.

Description	The texts for the relevant object are displayed depending on the level in the tree structure:
	Level
	Displayed Text
	Archiving Objects
	Description of the Archiving Object
	Archiving Sessions
	Comments about the archiving session that can be entered for some archiving objects when scheduling the write program.
	Archive Files
	Comments on the file that can be changed in archive administration.
Date	Creation date of the archive session or archive file. This field remains blank on archiving object level.
Time	Creation time of the archive session or archive file. This field remains blank on archiving object level.

Activities

Layout of the Archive Files Overview

The layout of the archive files overview contains the selection of the tree structure columns (except the hierarchy column), and also the sequence and width of the columns. In addition you can also save the current filter criteria with the layout.

The layout editing contains the following functions:

Table 194:

Layout	Function
Select	Choose a layout already saved, with filter criteria if appropriate, and use on the overview.
Change	Change the current field selection and field sequence.
Save	Save the current layout. You can choose whether you want to save the layout user-specific or cross-user, and whether the system should save the filter conditions with the layout.

Manage	Manage the saved layouts. In particular, you can delete a layout and select a layout as a default. The effect of the default is that when you next start the AFB, this layout is used automatically, together with any filter conditions.

Filter in the archive file overview

The AFB loads certain data to the main memory for each file that is displayed in the overview. Consequently, the time taken to start the transaction and also the memory usage depend very much on how many archive files are being processed. You can use filters to influence this quantity.

To change the current filter criteria, choose *Set Filter...*. You can choose any field that is displayed in the overview as a filter criterion, this includes the archiving object, session, or file key. The system always uses all criteria directly for the selection of the archive files. This means that both the creation date and time relate only to the archive files. The *Name* field refers only to the comments for the archive file. File size and number of objects refers to the number of archive files, and not to the totals at higher levels.

It is possible to save the filter criteria when you save a layout. When you choose a layout or start a transaction with a predefined layout, the system uses the related filter.

For more information, see Speeding up the Start of the AFB [page 786].

21.1.7.3.2 Header Information

Use

The header information contains the current data object. For an overview of the screen areas in AFB, see User Interface [page 768].

Features

In the header information, you can place the cursor directly on a particular data object within an archive file.

Header Information Fields

Table 195:

Field	Description and Notes
Archive File	Archive file for the current data object This archive file is also expanded and selected in the archive file overview unless this selection has been changed manually or you are currently evaluating a background search and the hit is not located within an archive file from the overview.

Data Object	The number of the current data object within its archive file
	This field usually displays a value between one and the number of data objects in the archive file. In the *Hex Display*, you may also find data object number 0 (zero). Then the beginning of the archive file is displayed. If you enter the offset of a data object directly in the field *Offset*, then `Unknown` appears in the *Data Object* field. The field is ready for input as soon as a data object has been selected for the first time.
	i **Note** You should note that direct entry can entail a long runtime, as the archive file may be read sequentially.
From	Number of data objects in the archive file
Offset	Offset of the current data object
	To find a data object as quickly as possible, enter a value in the *Offset* field.
	i **Note** Note that if you enter the offset direct, the functions *Previous Data Object* and *Next Data Object* can no longer be used.

21.1.7.3.3 Display Area

Use

The AFB offers three different views in the display area of the current data object or the archive file currently being displayed.

- The *Data Object* view represents all of the tables entries for the data object.
- The *Table* view represents an individual table of the archiving object.
- The *Hex Display* represents the content of the archive file in a highly technical form without additional formatting.

For an overview of the screen areas in AFB, see User Interface [page 768].

Features

Data Object

In the *Data Object* view, the system formats the archive file content in such a way that the content of all table entries for the current data object is visible. The table entries are displayed in the same form as they are found in the archive. You receive a list where the table name is in the first field, followed by the content of the relevant entry formatted as a character string.

The list is displayed using the SAP List Viewer and offers its standard functions.

> **i Note**
>
> Note that the standard functions of the SAP List Viewer refer only to the current data object. A search is then made using only the data of the current data object.

For the display, the system formats every table entry as an individual character string. This means special attributes for the individual fields are lost. You may find that a table is too wide to be displayed in its entirety. By double-clicking you can obtain field-by-field formatting of the corresponding record.

> **i Note**
>
> If you want a different format for a particular table, select an entry for the required table and switch to the *Table* view. The system then automatically displays all entries for this table from the current data object.

The table entries are displayed in this view in the same order as they were written to the archive, unless the data was saved using archiving classes. Data for archiving classes is displayed with the other data for the current data object in accordance with the entries that were not saved using archiving classes.

Table

The *Table* view displays the entries for the current data object that relate to a particular table. The data is formatted field-by-field. The view of the table is similar to that of the Data Browser (transaction SE16).

The list is displayed using the SAP List Viewer and offers its standard functions.

> **i Note**
>
> Note that the standard functions of the SAP List Viewer refer only to the current data object. A search is then made using only the data of the current data object.

In the *Table Name* field, you enter the name of the table for which you want to see the entries. You will usually find this field has already been defined if you have already selected a data object.

You can use the input help to receive a selection of all tables that are archived with the archiving object for the current file. In the event that no data object has been selected, you receive all tables for all archiving objects in the archive file overview. If you enter the table directly, you have to choose data release to refresh to list.

> **i Note**
>
> Choose ▌ *Settings* ❯ *Technical Field Names* ❭ or *Field Labels* to switch between the display of technical names and field labels, as required. This affects all parts of the AFB in which field labels occur, for example, in a search.

Depending on the view with which you previously looked at the current data object, the table name is predefined as follows:

· In the *Data Object* view, one entry is usually selected. The table for this entry is displayed with the *Table* view.

· The search switches automatically to the *Table* view at the first hit. The table, which is also used in the search criteria, is displayed.

· In all other cases, the table name is predefined in such a way that the table is suitable for the archiving object of the current data object. If the table no longer matches the archiving object through navigation to a data object for a different archiving object, then the system selects a new table.

If you branch from the *Table* view to the search but have not yet selected a table for the search criteria, the system automatically transfers the table being displayed.

Hex Display

The system presents the content of the archive file in raw format in the hex display,

> ℹ **Note**
>
> This view is particularly useful if you want to look at the archive file header, or if the file is defective and this is the only way you are able to display it.

The data in the file is represented in hex format (00 to FF for every byte). In the first column you see the offset in the archive file for the first byte in each line. 32 bytes then follow in every line, in eight groups each having four bytes. In the area on the right, you can see the equivalents in plain text. The respective character coding is taken into account (including unicode). This means it is possible that only 16 characters (for example) relate to the 32 bytes As the data in the archive file is present in compressed form, the header can only be recognized from the plain text representation at the beginning of the archive file. It is not possible to recognize the data itself this way.

The part of the archive file that is displayed is determined by the offset and the number of displayed bytes. The system uses the offset displayed in the header information. In this way, all navigation functions can also be used for the hex display.

> ℹ **Note**
>
> The hex display recognizes the data object with the number 0 that represents the beginning of the file.

You can enter the number of bytes displayed in the *Area Displayed* field on the *Hex Display* tab page.

Analysis of Defective Files

You can use the hex display to analyze defective files that you are not able to display with the other views. To do this, you have to have detailed and extensive knowledge of the structure of the archive files. The hex display bypasses the usual mechanism for accessing files (meaning the function modules for the ADK). However, no files can be analyzed this way that are found in the archive store (SAP ArchiveLink).

21.1.7.3.4 Messages

Use

Each message or error message that is generated during a session with the Archive File Browser is collected in a log in the lower area of the AFB. For an overview of the screen areas in AFB, see User Interface [page 768].

> **♣ Example**
>
> Examples of errors include error messages when accessing archive files or the message at the end of the search.

Features

The messages are displayed in the log as a list, with the latest message at the top.

Log Line Fields

Table 196:

Field	Meaning
Type	Severity of the Message
Message Context	Information about the archive file relating to the message If the message cannot be assigned directly to an archive file, then the action which triggered the message is displayed.
Message Text	Message short text
Long Text	Icon indicating whether or not there is a long text for the message

> **i Note**
>
> You can read the long text of a message by double-clicking the message.

> **i Note**
>
> Use *Delete Messages* to delete all of the messages collected up to that point from the list (and from the memory).

21.1.7.4 Navigation in the Archive File Browser

Use

The Archive File Browser offer an overview of archive files and data objects. More information: User interface [page 768]

Features

The the fields in the Header Information [page 771], the Archive File Overview [page 768] and the scroll keys give you various options for navigating in archive files and outside of archive files. You can combine some of these options.

Opening Archive Files

Double-click on an archive file in the overview to open a file. The first data object in this file for the current data object appears in the display area.

Various methods for selecting a file:

- By double-clicking on an archive file key, this file is selected
- By double-clicking on a session, the first file in the session is selected
- By double-clicking on an archiving object, the first file of the latest session that appears in the overview is selected

System actions depending on the view selected

Table 197:

Tab page before double-click	Result
Documentation or search	The system selects the first data object in the *Data Object* view.
Data object or table	The system selects the first data object , no change to the view.
Hex display	The display starts with the beginning (data object 0, offset 0) of the selected archive file, no change to the view.

Scroll keys

You will find the scroll keys for the relative navigation between the archive file overview and the display area.

> **i Note**
>
> The first data object of an archive file means in the case of the hex display the data object number 0 (zero), that is, the start of the archive file. With every other view the first data object literally means the very first data object in the archive file.

Navigation using Scroll Keys

Table 198:

Scroll Keys	Features
First File	The system highlights the first data object of the first file.
Previous File	The system highlights the first data object of the file that is in the overview in front of the file for the current data object.

Previous Data Object	The system highlights the data object that is in front of the current data object.

In the event the current data object is the first data object in the archive file, the system highlights the last data object of the previous archive file.

⚠ **Caution**

Note that this procedure can be time-consuming, as it may be necessary to read the entire archive file in sequence.

➜ **Recommendation**

This function is not recommended if you are entering an offset direct. |
| Next Data Object | The system highlights the data object that is in front of the current data object.

If the current data object is already the last data object of the archive file or the archive file cannot be accessed, the system highlights the first data object in the following archive file.

➜ **Recommendation**

This function is not recommended if you are entering an offset direct. |
| Next File | The system highlights the first data object of the next archive file in the overview. |
| Last File | The system highlights the first data object of the last archive file in the overview. |
| Continue Search | The system determines the next hit in the search.

ℹ **Note**

This button is only active if you have started either a search or the background search report. |

21.1.7.5 Searching for Table Contents

Use

You can use the search for table contents to search archive files. You search for data objects that meet specific criteria. These are selection criteria for a specific table.

The system searches the files sequentially and displays the data objects. If you want to search larger archive files or a large number of files, you can execute the search in the background.

Features

You have the option of performing the search online or scheduling the search query as a background job and evaluating the result at a subsequent stage.

For more information, see Searching for Table Contents Online [page 779] and Searching for Table Contents in the Background [page 780].

Activities

If you search using *Search* or *Start Search*, the system searches for the selected files in the order in which they are displayed in the archive files overview. The system only searches through files that could actually contain the table from the selection criteria. The system obtains this information from the definition of the archiving objects, and not direct from the archive files.

Once the system has found a matching data object, it switches to the view *Table* and displays the table entries from the search criteria, meaning it displays all entries for the data object, and not just those that match the selection.

At this point you can switch to the other views, and use all of the other navigation options.

By choosing *Continue Search*, you can continue the search. Using this function you can do a complete search through each of the files you want to search, in succession.

> ⓘ Note
>
> When the system finds a matching data object, it only switches to the view *Talle* if you are not already in one of the other views *Data Object*, *Table* or *Hex Display*.

Search Procedure

The system checks whether the file for the current data object is in the search area. If this is the case, the system continues the search with the next data object. If the current data object is the last in its file, the system continues with the first data object of the next file in the search area.

If the current file is not in the search area, the system continues with the next file that is found in the search area. The next file in this case is determined by the sequence in the archive file overview.

When carrying on with a search, the current search criteria are always used, and these may differ from the search criteria at the start of the search.

> ℹ **Note**
>
> You can navigate freely between two search steps as necessary, and also change the search area and search criteria.

If the system has reached the end of the search area, it generates a corresponding message and deactivates the *Continue Search* function. It makes no difference whether the end of the search area was actually reached by the search or by any of the other navigation functions.

21.1.7.5.1 Searching Online for Table Contents

Procedure

- 1. In the Archive File Browser, you find the area *Files to be Searched* on the tab page *Search* on the top left of the screen. Drag the files to be searched from the archive files overview to this area by drag and drop.

   > ℹ **Note**
   >
   > Check that the Search Mode [page 782] defined is *Online Search*.
   >
   > For more information about the area *Files to be Searched*, see Areas Covered by the Search [page 781].

- 2. In the *Search Criteria* area, select the table whose fields you want to use for the search. You can enter the table directly or use *Other Table*.
   For more information about the area *Search Criteria*, see Areas Covered by the Search [page 781].
- 3. Choose *Field Selection* to define the fields for the search.
- 4. Enter the values that you want to use for the search.
- 5. Choose *Start Search* to start the search.
   The system starts searching through the selected files. The search stops with the first hit. The system automatically switches to the *Table* tab page and displays the contents of the table that you specified in the search criteria.

   > ℹ **Note**
   >
   > The *Find Next* button is activated.

- 6. Choose *Find Next*.
   The system now resumes the search with the current data object. You can repeat this process until the search reaches the end of the search area. The system then displays a corresponding message.

21.1.7.5.2 Searching for Table Contents in the Background

Context

You may find the online search is often unsuitable for searching through several or large archive files, and it is better to run time-intensive processes in the background. The Archive File Browser gives you the option of saving your search requests, processing them in the background, and evaluating the results later.

> ➡ Recommendation
>
> Finding table contents in the background should only be used for ad hoc search requests. If you regularly need to access archived data quickly, you are recommended to use the Archive Information System [page 737].

Procedure

- 1. Determine which files you want to search and the search criteria. For more information, see Searching for Table Contents Online [page 779].
  2. On the *Search* tab page, you choose *Save for Background Search*.
  3. In the following dialog box, enter a unique text as the search description. You will later need to use this text to identify your search.
     The system saves your search request. The selection of files to be searched and the search criteria all belong to the search request. In addition, a new entry appears in the *Search Mode* area bearing the description you entered.
  4. Schedule program ASAFBSEARCH in the background using transaction SA38.
     Program ASAFBSEARCH processes all pending search requests. All files are always read through completely. The program determines all hits.
  5. Once the program has finished, start the AFB using transaction AS_AFB.
  6. Select a search request and choose *Load Search Results*.

Results

The system loads the search area, the search criteria and the results of your search. The result covers both the hit list and any messages that are generated.

> ℹ Note
>
> Both the search area and the search criteria can no longer be changed or are no longer ready for input. The Search Mode [page 782] switches from *Online Search* to *Background Search Report*.

As with the online search, you can navigate in the search result using *Start Search* and *Continue Search*. The system functions in the same way as with the search in dialog mode, except that you are unable to change the search.

> **i Note**
>
> If you want to exit the results of the background search report in order to enter a new search, switch to the *Search* tab page and choose *Online Search* in the *Search Mode* area.

Messages when searching in the background

The system saves any messages that are generated along with the search results. Error messages may occur during the search. For example, if archive files cannot be accessed or are corrupted. These messages are displayed in the course of the background search report, just as for the online search.

21.1.7.5.3 Search Areas

Use

Files to be Searched

In this search area, you define which files are to be searched. The files are represented as a list of archive file keys. The sequence of the files corresponds to the display in the archive files overview. The search is made in the archive files overview from top to bottom. Only those files that are located in the search area are searched.

> **⚠ Caution**
>
> You should note that if you remove files from this area before you choose *Cont. Search*, these files are no longer included in the new search.

You can transfer additional files from the archive files overview using drag and drop. If you use an archiving session or archiving object in the search area instead of individual files, then all archive files that are in the overview under this session or object are included in the area to be searched.

Search Criteria

In this search area, you define which table contents you want to search for in the archive files. It is only ever possible to search for the contents of an individual table. You either enter this table direct or select it using *Another Table*. Only those tables matching the archiving objects of the files to be searched are offered. If you have not yet defined any files to be searched, then all tables for all archiving objects from the archive file overview are used. When you choose a new table, the system automatically proposes the first ten fields of this table as the selection criteria. You can change this selection using *Field Selection*. You can select a maximum of 75 fields.

More Information

21.1.7.5.4 Search Mode

Use

In the search mode area, you determine using the *Online Search* and *Background Search Report* functions which database the system chooses for the *Start Search* and *Cont. Search (Continue Search)* functions.

- *Online Search:* the system searches through the archive files direct.
- *Background Search Report*: the system evaluates the results of a background search previously carried out.

To switch between the two options, choose *Load Search Results*.

- *Load Search Results:* You want to choose the results of a background search and make them available for the evaluation. To do this, the list of the files to be searched and the search criteria stored with the search request are downloaded and displayed.

> **i Note**
>
> If results for the search request downloaded are already available, the system changes the search mode to *Background Search Report*, and changes are not possible. If no results are available, the system changes the mode to *Online Search* and changes to both the search area and search criteria are possible.

To start the search report, choose *Start Search*.

Change of Search Mode to *Online Search*

When you change the search mode from *Background Search Report* to *Online Search* the search results are discarded for the time being, and you can change the search area and criteria.

> **i Note**
>
> If you have already started the background search report, the function *Cont. Search* continues to be active. You can use this function to find the next hit online. However, the files are searched and not the result of the background search.

Change of Search Mode to

Background Search Report For a manual change from *Online Search* to *Background Search Report* you must have at least one search request with results. Only in this case can you switch to *Background Search Report*.

If a previously completed search request has already been downloaded, the system uses this. Otherwise the system selects the completed search request that is uppermost in the list.

List of Search Requests

The list of search requests contains the possible search requests and informs you which of these requests has already been processed by search program ASAFBSEARCH.

List of Functions for Search Requests

Table 199:

Function	Description

Save for Background Search	For more information, see Searching for Table Contents in the Background [page 780].
Load Search Results	For more information, see Searching for Table Contents in the Background [page 780].
Refresh	To download the search requests again. The selection representing the processing status is updated.
Delete Entry	To delete search requests You can delete completed requests and requests not yet processed.

21.1.7.5.5 Searching Efficiently for Table Entries

Context

You can use the Archive File Browser to always include all files that exist in the system in the search area, define the search criteria and then choose *Start Search*. Using this procedure it can be a long time before you get a result. As a rule, the maximum runtime of a dialog step is limited, meaning that in many cases you may not actually get a result.

The following options are available depending on the situation:

- Use the Archive Information System
- User entries prior to archiving
- Restrict search area
- Search in the background

Procedure

- - Use the Archive Information System
    In many systems in which archiving takes place, the Archive Information System [page 737] is also active. Any info structures that have been created should also be used here. In this situation, the Archive Information System essentially offers more efficient access to archived data than the Archive File Browser. The prerequisite for this is that the appropriate archive information structures are available and have been constructed.
  - User Entries Prior to Archiving
    In archive administration (transaction SARA) you can see which selection criteria were used at the start of an archive session. To see how the archiving was started, choose the context menu (right mouse button) for the user entries made for an archiving session. You can often use this information to

identify which table entries could be contained in the files for the session. You should then only search through files that could also contain the data.

- ○ Restrict Search Area
  You do not have to make the system search through all of the available archive files. You can for example only select archive files for sessions that match the user entries. If a time restriction is possible, you should set an appropriate filter in the overview of the archive files before including the archive files in the search area.
- ○ Search in the Background
  Perform the search in the background, particularly if you are interested in more than the first hit.

> ### Example
>
> For more information, see Examples of Efficient Working with the AFB [page 784].

21.1.7.6 Using Archive File Browser Efficiently

Use

The following examples and explanations should assist you in using the Archive File Browser efficiently.

- You want to find a data object in an archive file.
  More information: Finding Data Object in Archive File (Example) [page 784]
- You want to find a data object with a specific offset in an archive file.
  More information: Finding Data Object with Offset in Archive File (Example) [page 785]
- During the search you want to skip several data objects or an archive file.
  More information: Skipping Data Objects or an Archive File (Example) [page 786]
- You want to speed up the start of the Archive File Browser.
  More information: Accelerate Start of Archive File Browser [page 786]
- You want to analyze corrupted files.
  More information: Analyze Corrupted Files [page 787]
- You want to view the header data of the archive file.
  More information: Displaying Header Data of the Archive File [page 788]

21.1.7.6.1 Finding Data Object in Archive File (Example)

Use

You want to find data object 17 in archive file 003755-001BC_SFLIGHT as quickly as possible.

Procedure

1. Choose *Find* above the archive files overview.
2. In the following dialog box, enter the file key **003755-001BC_SFLIGHT**. If the system does not find the file, check the filter settings in the archive files overview.
3. Double-click the file key `003755-001BC_SFLIGHT`.
4. Enter the number of the data object, in this case **17**, in the *Data Object* field and choose data release.

Result

The system reads archive file 003755-001BC_SFLIGHT up to the 17th data object, and displays this in the *Data Object* view. From there you can then navigate to other views or to other data objects.

21.1.7.6.2 Finding Data Object with Offset in Archive File (Example)

Use

This example shows you the fastest way to find the data object with offset 301451 in Archive File 003755-001BC_SFLIGHT in the Archive File Browser.

Procedure

1. In the archive file overview, choose *Find*.
2. In the dialog box, enter the file key 003755-001BC_SFLIGHT.
   If the system does not find the file, check the filter settings in the archive files overview.
3. Double-click file key 003755-001BC_SFLIGHT.
4. In the *Offset* field, enter 301451 and confirm your entry.

Result

The system displays the data object with this offset, or you receive an error message if no data object begins with this offset.

21.1.7.6.3 Skipping Data Objects or an Archive File (Example)

Use

You establish that during the search, meaning you have chosen *Start Search* or *Continue Search*, that although hits may occur in the next 10 data objects or within the current file, they are of no interest to you, so you want use the normal navigation to skip them.

Procedure

Table 200:

Area that you want to skip	Procedure
10 data objects	Add 10 to the current data object number and enter the result in the *Data Object* field.
An archive file	Choose *Next File*

You can also choose the next file in the overview by double-clicking, or if you are in the online search, delete the current file from the search area.

> **i Note**
>
> Make sure that the current data object is not included in the search with the *Continue Search*. If the current data object has not been selected through the search, you have to check yourself whether it meets your selection criteria, or you must go back one data object before you choose *Continue Search*.

21.1.7.6.4 Accelerate Start of Archive File Browser

Context

When you start the Archive File Browser, loading the archive file overview in particular can be very time-consuming. We therefore recommend creating a filter for the overview and defining this as a default setting.

Procedure

-

1. Having started the AFB, select the filter function over the archive files overview. Choose fields that significantly restrict the search, such as the number of the archiving session or the creation date.
2. Choose *Save Layout...* in the drop-down menu for editing the layout of the archive files overview. Check that *Filter Conditions* is selected.
3. Enter a name and a description for the layout. Save the layout.
4. Choose *Manage Layout...* and select your layout as a default setting.

Results

When you next start the Archive File Browser,only those archive files that match the filter will be included in the overview.

> **i Note**
>
> While you are working with the AFB, you can change the filter criteria at any time if you want to work with other archive files.

21.1.7.6.5 Analyze Corrupted Files

Use

In the Archive File Browser, you can use the Hex display to analyze corrupted archive files.

Procedure

In the archive file overview, select the corrupted file by double clicking it. The AFB attempts to read the first data object from the file and display this in the *Data Object* view.

This is either successful or the system displays the corresponding error messages in the log according to the type of error involved. You can toggle to the *Hex display* and analyze the file in all cases. To analyze the file, you require a good understanding of the structure of archive files.

> **i Note**
>
> You cannot make corrections to the archive file using the Archive File Browser.

21.1.7.6.6 Displaying Header Data of the Archive File

Use

You want to display the header data of an archive file in the Archive File Browser.

Procedure

Switch to the hex display. In the archive file overview, select the the required archive file.

Result

The system displays the header data of the archive file on the right-hand side of the screen.

21.1.8 Table Analysis

Use

You use the table analysis to distribute the table entries to the selected fields. A table analysis counts the table entries and assigns the number of entries found to the selected field values (for example, organizational units or periods) You use Analysis Variants [page 792] to determine the fields for the table analysis.

Integration

The analysis of the contents of a table is often necessary in the data archiving environment.

Features

- You can use the table analysis to analyze the distribution of table entries to the selected fields. For more information, see Performing Table Analysis [page 789].
- To perform a table analysis, you always need an analysis variant. For more information, see Analysis Variant [page 792].
- You can supplement a table you would like to include in an analysis with virtual fields. For more information, see Virtual Fields [page 794].
- You have multiple options for monitoring the space table analyses use on the database. For more information, see Reorganizing Table Analysis [page 791].

In addition you can display or delete analysis variants, and display analyses performed in the background.

Activities

Transactions used within table analysis

Table 201:

Function	Transaction Code
Table Analysis	TAANA
Analysis Variant	TAANA_AV
Virtual Fields	TAANA_VF

Example

Table BKPF contains document headers for financial accounting. Each document is assigned to a company code. By using table analysis you can identify how many entries relate to a particular company code.

21.1.8.1 Performing Table Analysis

Procedure

Analyzing Individual Tables

1. Using transaction TAANA you can access the screen *Table Analysis: Administration*.
2. Choose ▶ *Table Analysis* ❯ *Execute* ❯.A dialog box appears.
3. Enter the name of the table. Depending on this table, the system offers the analysis variants available for selection in the input help for the *Analysis Variant* field.
4. Select at least one analysis variant, or else create one.

   > ℹ Note
   >
   > The system offers analysis variant DEFAULT for every table. This variant contains no fields. Therefore it determines the total number of entries in the client in which it is performed.
   >
   > If an adequate analysis variant does not exist, the following options are available for creating analysis variants:

   ○ To create an ad hoc analysis variant specifically for a current table analyses, use *Ad Hoc Variant*. This variant is not saved on the database, and is available only for the table analysis that you are currently scheduling. For more information, see Creating an Ad Hoc Analysis Variant [page 793].
   ○ Use the transaction TAANA_AV to create an analysis variant. It is saved to the database and you can use it multiple times. For more information, see Creating Analysis Variant [page 792].

5. If you want to restrict the number of records to be analyzed, choose *Data Selection*. The *Data Selection for Table <Name>* window appears.

Enter the criteria with which you want to restrict the selection. By default, the system suggests the fields that are either part of the table's primary key or are defined for secondary indexes. If necessary, you can add additional fields to the selection by choosing *New Field Selection*. You can also restrict the number of entries to be analyzed using *Maximum Number of Entries*. Save your entries.

> ℹ **Note**
>
> While selecting the data, and later, when displaying the result, you can use the options in the *Settings* menu to switch between technical field names and field labels.

6. Select the desired type of process control and choose *Continue*.

> ➡ **Recommendation**
>
> To improve performance, we suggest analyzing large tables in the background, not online.

7. Specify a start time for background processing. Save your entries. When you perform the analysis online, it is started immediately.
   The table and analysis variant you selected for analysis are displayed on the left side of the screen.

> ℹ **Note**
>
> While the table analysis is being performed, you can *Refresh* the current data.

8. Double-click the table analysis on the left side of the screen to display it.
   The table analyses on the left side of the screen are sorted by table name, name, analysis variant, and time of analysis.
   The result of the analysis is displaed on the right of the screen. If you restricted the number of records to be analyzed before the analysis, the *Data Selection* button is displayed. You can use this button to display the values of the selection restrictions that applied for the selected analysis.

Analyzing Multiple Table in One Step

If you want to analyze multiple tables in one step, proceed as follows:

1. Use transaction SA38 to start program TAAN_PROCESS_MULTIPLE. A selection screen appears.

> ➡ **Recommendation**
>
> To improve performance, we suggest analyzing large tables in the background, not online (transaction SA38, ▶ *Program* ❯ *Execute in Background* ❯).

2. Enter the table you want to analyze.
3. Enter the relevant analysis variant and start the program.
   Use transaction TAANA to view the results of the table analysis (see above).

Result

The various field values with the number of related table entries in the evaluation are displayed in accordance with the analysis variant you selected. The list is sorted in descending order by number of table entries.

21.1.8.2 Reorganizing Table Analysis

Procedure

You have several options for monitoring and regulating the space table analyses use on the database.

Reorganizing Table Analyses

Table 202:

Reorganization Options	Description
Retain most recent table analysis for each table and analysis variant	The system only retains the latest analysis with the status *Completed* for each table and analysis variant and deletes all other table analyses. Exception: Analyses with the status *Scheduled as Background Job* and *In Process* are retained.
Delete table analyses that were performed before a certain date.	All of the analyses performed before a specified date are deleted. The reference date is the start date of the analysis.
Refresh table analyses that were performed before a certain date.	All of the analyses performed before a specified date are deleted. A new analysis for the relevant table is performed using the same analysis variant.

We recommend reorganizing table analyses regularly (choose ▶ *Utilities* ❯ *Reorganize Analyses...* ❯), since the results of all table analyses are saved in the database tables (TAAN*), and may use up a considerable amount of space .

Analysis variants have been provided to enable you to determine the space used by the analyses. The usage of space is specified as the number of table rows in table TAAN_DATA. You can find most of the information about analyses you have performed in this table.

Analysis variants for determining space usage

Table 203:

Analysis Variant	Meaning
TAANA_ANALYSE_BY_OBJECT	Space usage for each table and analysis variant
TAANA_ANALYSE_BY_DATE	Space usage for each month and year in which you have performed analyses

21.1.8.3 Analysis Variant

Use

To perform a table analysis [page 788], you always need an analysis variant. This relates to only one table and describes which fields are to be analyzed.

Depending on the usage type there are two kinds of analysis variant available:

- To create an analysis variant for future table analyses, use transaction TAANA_AV. The definition of this variant is saved on the database, and can be used for future table analyses.
- To create an ad hoc analysis variant for currently scheduled table analyses, use transaction TAANA. The definition of this variant is not saved on the database, and as a result is only available for the table analysis that you are currently scheduling.

Features

- Creating an analysis variant
  - For information on analysis variants that you can also use for future table analyses, see Creating an Analysis Variant [page 792].
  - For information on analysis variants that you can only use for currently scheduled table analyses, see Creating an Ad hoc Analysis Variant [page 793].
- Displaying an Analysis Variant
  In transaction TAANA_AV, you can find on the left hand side of the screen a list of all the analysis variants created, sorted by table names. To display an analysis variant, double-click on it. The analysis variant is then displayed on the right side of the screen.
- Deleting an Analysis Variant
  To delete an analysis variant, display the variant you want to delete on the right side of the screen. Choose ▶ *Edit* ❯ *Delete* ◀ .

21.1.8.3.1 Creating Analysis Variants

Context

To perform a table analysis [page 792], you always need an analysis variant [page 788]. This relates to only one table and describes which fields are to be analyzed.

The system saves the analysis variant to the database; it can then be used for future table analyses.

Procedure

- 1. With the transaction:
     - ○ TAANA_AV or alternatively
     - ○ Starting from the table analysis (transaction TAANA), choose ▐▶ *Environment* ❯ *Analysis Variant* ❯ to go to the change mode for analysis variants for the table analysis.
  2. Choose ▐▶ *Edit* ❯ *New Entries* ❯ and enter the name of the table for which you want to create an analysis variant.
  3. Enter the name of the analysis variant that is in your namespace.
  4. Choose *Fields*. The system offers you all table fields for selection.

> ℹ **Note**
>
> The system first displays the fields contained in the ABAP Dictionary (DDIC). Then it displays the virtual fields defined in the table analysis.

> ℹ **Note**
>
> An analysis variant should contain as few field as possible (three to four fields). You should only choose fields with a low selectivity, meaning with few characteristic values. Fields having high selectivity, for example document numbers, mean that the results list for a table analysis is unduly long, which both reduces its usefulness and also takes up too much space in the database.

  5. Select the relevant fields or create virtual fields if necessary. For more information, see Virtual Fields [page 794].
  6. Save the analysis variant.

Results

The new analysis variant is displayed on the left-hand side of the screen.

21.1.8.3.2 Creating an Ad Hoc Analysis Variant

Context

An ad hoc analysis variant is only available for the currently scheduled table analyses. The definition of this variant is **not** saved on the database, and therefore is available only for the table analysis you are currently scheduling.

Procedure

- 1. With transaction TAANA you can access the screen *Table Analysis:. Administration*.
  2. Choose ▌▶ *Table Analysis* ❯ *Execute* ▌. A dialog box appears.
  3. Enter the table name.
  4. Choose the input help for the *Analysis Variant*.
  5. In the dialog box *Analysis Variants*: *Selection*, choose *Ad-Hoc Variant*.
  6. Select the fields for the analysis variant.
  7. Choose *Continue*.
     Alternatively, you can restrict the analysis to part of a table field, for example, to perform an aggregation on the year for date fields. To do this, you use the DDIC definition of the table you want to analyze to specify the fields you want to aggregate as subfields, and to specify the offset and length required. Enter the values in the offset and length subfields, for example, offset = 0, length = 4 if you want an aggregation over the year for a date field.

> **ⅰ Note**
>
> You can only specify subfields for fields with ABAP types C (text field), N (numeric text field), D (date field), T (time field), and P (packed number). With type P this function is particularly useful for fields containing timestamps (DDIC data type TIMESTAMP or TIMESTAMPL). The standard format of these timestamps is "yyyymmddhhmmss" or "yyyymmddhhmmss.sssssss", whereby the year can be aggregated (subfield length 4) or the month of the year (subfield length 6).

  8. Apply the analysis variant.

> **ⅰ Note**
>
> You do not need a transport request for the ad hoc variant.

21.1.8.3.3 Virtual Fields

Use

Virtual fields enable you to perform the following analyses within table analysis:

- Analyze one part of a table field

> **🖿 Example**
>
> The table contains a date field, and you would like to examine the distribution of the data across the year.

- Analysis with a field that is not contained in the table to be analyzed but whose value can be determined from either the available table fields or, if necessary, from other tables.

> ### Example
>
> The table does not contain a field naming the archiving object that can be used for archiving a data record.

Within table analysis you can create as many virtual fields as you require for each table. Such fields are treated in the same way as all other table fields. Virtual fields are not shown with separate IDs in transactions TAANA and TAANA_AV.

All of the virtual fields you have already created for the relevant table are available for analysis variants or ad hoc variants.

For more information, see Analysis Variant [page 792] and Performing Table Analysis [page 789].

Features

- Create virtual field
  For more information, see Creating Virtual Fields [page 795].
- Displaying Virtual Field: All virtual fields you have created are listed in the left screen area, sorted according to table name. To display a field in the right screen area, double-click on it.
- Deleting a Virtual Field: Proceed as detailed under "Displaying a virtual field" and choose ▷ *Edit* ❯ *Delete* ❭.

21.1.8.3.3.1 Creating Virtual Fields

Procedure

- 1. The following alternative access options are available:
     - Enter the transaction TAANA_VF.
     - Enter transaction TAANA and choose ▷ *Environment* ❯ *Virtual Fields* ❭.
     - Enter transaction TAANA_AV and choose ▷ *Environment* ❯ *Virtual Fields* ❭.
  2. Choose ▷ *Edit* ❯ *New Entries* ❭ and enter the name of the table for which you want to create virtual fields.
  3. Enter a name for the new field. Make sure it is within your namespace.
  4. Enter the data for the value determination, and technical attributes of the field.
  5. Save your entries.

21.1.9 Data Archiving in SAP NetWeaver AS

The following table shows the archiving objects provided:

Table 204:

Objects in SAP NetWeaver Application Server	Archiving Object
User changes	US_USER [page 797]
Authorization changes	US_AUTH [page 798]
Profile changes	US_PROF [page 800]
Work items	WORKITEM [page 802]
IDocs	IDOC [page 804]
Table changes	BC_DBLOGS [page 817]
Link Entries ArchiveLink	ARCHIVELNK [page 821]
Archive administration data	BC_ARCHIVE [page 823]
Change documents	CHANGEDOCU [page 829]
SAP product	PRODUCT_MD

21.1.9.1 Archiving User and Authorization Changes (BC-ADM-SEC)

Archiving User and Authorization Changes (BC-ADM-SEC)

You can archive change documents of the following types that are generated in the course of user and authorization maintenance:

- Users: Changes in assigned authorizations and other characteristics; changes in passwords

In transaction SU01 (user maintenance), choose the menu entry Environment → Archive and Read.

- Profile: All changes

In transaction SU02 (profile maintenance), choose the menu entry Environment → Archive and Read.

- Authorizations: All changes

In transaction SU03 (authorization maintenance), choose the menu entry Environment → Archive and Read.

21.1.9.1.1 Archiving User Change Records (BC-ADM-SEC)

You can archive change records for the following changes to user master records:

- Authorization changes and changes to other user characteristics
- Changes to user passwords

Object Definition

The archiving object US_USER is used to archive password change records from table USH04. The object US_PASS archives records of changes to user master records other than password changes. In this way, for example, changes in the authorizations in a user master record are recorded. These recordings are stored in the USH02 table.

Technical Information

Unless you are archiving a large number of change records, an archiving run should have no significant effect on the performance of your system. The user change records require the following memory space (uncompressed):

- US_PASS password change records: 300 bytes
- US_USER user change records: 100 bytes

Dependencies

When you archive user change records, it does not have any effect on other archivable data. There are no particular dependencies or relationships between user change records and other archivable data.

You can use the archiving objects US_PASS and US_USER within the framework of Information Lifecycle Management. To be able to do this, you must activate the related business functions. The system then shows the ILM Actions group box. Using these actions, you can, for example, run archiving during which the system evaluates the retention periods entered in Information Retention Manager. You can also create snapshots (copies) of data, and you can delete data that does not meet your criteria.

Space Criteria and Storage Duration

We recommend a storage duration of 10 years for all user and authorization change records.

Change records are archived according to the date that you specify. All records older than the date specified are archived. Old archives are not automatically deleted.

Log

The log files generated by archiving and deleting records are stored in the SAP spool system. The archiving log records the number of change records archived. The delete log lists the change records that were deleted after the archiving session.

Creating an Archive File

Choose Tools → Administration → User Maintenance.Then choose Users,followed byEnvironment → Archive and Read, and then the required archiving function.

The archiving function calls the standard archiving interface, where the correct archiving object is already specified.

You need only specify (or create) an appropriate report variant, specify the start time and printing specifications for the background processing of the report, and schedule the report with Create job.

See also the documentation on the archiving procedure in general. You will find this documentation in the first section of this document.

Executing the Deletion Program

You must explicitly delete archived records after an archiving session has been successfully completed. Be sure to check the archiving log to be sure that the archiving session has been completed successfully. Also, be sure that you specify the same date for the deletion program. Otherwise, too many or too few change records will be deleted.

21.1.9.1.2 Archiving Authorization Change Records (BC-ADM-SEC)

You can archive change records for all changes to authorizations.

Object Definition

The archiving object US_AUTH is used to archive change records for changes to authorizations from table USH12.

Technical Information

Unless you are archiving a large number of change records, an archiving run should have no significant effect on the performance of your system. An authorization change record requires about 100 bytes (uncompressed).

Dependencies

Archiving authorization change records does not have any effect on other archivable data. There are no particular dependencies or relationships between authorization change records and other archivable data.

You can use the archiving object US_AUTH within the framework of Information Lifecycle Management. To be able to do this, you must activate the related business functions. The system then shows the ILM Actions group box. Using these actions, you can, for example, run archiving during which the system evaluates the retention periods entered in Information Retention Manager. You can also create snapshots (copies) of data, and you can delete data that does not meet your criteria.

Space Criteria and Storage Duration

We recommend a storage duration of 10 years for all user and authorization change records.

Change records are archived according to the date that you specify. All records older than the date specified are archived. Old archives are not automatically deleted.

Log

The log files generated by archiving and deleting records are stored in the SAP spool system. The archiving log records the number of change records archived. The delete log lists the change records that were deleted after the archiving session.

Creating an Archive File

Choose Tools → Administration → User Maintenance.Then choose Manual Maintenance → Edit Authorizations Manually (transaction SU03), followed by Utilities Archive and Read, and choose the archiving function.

The archiving function calls the standard archiving interface, where the correct archiving object is already specified.

You need only specify (or create) an appropriate report variant, specify the start time and printing specifications for the background processing of the report, and schedule the report with Create job.

See also the documentation on the archiving procedure in general. You will find this documentation in the first section of this document.

Executing the Deletion Program

You must explicitly delete archived records after an archiving session has been successfully completed. Be sure to check the archiving log to be sure that the archiving session has been completed successfully. Also, be sure that you specify the same date for the deletion program. Otherwise, too many or too few change records will be deleted.

21.1.9.1.3   Archiving Profile Change Records (BC-ADM-SEC)

You can archive change records for all changes to profiles.

Object Definition

The archiving object US_PROF is used to archive change records for changes to authorization profiles from table USH10.

Technical Information

Unless you are archiving a large number of change records, an archiving run should have no significant effect on the performance of your system. A profile change record requires between 0.5 and 1 KB (uncompressed).

Dependencies

Archiving profile change records does not have any effect on other archivable data. There are no particular dependencies or relationships between profile change records and other archivable data.

You can use the archiving object US_PROF within the framework of Information Lifecycle Management. To be able to do this, you must activate the related business functions. The system then shows the ILM Actions group box. Using these actions, you can, for example, run archiving during which the system evaluates the retention periods entered in Information Retention Manager. You can also create snapshots (copies) of data, and you can delete data that does not meet your criteria.

Space Criteria and Storage Duration

We recommend a storage duration of 10 years for all user and authorization change records.

Change records are archived according to the date that you specify. All records older than the date specified are archived. Old archives are not automatically deleted.

Log

The log files generated by archiving and deleting records are stored in the SAP spool system. The archiving log records the number of change records archived. The delete log lists the change records that were deleted after the archiving session.

Creating an Archive File

Choose Tools → Administration → User Maintenance.Then choose Manual Maintenance →Edit Authorizations Manually(transaction code SU03), followed by Utilities → Archive and Read, and choose the archiving function.

The archiving function calls the standard archiving interface, where the correct archiving object is already specified.

You need only specify (or create) an appropriate report variant, specify the start time and printing specifications for the background processing of the report, and schedule the report with Create job.

See also the documentation on the archiving procedure in general. You will find this documentation in the first section of this document.

Executing the Deletion Program

You must explicitly delete archived records after an archiving session has been successfully completed. Be sure to check the archiving log to be sure that the archiving session has been completed successfully. Also, be sure that you specify the same date for the deletion program. Otherwise, too many or too few change records will be deleted.

21.1.9.2 Archiving Work Items

Definition

Archiving object WORKITEM for archiving and deleting work items.

Use

Archiving Work Items

The system archives all data (not including runtime data) that belongs to a work item. You can display archived work items, but you cannot reload them into a system.

You can only archive completed workflow work items. This involves archiving all work items that are dependent on this workflow work item as well. A work item that depends on superordinate work items cannot be archived on its own.

You archive log data, workflow manager data, dependent work items and work item attachments (for example, graphics files).

The other objects in the container of a work item are archived only as references. Do not delete them.

Criteria for Archiving

You can only archive those work items that have one of the following statuses:

- Completed
  The execution of the work item is completed.
- Logically deleted (CANCELLED)
  Execution of the work item is no longer useful or required for the workflow logic.

Structure

Archiving Work Items

Choose Tools → Business Workflow or Development → Workflow and then Administration → Workflow Runtime → Reorganization → Archive Work Item. For more information about the archiving procedure, see Executing Archiving.

To define the required variants, use the following selection criteria. This determines which work items to archive:

- Work item ID (work item number)
- Task identifier
- Actual agent of the work item
- Date when the work item was created
- Date when the work item was completed

Deleting Archived Work Items

Choose Tools → Business Workflow or Development → Workflow and then Administration → Workflow Runtime → Reorganization → Archive Work Item. For more information about the archiving procedure, see Executing Archiving.

You can specify whether the deletion program started after the archiving process is to run in test mode. You specify whether or not the deletion program is started in general Archive Customizing [page 698].

To directly Delete Work Items that have not been archived, choose Tools → Business Workflow or Development → Workflow and then Administration → Workflow Runtime → Reorganization → Delete Work Item. For performance reasons, use the report RSWWCIDE for container anchors (Type C work items).

> ℹ **Note**
>
> If you want to delete work items that meet the archiving criteria but that you do not want to archive, you should nevertheless archive them, as it is better performance-wise to use the delete program of the archiving object WORKITEM than to delete the work items directly. Carry out the archiving procedure and then delete the archive file containing the archived work items manually in the file system.

Displaying Archived Work Items

Choose Tools → Business Workflow or Development → Workflow and then Administration → Workflow Runtime → Reorganization → Archive Work Item. For more information about the archiving procedure, see Executing Archiving.

If you select Analyzing, the report RSWWARCR is used for reading and displaying archived work items.

> ℹ **Note**
>
> This report is only intended to be a template for your own customer-specific report, since the data selection from the archive and the subsequent data formatting is generally customer-specific. The customer-specific adaptations are made after the function module SWW_WI_LIST_ARCHIVED_READ is called.

Displaying Archived Work Items for an Object

The display of an archived work item is useful, for example, of you want to use the archive to determine the workflow followed to release a specific document.

To display archived work items specific to an object, use the Archive Information System).sapurl_link_0001_0001_0001 The system automatically determines the archive that contains the archived data. Otherwise you need to know the archive.

To use the archive information system, activate the archive information structure

For more information, see Using the Archive Information System [page 738].

To display archived work items for an object, choose Tools → Business Workflow or Development → Workflow and then Administration → Workflow Runtime → Reorganization → Display Workflows from Archive. You can determine the archived workflows for a given object.

The display is in the form of a restricted workflow log, without detailed data.

Note on the archive information structure

SAP recommends that you use archive information structure SAP_O_2_WI_001. This is necessary if you are using ABAP classes or XML objects. If you are using only BOR objects, and are already using archive

information structure SAP_BO_2_WI_001, you can continue to use it, but we recommend that you switch to the extended archive information structure SAP_BO_2_WI_001.

To do this, proceed as follows:

1. In transaction SARI, activate archive information structure SAP_BO_2_WI_001.
   As a result, both archive information structures are available at the same time.
2. Fill the new structure for the available archive files in the Status Management of transaction SARI.
3. In transaction SARI, deactivate archive information structure SAP_BO_2_WI_001.
4. In Customizing of transaction SARI, delete the archive information structure SAP_BO_2_WI_001.

Integration

Specify technical values for the archiving session, such as name, path and maximum archive file size, as well as the settings for the delete program, in Customizing [page 698].

21.1.9.3 Archiving IDocs

Use

IDocs are stored in several database tables. To keep these tables (and the access times) small (to reduce the database load) without losing any IDocs, you can archive the IDocs at the operating system level. These archives can then be moved to external storage media, such as disks (using ArchiveLink) or magnetic tape.

Prerequisites

In Customizing, you specify where the archive files are located physically (that is, which storage media are used). For more information, see Cross-Application Components (CA) -> Archiving Application Data -> Introduction to Data Archiving -> Customizing [page 698].

Activities

- Displaying or changing the archivable status [page 805]
  When can I archive IDocs?
- Archiving functions for IDocs [page 806]
  How are IDocs written to and read from archive files?

> ⚠️ **Caution**
>
> Make sure that you do not archive IDocs that may still be needed by the application.

- Deleting Links with IDocs [page 814]
  When do I delete IDoc links (for example, with application documents?
- Archiving: Technical Realization [page 809]
  How does archiving work from a technical perspective?

More Information

-
  General archiving information

21.1.9.3.1 Displaying or Changing the Archivable Status

Context

Certain IDoc statuses are classified as archivable in the standard system, whilst others are not. You can display or change this classification.

> ℹ️ **Note**
>
> The current status of an IDoc must be archivable before the IDoc can be archived.

Procedure

1. Choose the ALE Customizing transaction ▐▶ *SALE* ❯ *Set Up System Monitoring* ❯ *IDoc Status Display* ❯ *Edit IDoc Status Values (WE47)* ❯.

2. To change entries, choose 🖉 .

3. Select the required status. By double-clicking you can call a detail screen, in which you can display or change the archivability.

4. By using 🔃 or 🔄 you can display or change all statuses one after another.

21.1.9.3.2 Archiving Functions for IDocs

Use

Data is usually archived via the central transaction SARA. In the case of IDocs, the corresponding tables are addressed via the **archiving object** IDOC.

Integration

Various **processing methods** are assigned to the IDOC **archiving class**: In the standard system, therefore, IDocs can be:

- Archived [page 807]
- Deleted from the database [page 807]
- Reloaded from an archive [page 730]: On the initial screen, choose ▌ *Goto* ❯ *Reload* ▌

> ### 🧩 Example
>
> All of the IDocs generated by sales orders (message type ORDERS, IDoc inbound processing) in the month of January are to be archived and subsequently deleted from the database tables. To do this, choose the "Archive" processing method in the standard system and enter a time period and message type as report variants.

In addition, you can display the following:

- Archive [page 675]
  Several IDocs are usually archived in one archive or archiving session, that is, the IDocs are grouped together in one session. An archiving session is complete when the IDocs have been deleted from the database tables and exist only as archive files.
- The IDoc numbers of one or several archives or archive files [page 808]
- The IDocs (that is, control record, data- and status records) of one or several archives
- IDocs from archives, that contain certain character strings (IDoc search) [page 808]
  This function is not a method of the IDOC archiving object, but rather an IDoc interface monitoring tool and hence only available from the initial node.

Activities

You can also access the central transaction SARA by choosing ▌ *Tools* ❯ *Administration* ❯ *Administration* ❯ *Data Archiving* ▌. Here you enter the archiving object IDOC. When you select 'enter' the methods entered above are displayed for selection.

In object-specific Customizing [page 703], you can define the maximum size of the archive files [page 704] and that the table entries are to be be deleted from the database immediately after the archive files have been generated. With large datasets this can improve the performance.

In the standard system, the IDocs are selected for archiving according to certain criteria, for example the time at which the IDocs were last changed (new status record). You can also define your own selection criteria. For more information, see subsection Archiving:Technical Implementation [page 809]

21.1.9.3.2.1 Archiving and Deleting IDocs

Prerequisites

The IDocs to be archived have an archivable status [page 805].

Procedure

1. Go to the central archiving transaction with ▌ *SAP Menu* ❯ *Administration* ❯ *System Administration* ❯ *Administration* ❯ *Data Archiving (transaction code SARA)* ▌. If necessary, check the object-specific Customizing [page 703]:
    Here, for example, you can set the indicator "detailed statement" in the variant to the deletion program: If required, this can be entered in the archiving log of each individual IDoc which is archived. However, this can lead to very large logs which do not necessarily contain useful information.

2. Enter the archiving object **IDOC** and choose the required action, here 🔁.
    A warning will be displayed if some of the archiving sessions for the archiving object IDoc are still incomplete. You can ignore the warning but you then run the risk of possibly archiving some IDocs twice.

3. Define the 📅 *start date* of the archiving session and the 🖨 *spool parameters* (print output).
    The traffic lights should now be green, indicating that these parameters have been maintained. Please note that you can set the archiving mode for the print output to *Store Only* and therefore avoid printing every individual archiving log. Enter the object type IDOC as the attachment parameter and use the F4 Help to select a suitable document type for the object type. Also enter a free text as *additional information* for the archiving report.

4. Choose 🔳 to create a report variant. As selection parameters, enter the message type and a time period within which the IDocs received their last, current status.

    > ℹ **Note**
    >
    > You can specify whether you want to perform this variant as a *Test run* or *Production run*, in the *Process Flow* segment on the selection parameter screen. If you choose Test, you get statistics of the processed IDocs. For a detailed log, select *Detailed Log*.

    Choose ✔ and save your variant.

5. Return to the archiving screen and choose 🕐.
    If you selected immediately as the start date in step 3, the message *New archiving job was generated* is displayed in the message bar at the bottom of the screen.

6. You can check whether your archiving session is complete by selecting *Job overview*. If you choose *Administration*, an overview of the completed and incomplete archiving runs is then displayed. If IDocs

which match your selection parameters were found in the database tables, your archiving session is displayed as a folder full of archive files.

7. If not defined differently in object-specific Customizing [page 705], your IDocs are still located in the database after archiving, that is, your archiving session is **incomplete**. To **delete** the IDocs, you must schedule a deletion job with the appropriate variant. Choose the archive file from which the IDocs are to be deleted from the database.

21.1.9.3.2.2 Listing IDoc Numbers in Archive

Procedure

- 1. Choose *Evaluate* in the initial screen of the central archiving transaction.
  2. Choose *Execute*.
     The system displays the complete archiving sessions.
  3. Select one or several sessions or files contained within and confirm your selection.
     A list of IDocs from the archive files selected is displayed. As well as the IDoc number, the "logical" message, for example, is output (output fields of report RSXARCR [page 812]).

21.1.9.3.2.3 IDoc Search

Use

Users should be able to find IDocs not only by means of the address information or control information in the control record but also according to the business data they contain. Questions like the following example should also be able to be answered: "Which IDocs contain purchase orders for my material XY?"

The IDoc search function can be used to answer such questions. You can search for IDocs both in the database and in archive files.

Features

The function searches for character strings, that is, you must enter the value of a segment field as it appears in the field itself (avoiding full stops and commas whenever possible).

You can enter a maximum of two values in two segment fields as selection criteria. If two values are entered, both must be present in the IDoc in the corresponding segment fields for the IDoc to be included in the list of results (normal AND link in selection fields).

You can also choose to only give the value instead of the segment field. This means that all data records (more precisely: the field SDATA in the data records) are searched for in a **non-structured** manner in the character string, that is to say, the character string which is found may span several segment fields.
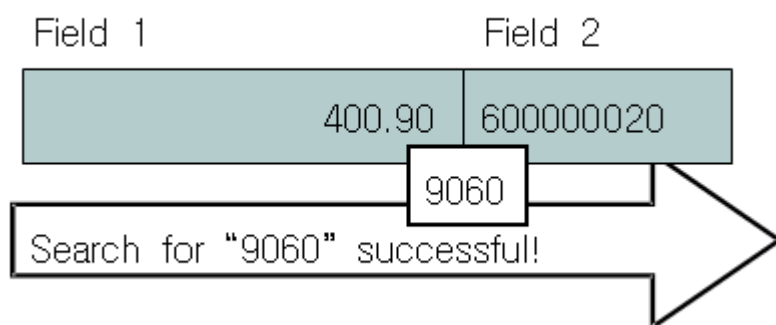
If you select *Quick Search* mode, the search can be limited to a maximum of one hit in each IDoc, that is, the system terminates the search in the current IDoc after one hit.

The search can and should also be restricted by entering additional search criteria which require values from the control record (in the same way as the other monitoring programs): creation time, partner and message, direction, and so on.

Activities

1. Choose transaction WE09 (▶ *SAP Menu* ❯ *Tools* ❯ *IDoc Interface/ALE* ❯ *Administration* ❯ *Services* ❯ *IDoc Search by Contents* ❯ *WE09* ◀).
2. Choose the Data Source button to specify whether you want to search for IDocs from the database or the archive (or both) .
3. If you have set the *Archive* flag, you can select files using the archive information system or manually.

   > **i Note**
   >
   > To be able to search in the archive information system, you must have

   - Deleted the IDocs from the database (complete archiving session)
   - Created an archive info structure in the central transaction SARA
4. Specify all available selection parameters, to restrict the IDoc search as far as possible.

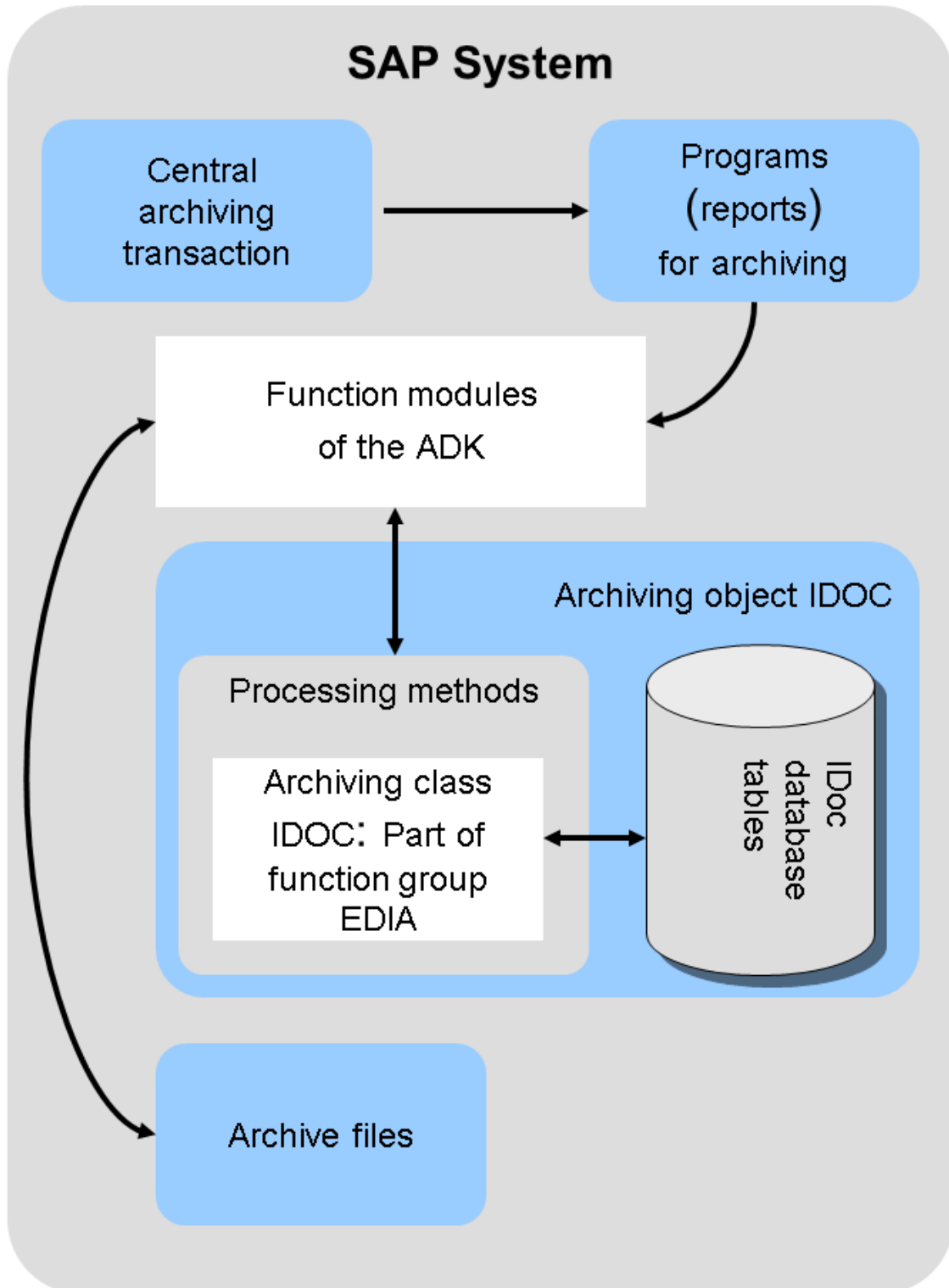## 21.1.9.3.3 Archiving: Technical Implementation

Use

The IDoc archiving tools were developed with the Archive Development Kit [page 665] (**ADK**), which supports object-oriented programming methods. This has led to the use of **archiving object** IDOC, which contains the

necessary database tables [page 813] and the **archiving class** IDOC, which has the function modules required for processing.

The archiving object IDOC is accessed "from outside" using reports which (indirectly) call the ADK function modules. The selection parameters for these reports are configured in the variant maintenance function for the central archiving transaction. The ADK function modules, in turn, use the function modules from archiving class IDOC to access the database tables. The figure below illustrates this object-oriented structure.

SAP System

- Central archiving transaction → Programs (reports) for archiving
- Function modules of the ADK
- Archiving object IDOC
  - Processing methods
    - Archiving class IDOC: Part of function group EDIA
  - IDoc database tables
- Archive files

All the function modules in the archiving class IDOC belong to the function group EDIA. This function group also includes the function modules which the archiving programs use to call the ADK functions.

> ⚠️ **Caution**
>
> In computer literature, data and the corresponding functions are sometimes combined in classes (for example, in C++). As you can see, the term "class", as used here, refers to the "archiving object" which contains the data (the lines in the database table), as well as the "archiving class" IDOC, which contains the corresponding functions.

The reports supplied with the standard system can be used as sample reports to write your own reports with selection parameters which meet your requirements. For more information about standard reports, see Archiving: Descriptions of Standard Reports [page 812].

21.1.9.3.3.1 Authorizations for IDoc Archiving

Use

> ℹ️ **Note**
>
> You need only the general archiving authorization.

21.1.9.3.3.2 Archiving: Descriptions of Standard Reports

Use

The following section contains information about the initial reports and the function module which they call from the function group EDIA. This function module, in turn, calls the ADK standard class function modules. The reports are addressed by the central archiving transaction SARA.

In order to address programs through the central archiving transaction SARA, you must replace the standard reports with the programs in transaction AOBJ.

Table 205:

Name	Description	Selection Parameters
RSEXARCA	Writes IDocs to the archive. Calls EDI_ARCHIVE_IDOCS. Uses the subroutine `INITIALIZE_STATUS_QUALITY` (function group EDIA) to check whether the IDocs can be archived.	• Time at which the control record was last changed • Time of IDoc creation • Current status • Logical message • Direction • IDoc number • Partner

RSEXARCD	Deletes archived IDocs from the database. Calls EDI_DELETE_ARCHIVED_IDOCS.	Archive files from incomplete archiving sessions
RSEXARCR	Reads IDocs from an archive. Calls EDI_READ_IDOC _ARCHIVE. Displays the following control record fields for each IDoc: • Logical message • Status • Date and time at which the control record for the IDoc was last changed • Direction • IDoc number	Archive files from complete archiving sessions
RSEXARCL	Retrieves IDocs from the archive into the database. Calls EDI_RELOAD_IDOC _ARCHIVE. Checks for client or IDoc number conflicts via IS_RELOADING_POSSIBLE (subroutine for function group EDIA). Writes the new status "35" for outbound IDocs, "71" for inbound IDocs ("reloaded"). "Detailed statement" indicator as for RSEXARCA.	Archive files from complete archiving sessions
RSEXARCI	Creates index in table EDIDOCINDX. Calls ADK function module directly.	None: Reads the archive files of the IDOC object class.
RSEXARCJ	Removes index in table EDIDOCINDX. Calls ADK function module directly.	Date up to which the indexes should be deleted. Number of records after which a database COMMIT should be transmitted.

21.1.9.3.3.3 Database Tables

Use

Definition

The IDOC archiving object for archiving IDocs consists of the following **IDoc database tables**:

Table 206:

Table	Description
EDIDC	Contains the IDoc control record
EDID4	Contains the IDoc data records
EDIDS	Contains the IDoc data records

21.1.9.3.4 Deleting Links with IDocs

Context

As the IDoc number increases, not only the data records table gets bigger. The tables which contain links with application documents, for example, also get bigger and from time to time should be emptied of obsolete entries.

> ℹ **Note**
>
> IDocs links are always archived with them.

Procedure

- 1. Start the program RSRLDREL.
  2. Enter a suitable *end date*.
     The end date is suitable if all links that were generated before are no longer needed. For example, if you have already archived and deleted [page 807] all IDocs before this date and the application documents are also archived, you no longer need the corresponding links (exception: Application documents and IDocs are to be retrieved from the archive into the SAP System).
  3. Select Selection by link type and enter a link type. Also refer to the table below.
     Alternatively, you can do the selection by object/role. If, for example, you want to delete all links with standard orders, then you should make your selections according to *object type* BUS2032 (standard order) in the *function* APPLOBJ.

     Table 207:

If you want to delete the following links...	Then select the link type...

Application document with outbound IDoc	**IDC0**
Inbound IDoc with application document	**IDC1**
Outbound IDoc with application document in the target system	**IDC9**
Inbound IDoc with application document from the up-stream system	**IDCB**
Inbound IDoc with communication IDocs in distributed systems	**IDC2**
Copy of an IDoc with its original	**IDC3** (inbound), **IDC7** (outbound)
Inbound IDoc with outbound IDoc from the upstream system	**IDC4**
IDoc with TID (, ALE audit). Does not work with deletion criterion. Both objects not available.	**IDC8** (inbound), **IDCA** (outbound)
Outbound IDoc with reference IDoc (type IDCREF01)	**IDRF**

- You want to delete links last. Choose *Both objects not available*. If now, for example, only the application document is available, you can actually display the numbers of the linked IDocs from the document, but no longer the IDocs themselves.

> **i Note**
>
> This option does not work for links with TIDs (for ALE audit) although they appear to be there.

- You want to delete the links if at least one of the two objects is no longer there (option *One object not available*). Then, for example, you can no longer display the numbers of IDocs that have already been deleted from an application document.
- You generally want to delete all links that meet the other selection criteria. Select *Without existence check*.
  You can perform a *test run*. Then the system only notifies you of the number of links that meet the selection criteria, but does not delete them.

21.1.9.3.5 Data Aging for IDocs

The data aging object **BC_IDOC** supports data aging (see also).

Use

IDocs are stored on the database in the tables `EDIDC` (control records), `EDID4` (data records), and `EDIDS` (status records). To relieve the working memory, IDocs can be moved from the *HOT* area to the *COLD* area depending on their status and time. This procedure is called **Data Aging for IDocs**. The moved IDocs are still visible in the system, they can be deleted or archived but can no longer be changed or processed. The aging object `BC_IDOC` contains the tables `EDID4` (data records) and `EDIDS` (status records).

Prerequisites

Your database must support data aging. Note the following in particular:

*

Activities

1. **Determining the Status**
   IDocs that are in a currently archivable status can be moved to the *COLD* area. You should check your IDocs for this (Displaying or Changing the Archivable Status [page 805]). IDocs that can still be processed are excluded from data aging. This affects the following IDoc status values:
   ○ 64 *IDoc is ready to be transferred to the application*
   ○ 66 *IDoc waiting for predecessor IDoc (serialization)*
   ○ 51 *Application documentation not posted*
   ○ 75 *IDoc is in the inbound queue*
   ○ 69 *IDoc was edited*

2. **Maintaining the Residence Times**
   Only IDocs that were not changed or edited in the last 14 days are taken into consideration for data aging when using standard settings. If, however, you want to use longer or shorter times, for example, for specific message types or partners, use transaction *Residence Times for Message Types or Partners* (`WEIDOCDAAG`).
   You can store different times for the following key fields:
   ○ Message type
   ○ IDoc Type
   ○ Enhancement
   ○ Sender or receiver report
   ○ Partner type
   ○ Partner number
   ○ Direction (inbound or outbound)

A more specific entry overwrites a less specific entry.

Example

Table 208:

Table Field	Example 1	Example 2
Message type	ORDERS	ORDERS
IDoc Type		ORDERS04
Enhancement		
Partner port		MYREMOTE
Partner type		
Partner number		
Direction		
Residence time	3	12

The example above shows the following case:

IDocs with the message type ORDERS should be taken into consideration for a data aging run after just 3 days (Example 1). In contrast to this rule, IDocs of partner port MYREMOTE (sent as ORDERS04) are left in the *HOT* area for 12 days (Example 2).

21.1.9.4 Archiving Table Change Logs (BC-DWB-CUS)

Definition

The archiving object BC_DBLOGS is used for archiving Customizing table change logs. The SAP system logs Customizing table changes if:

1. The Log Data Changes checkbox has been selected in the technical settings for the table.
2. Logging is active.

> **i Note**
>
> Logging can be activated and deactivated for a particular client using the profile parameter rec/client.

Use

We recommend that you archive the change logs periodically, for example, quarterly or annually.

Structure

The logs are saved in the table DBTABLOG. The archiving object archives this table only.

The following functions are available for BC_DBLOGS:

Function/Program Assignment

Table 209:

Function	Program
Write	BC_DBLOGS_WRI
Delete	RSLDARCH02

| Read | • RSLDARCH03 (for the entire archiving session)
• BC_DBLOGS_READ_AR_BY_INDEX |
| | > ⚠ **Caution**
>
> Archiving automatically generates a comment in the archiving session management entry. This comment contains the time period that was archived. Do not delete this text. |
| | **Read**
|
| | For a read by program RSLDARCH03, the archive contents are output in the form of a print list. You can evaluate and print the table logs using the (transaction SCU3). |
| | For a read by program BC_DBLOGS_READ_AR_BY_INDEX, the results are output in the form of an ALV Grid. Under Extras, you can choose the data source from which the data is read. The options that are available depend on whether you call the program in archive management (transaction SARA) or in the ABAP Editor (transaction SE38). Using the ABAP Editor, you can specify whether the data is read from the database or from the archive. If you choose to access the archive, then you can either select the archived data manually, or you can read the data from the Archive Information System based on an index. The prerequisite for reading the data from the Archive Information System is that you have activated the info structure SAP_BC_DBLOGS in transaction SARI. This info structure is filled automatically after each archiving run. However, you can also generate it explicitly in transaction SARI. |
| | **Integration**
|
	This archiving object does not depend on any other archiving objects.
	Log entries are archived independently of the client.
	You can use the archiving object BC_DBLOGS within the framework of Information Lifecycle Management. To be able to do this, you must activate the related business functions. The system then shows the ILM Actions group box. Using these actions, you can, for example, run archiving during which the system evaluates the retention periods entered in Information Retention Manager. You can also create snapshots (copies) of data, and you can delete data that does not meet your criteria.

21.1.9.4.1 Technical Data (BC-BEW-CTL)

Technical Data (BC-BEW-CTL)

An internal run-time analysis run in a highly-loaded development system showed that ca 100.000 log entries are archived in an hour.

21.1.9.4.2 Variant Settings for Archiving (BC-DWB-CUS)

Use

Features

In the change logs, you specify which time interval is archived. You must specify the date and time of the beginning and end of the time interval.

The system shows the ILM Actions group box if you are using the archiving object in Information Lifecycle Management and have fulfilled the prerequisites for this (for example, you have activated the corresponding business functions). You can use these actions to archive data during which, for example, the retention periods entered in the Information Retention Manager can be evaluated. Additionally, you can create snapshots (copies) of data or destroy data that matches the requirements.

Under Log Settings you can specify the type of log (a complete detailed log or a partial log) and the type of log output. You can also enter a comment for the archiving session. For more information, see .

21.1.9.4.3 Archiving Object-Specific Customizing (BC-DWB-CUS)

Archiving Object-Specific Customizing (BC-DWB-CUS)

Use

Archiving Object-Specific Customizing [page 703]

Activities

A data object is defined as 1.000 table entries for the object BC_DBLOGS for the input field Maximum no. of data objects in the group box Archive file size.

By contrast, the Commit counter in the group box Deletion program settings refers to table entries not data objects.

21.1.9.5 Archiving Link Entries (BC-SRV-ARL)

Archiving Link Entries (BC-SRV-ARL)

Definition

The archiving object ARCHIVELNK is used to archive ArchiveLink link entries.

Use

A link entry is a unique reference from a document stored in an external storage system (using ArchiveLink) to a business object generated in the SAP application component.

To create the link between the business objects in the SAP application and the documents in the external storage system, you must carry out the following administrative tasks in the SAP System:

- Definition of document types
- Definition of storage systems
- Assignment of document types and object types to storage systems and link tables

The business object is assigned to the corresponding stored document in the link table in the database.

You can specify an expiry date for each link entry. When the expiry date is reached, you can archive the link entry/entries and delete them from the database using the ADK archiving transaction.

Structure

When you implement the archiving object ARCHIVELNK , data from the various ArchiveLink link tables is archived. For information on table names and the number and names of link entries, choose Tools → Business Documents, → Miscellaneous → Stored Documents → Stored documents → Expiry date → Display or Analyze.

The following functions are available for ARCHIVELNK :

Table 210:

Action	Report
Archive	OAARCH04

Delete	OAARCH06
Reading	OAARCH05

To call the transaction for archiving link entries, choose Tools → Administration → Administration → Archiving .

21.1.9.5.1 Application Customizing (BC-SRV-ARL)

Use

As well as basic Customizing for archiving, you must make settings in ArchiveLink basic Customizing for the generation of link entries:

- Maintain document types and classes
- Maintain storage systems
- Maintain links and link tables

You must also define retention times for the link entries.

Features

ArchiveLink Basic Customizing

For information about ArchiveLink Customizing, see . You can also find the IMG activities for ArchiveLink in the Implementation Guide (IMG), under SAP Web Application Server → Basis Services → ArchiveLink → Basic Customizing.

Retention Times for Link Entries

You should maintain retention times when you maintain the links. The retention period is the number of months after which a link entry for a stored document can be removed from the link table.

Activities

For more information on setting or changing the retention period, see Setting Retention Periods (BC-SRV-ARL) [page 823].

21.1.9.5.1.1 Setting Retention Periods (BC-SRV-ARL)

Setting Retention Periods (BC-SRV-ARL)

1. Choose Links, and enter the required retention period in months in the field Retention period.
2. Choose Tools → Business Documents → Miscellaneous → Stored Documents → Stored documents → Expiry date → Change
3. Enter the required business object.
4. Enter the corresponding document type.
5. Specify whether or not it is a test run.
6. If it is a test run, a list of all the link entries with the newly calculated expiry date is displayed.
   To change the expiry date, you need administration authorization for ArchiveLink (see).
7. Choose Program → Execute.

A message confirming that the deletion date has been re-calculated is displayed.

21.1.9.6 Archiving Archive Administration Data (BC-CCM-ADK)

Definition

You can use archiving object BC_ARCHIVE to archive and delete archive administration data.

Use

You can use this archiving object to store information about archiving sessions that were selected for archiving in the management of archiving objects.

Structure

Tables

The archiving object BC_ARCHIVE consists of the following tables, from which data is archived and deleted (valid for both ADK and XML archiving objects):

Table 211:

Table	Description
ADMI_RUN	Header data for archiving sessions
ADMI_FILES	Archive files for archiving sessions

Table	Description
ADMI_VARIA	Content of archiving program variant
ADMI_SKIP	Address of data objects that should be skipped
<Info-Tab>	Archive file info table for an archiving object
ADMI_XRUN	Archive files for archiving sessions of XML archiving objects
ADMI_XDOCS	Resources (XML Archiving)

In addition, the archiving object uses the archiving class TEXT, which covers the following tables:

Table 212:

Table	Table name
STXB	SAPscript: Texts in non-SAPscript format
STXH	STXD SAPscript text-file header
STXL	STXD SAPscript text-file lines

Programs

BC_ARCHIVEis shipped with the following programs:

Table 213:

Program	Function
BC_ARCHIVE_PRE	Preprocessing
RSAADMAR	Write
RSAADMLO	Delete
RSAADMRL	Reload

See also:

21.1.9.6.1 Variant Settings for Preprocessing (BC-CCM-ADK)

Use

You can use this program to set the To Be Archived indicator for several archiving sessions through mass processing. The program can process archiving sessions for ADK and XML archiving objects.

Features

Selection Criteria

Under Archiving Sessions you can restrict the sessions to be marked using the following criteria:

- Archiving Session
  Number of the archiving session
- Archiving Object
  Archiving object to which the session belongs

Further Selection Criteria

Under Further Selection Criteria you can use additional criteria to further restrict your selection:

- Date of Archiving Session
  Creation date of the archiving session
- Started by
  User that started the archiving session

Additional Selection Criteria for ADK Archiving Objects

For ADK archiving objects you can enter the following additional selection criteria:

- Stored in Archive System
  Of the selected sessions, the program only marks those sessions for archiving, for which all archive files have been stored in the storage system.
- Sessions without Accessible Files
  Of the selected sessions the program only marks those sessions for archiving for which no archive files are accessible in the file system and for which no archive file has been stored in the storage system.

Additional Selection Criteria for XML Archiving Objects

For XML archiving objects you can enter the following additional selection criteria:

- Sessions without Accessible Resources
  Of the selected sessions the program only marks those sessions for archiving for which no accessible resources exist.

Additional Settings

The Processing Control, Log Options, and Archiving Session Note settings are standard settings that also apply to archiving objects. For more information see the general archiving documentation under Variant Maintenance for Archiving Jobs [page 733].

See also:

Archiving Archive Administration Data (BC-CCM-ADK) [page 828]

21.1.9.6.2 Variant Settings for Writing (BC-CCM-ADK)

Use

When you schedule the write program you must enter an already existing variant or create a new one. The variant contains selection criteria for the administration data that you want to archive.

Features

Further Selection Criteria

Here you can enter criteria to select the data to be archived. The selection can take place using the client and the archiving object.

Additional Settings

The processing options, the log options, and the archiving session note are standard settings that also apply to other archiving objects. For more information see the general archiving documentation under Variant Maintenance for Archiving Jobs [page 733].

See also:

Archiving Archive Administration Data (BC-CCM-ADK) [page 828]

21.1.9.6.3 Variant Settings for Reloading (BC-CCM-ADK)

Use

You can use this function to reload archive administration data that was archived using archiving object BC_ARCHIVE back to the database.

Prerequisites

Archiving sessions must exist for which the delete program ran in production mode.

Features

Further Selection Criteria

Here you can select the data to be reloaded. You can make your selection based on Client or Archiving Object.

Additional Settings

The Processing Options, the Log Options, and the Log Output option are standard settings that are also valid for other archiving objects. For more information see the general documentation under Variant Maintenance for Archiving Jobs [page 733].

Activities

After you have reloaded the data, the system removes the To Be Archived indicator, so that the reloaded information is displayed directly in Archive Administration (Archive Administration, Management Action). The system does not create a new archiving session during reloading. Instead, the archiving session for which the data was reloaded remains in Archive Administration under Completed Archiving Sessions and can still be evaluated there.

After reloading has been completed, the system issues a list of reloaded administration data.

See also:

Archiving Archive Administration Data (BC-CCM-ADK) [page 828]

Reloading Data [page 730]

21.1.9.6.4 Archive Administration Data (BC-CCM-ADK)

Setting the To Be ArchivedIndicator

Before you can archive the administration data of archiving sessions, you must indicate that these sessions are ready to be archived. You have two options for setting this indicator:

- manually (for individual sessions)
- automatically (for several sessions; mass processing)

Setting the To Be Archived Indicator Manually

1. Call Archive Administration (transaction SARA) and enter the archiving object for which you want to archive administration data.
2. Choose Management to display the relevant administration data.
3. Double click the desired archiving session and in the dialog box that appears choose the change mode.
4. Choose the To Be Archived indicator. Sessions for which you set the indicator in this manner appear subsequently as Archiving Sessions Marked for Deletion in Archive Administration.

Setting the To Be Archived Indicator Automatically

If you want to archive the administration data of several archiving sessions, it is recommended that you set the To Be Archived indicator automatically through the preprocessing program. The program can process archiving sessions of ADK and XML archiving objects. You can select the archiving sessions to be archived in the selection screen of the preprocessing program, see .

Archiving the Administration Data

In Archive Administration enter the archiving object BC_ARCHIVE and schedule archiving as usual.

> ⚠️ Caution
>
> You can only archive administration data if no further jobs exist for the selected sessions. This means that there may not be any entries left in the job overview of the archiving object.

Result

The archiving session you started writes the selected session information to one archive and deletes it from the database (whether or not the data is deleted depends on the Customizing settings for the automatic start of the delete program, and the variant you chose). The new archiving session then appears in the archive administration data of BC_ARCHIVE.

21.1.9.7 Archiving Change Documents (BC-SRV-ASF-CHD)

Background

Application programs write change documents for statutory or technical reasons. They must sometimes be retained for a long time. Documents which no longer require direct access can be archived, to reduce the database load. They are then saved in these archives for the statutory or technically-required period.

Technical Implementation

The archiving tools for change documents were developed with the Archive Development Kit [page 659] (ADK), which supports object-oriented programming methods. This refers to the archiving object **CHANGEDOCU** that contains the required database tables and the archiving class **CHANGEDOCU** with the function modules to process them. If you want to access the archiving object **CHANGEDOCU**, you have to use a report. All of the function modules in the **CHANGEDOCU** archiving class belong to the **SCD5** function group. This function group also includes the function modules which the archiving programs use to call the ADK functions.

Database tables

The **CHANGEDOCU** archiving object for archiving change documents contains the following database tables:

Table 214:

Table	Description
CDKEYTAB	Virtual table with the object key (only in archive, not in database)
CDHDR	Change document header in the database
CDPOS	Change document items in the database
CDPOS_UID	Change document item key per table, if it is > 70 characters. **CDPOS-TBAKEY** contains the **UID** for this entry.
CDPOS_STR	The change document item for STRING fields in **CDPOS-TBAKEY** then contains the **UID** for this entry.

Authorizations

If you want to archive, you need authorization for:

● Archiving in general

For more information, see

Integration

You can display archived change documents with the Archive Explorer (transaction `SARE`).

To display each table in archiving object `CHANGEDOCU` using the , you need an information structure based on the standard field catalog `SAP_CHANGEDOCU1` delivered by SAP. The information structure must be set up and active.

For more information about information structures, see also .

21.1.9.7.1 Variant Settings for Writing (BC-SRV-ASF-CHD)

Use

When you schedule the write program you must enter an already existing variant or create a new one. The variant contains selection criteria for the change documents that you want to archive.

Features

Selecting Documents

In the Change Documents frame, you can select the documents you want to archive based on the following criteria:

● Change doc. Object
  Name of the change document whose entries are to be archived, such as ADRESSE
● Object value
  Value assigned to the change document object, such as BC010000002852

Further Selection Criteria

Here you can further restrict the set of documents to be archived:

● From Date
  Date as of which the change was executed
● To Date
  Date up to which the change was executed
● From Time
  Time as of which the change was executed
● To Time
  Time until the change was executed

- Transaction code
  Name of the transaction in which the change took place
- Changed by (User Name)
  Name of the user, who made the changes

Additional Settings

The processing options, the log options, and the archiving session note are standard settings that also apply to other archiving objects. For more information see the general archiving documentation under Variant Maintenance for Archiving Jobs [page 733].

See also:

Creating Archive Files [page 723]

21.1.9.7.2 Descriptions of Standard Reports

Use

This is an overview of the archiving programs to write, read, delete and reload change document data.

> ⚠ **Caution**
>
> These programs only archive the change document data. Connections to master data arh lost.

If you want to archive the change document data with its master data, the developers of these archiving objects must put the archiving class CHANGEDOCU in their archiving object.

Table 215:

CHANGEDOCU_WRI	Change documents: Write program
CHANGEDOCU_DEL	Change documents: Deletion program
CHANGEDOCU_READ	Read selected change documents from the database or from the archive
CHANGEDOCU_REL	Change documents: Reload program
RSSCD7AR	Change documents - Write program

CHANGEDOCU_WRI

The data for the archive object CHANGEDOCU is written from the database into the archive.

You can specify the following selection parameters:

- Change document object
  (CDHDR-OBJECTCLAS e.g. MATERIAL)

- Object value
  CDHDR- OBJECTID e.g. 000000000000004711)
- From Date
- To Date
- From Time (HH:MM:SS)
- From Time (HH:MM:SS)
- Transaction Code
- User name of changer

In the flow control, choose:

- Test mode
  (No archiving - only simulation and output of the statistics)
- Production Mode
  (actual archiving)

In the detail log, you can choose:

- No detail log
- No success messages
- Complete

In the log output, you can choose:

- List
- Application log
- List and application log

You can enter a name for this archiving session, in the archiving session notes.

CHANGEDOCU_DEL

Deletes the change documents from the tables CDHDR, CDPOS, CDPOS_UID (from SAP Basis Release 6.20), CDPOS_STR (from SAP Basis Release 7.0), which were archived in a selected archive.

Flow Control:

- Test mode
  (no deletion from DB - simulation and output of statistics)
- Production Mode
  (Delete from DB)

CHANGEDOCU_READ

Displays the change documents from the tables CDHDR, CDPOS, CDPOS_UID (from SAP Basis Release 6.10), CDPOS_STR (from SAP Basis Release 7.0), which were archived in a selected archive, or saved in the database.

There are two ways to selecta a data source:

- Database
- Archive

Selection of archived change documents:

- Change document object
  (CDHDR-OBJECTCLAS e.g. MATERIAL)
- Object value

(CDHDR- OBJECTID e.g. 00000000000004712)

- Transaction Code
- User name of changer

Time restriction:

- From Date
- To Date
- From Time (HH:MM:SS)
- From Time (HH:MM:SS)

Changed document caused by:

- User
- Transaction Code

CHANGEDOCU_REL

Reads the archived data in selected archives and writes it (fills the chabge document data) in the database tables CDHDR, CDPOS, CDPOS_UID, CDPOS_STR. Duplicate entries are prevented.

You select the archives from among those offered. (Your archiving session names are useful here).

21.1.9.8 Archiving Long Text Logs (BC-SRV-ASF-AT)

Definition

Archiving of logged long texts with the archiving object `S_AUT_LTXT`.

> **i Note**
>
> The archiving object LO_CHVW has been revised within the framework of a project to standardize and optimize data archiving. You can use the standardized archiving object by activating the business function Data Archiving: Standardization of Archiving Objects (DA_ARCHOBJ_STANDARD_1). For more information see Data Archiving: Standardization of Archiving Objects or refer to the business function documentation in the Switch Framework (transaction SFW5).

Use

A complete **archiving cycle** has the following 3 main steps:

- Executing the preprocessing program:
  The data to be archived is prepared for the write program.
- Generating the archive files:
  With the help of the write program, the long texts to be archived are sequentially written to newly generated archive files. Note that archiving is client-dependent.

- Executing the deletion program:
  Once the long texts to be archived have been completely written to the archive files, the deletion program removes them from the database. For security reasons, the system first reads the archived data, and does not start the deletion run until this read operation has been completed successfully.

> ➡ **Recommendation**
>
> SAP recommends that you perform the *Delete Long Text Logs* function (program `S_AUT_DEL`) prior to the start of archiving. As a result, you ensure that irrelevant data records are not archived.

You should **reload** archived data into the database **only in exceptional circumstances**. For example, it may be necessary to reload data if you discovered immediately after archiving that too much or the wrong data was archived. This data should be reloaded as soon as possible after archiving has been carried out.

> ⚠ **Caution**
>
> After a release upgrade or code page switch, a reload of archived long texts may lead to a loss of data, and therefore must not be carried out.
>
> The reload program cannot be started if data of a non-archived preprocessing program exists. If necessary, discard this data using the program `S_AUT_ARCH_UNDO`.

When you reload archived data, note that active info structures for the reloaded archive files must be manually deconstructed (transaction ▌ *SARI* ❯ *Status* ▌).

The archiving programs use the **Codepage** information to format the data. A different data conversion may be required depending on the current code page at the time of long text logging.

> ⚠ **Caution**
>
> If you changed the code page of the systems (for example as a result of an upgrade from SAP R/3 4.6C to SAP ERP including a switchover to a two-byte Unicode code page), you have to record in the system the time at which this code page switch took place. Specifying the wrong code page may result in loss of data.

You record the change in the code page in Customizing under ▌ *SAP NetWeaver* ❯ *Application Server* ❯ *System Administration* ❯ *Evaluation of Table Changes* ❯ *Document Code Page Migrations* ▌.

Structure

The archiving object `S_AUT_LTXT` archives the following tables:

- `AUT_D_STXH_ARCH`
- `AUT_D_STXL_ARCH`

The following programs are available for the archiving object:

Table 216:

Function	Program:
Preprocessing	S_AUT_ARCH_PRE
Write	S_AUT_ARCH_WRI
Delete	S_AUT_ARCH_DEL
Reload (to be run in exceptional cases only)	S_AUT_ARCH_REL

21.1.9.8.1 Variant Settings for the Preprocessing Program (BC-SRV-ASF-AT)

Use

The preprocessing program prepares the long text data for the write program, in order to save time during the writing of the archive files.

Features

On the selection screen of the preprocessing program, you can enter an end date for archiving in the *Long Text Logs* area. All the long texts that were created up to this date are prepared for archiving.

> ⚠️ Caution
>
> This date must be in the past. In addition, it cannot fall in a period for which long texts were already archived.

You can enter a package size in the *Options* area. This defines the intervals (measured in number of long texts) in which changed data is permanently stored on the database. If the packet size is too high, the program may terminate. The optimal value depends on the configuration of your database system. The default value in the system is 1000.

Information on the other general selection options is available under Variant Maintenance for Archiving Jobs [page 733].

If data exists that resulted from a previous preprocessing program, but was not archived, the preprocessing program cannot be restarted. A restart of the preprocessing program is only possible once this data has been removed from the system. This can be done either by ending the archiving cycle that was started (write program and deletion program), or by discarding the data of the preprocessing program using program S_AUT_ARCH_UNDO.

21.1.9.8.2 Variant Settings for the Write Program (BC-SRV-ASF-AT)

Use

The write program writes the long texts to archive files.

Prerequisites

It is essential that the preprocessing program has been completely finished before the write program is run.

Features

On the selection screen of the write program, you can choose between test and production mode in the *Processing Options* area.

If the write program of the archiving object is executed in test mode, the system only simulates the archiving in accordance with the selection criteria you entered. An archive file is not created. You receive statistics on the table entries that would have been written to the archive in production mode, as well as the size and number of archive files that would have been created.

In production mode of the write program for the archiving object, the system creates archive files in accordance with your selection criteria. You receive statistics on the table entries that were written to the archive, as well as the size and number of archive files that were created.

In addition, you can enter a comment on the archiving run, which for example contains information about the archived periods. This comment appears at the following points:

- In the overview of archiving runs in archive administration (transaction SARA). It can also be changed here.
- During manual selection of archive files (e.g. evaluation programs). Here it facilitates selection of the archive files.

If you are using the archiving object within the framework of Information Lifecycle Management and the prerequisites for this are satisfied (such as activation of the associated business functions), the *ILM Actions* frame is also shown. With the aid of these actions, you can carry out an archiving in which the retention periods defined in the *Information Retention Manager* are evaluated. Furthermore, you can make snapshots (copies) of data or destroy data that satisfies the appropriate criteria.

More Information

21.1.9.8.3 Variant Settings for the Deletion Program (BC-SRV-ASF-AT)

Use

Once the data objects have been written to the archive files, they are deleted from the database.

Features

It is essential that the write program has been completely finished before the deletion program is run. Here, you can schedule the deletion program per archive file. You can do this manually or automatically. While the write program is running, you are not able to start the deletion program.

> **i Note**
>
> In the Implementation Guide, you can enter specifications regarding the running of the deletion program for the archiving object under ▌▶ *SAP NetWeaver* ❯ *Application Server* ❯ *System Administration* ❯ *Data Archiving* ❯ *Archiving-Object-Specific Customizing* ▌.

As in the write program, on the selection screen of the deletion program, you can choose between test and production mode in the *Processing Options* area.

If you execute the deletion program of the archiving object in test mode, data is not deleted from the database; the deletion is only simulated. You receive statistics on the table entries that would have been deleted from the database in production mode.

If you execute the deletion program of the archiving object in production mode, the archived data is deleted from the database. You receive statistics about the deleted table entries.

21.1.9.8.4 Tracking Details for Archiving

Use

If you want to track details of the archiving, you can use the transaction `S_AUT10` in enhancement mode to carry out an evaluation of the logs of the table `AUT_D_ARCH_HIST`.

Prerequisites

In the standard system, logging is not active for `AUT_D_ARCH_HIST`. If you want to use this function, you must use the transaction `S_AUT01` to activate table logging for the table `AUT_D_ARCH_HIST`.

Features

In the evaluation of the table logs, you get the following detailed information:

- Selection data of the preprocessing program (what data was included in this run)
- Status of the archiving run: *Empty* (does not contain any data), *Preprocessing Program Executed*, *Deletion Program Executed* or *Reload Program Executed*
- Number of the archiving run in the Archive Development Kit (ADK)
- Date/Time/User who ran the preprocessing, write, or deletion program or the program S_AUT_ARCH_UNDO

21.1.9.8.5 Evaluating Archived Long Texts

Use

You can display the archived long texts using the Archive Explorer of the . You can also access archived texts directly from the transaction S_AUT10.

Prerequisites

For you to be able to carry out evaluation using the Archive Explorer, at least one archive info structure must be active and fully set up.

Features

Archive Explorer

SAP supplies the archive info structure SAP_S_AUT_LTXT as the minimum instance of an archive info structure. For the archiving object S_AUT_LTXT, the field catalog SAP_S_AUT_LTXT is available. On the basis of this, you can create your own info structures, if you want to select further fields.

If the archive info structure was not active at the time of archiving, you must set it up manually (in the transaction SARI under *Status*).

For the evaluation of referenced long texts, there must be no period for which data exists on the database that is followed by a period for which data is archived. The program determines the long text on the basis of the data in the archive. Under these conditions, it cannot be guaranteed that the displayed texts are correct. For example, the system could display a long text that resulted from a later change, because this is the next available change in the archive. Archive the reloaded period again, or take organizational measures to ensure that the reference target of a long text does not fall within the reloaded period.

Direct Access

In enhancement mode of the transaction `S_AUT10`, under *Long Text Logs* you can directly access the archived long texts. To do so, specify that the system is to read from the archive when you choose the data source. You will find further information on the transaction `S_AUT10` under .

21.2 PRA Archiving Features

Use

Production and Revenue Accounting (PRA) Archiving provides archiving functionality for the following application components:

Table 217:

Production	Valuation
Contractual Allocation	Tax Reporting
Ownership	Journal Entry

Prerequisites

The PRA Archiving functionality has been tested thoroughly with a large amount of data in one of your company's test clients before being used in your company's "live" SAP ERP System.

The number of days that the system retains Ownership transfer request objects for PRA Archiving is specified in Customizing under *Industry Solution Oil & Gas (Production and Revenue Accounting) → Ownership → Owner Request → Owner Request Global Settings* . The number of days should be greater than or equal to the spool retention period.

The maximum archive file size for each PRA Archiving object is specified in transaction AOBJ under *Customizing Settings* .

Activities

To access the *Data Archiving* transaction, from the *SAP Easy Access* menu, choose *Tools → Administration → Administration → Data Archiving*

Using the PRA archiving objects, either select *Write* to store data in archive files, or use *Delete* to delete data from the database completely. For more information about the options available for each PRA archiving object, see PRA Archiving Objects [page 840] .

21.3 PRA Archiving Objects

Definition

Provide a means for you to remove certain types of Production and Revenue Accounting (PRA) data from the database.

Use

Table 218:

Object Description(Technical Name)	Type of Data Processed	Prerequisites	Results - Notes
Production (OIUPR_VOL)	• Archiving of measurement point volumes • Archiving of measurement document tables • Deletion of well completion volume data	• Relevant delivery network is allocated • In PRA Contractual Allocation (CA), the delivery network/sales date combination has a status of either *closed* or *archived* , and in Valuation, it is *Posted completely* .	The system changes the status of the delivery network to *Archived* so that subsequent reallocations in CA and Valuation are not carried out before running Production.
ContractualAllocation(OIURV_CA)	• Deletion of measurement point and well completion volumes	• In PRA Balancing, balancing reports are finalized. • In CA, the delivery network/sales date combination has a status of either *closed* or *archived* , and in Valuation, it is *Posted completely* .	The system changes the status of the delivery network to *Archived* so that subsequent reallocations in CA and Valuation are not carried out before running Production. You can use the *Read* option to view data archived in CA at a later date as required.

Object Description(Technical Name)	Type of Data Processed	Prerequisites	Results - Notes
Ownership(OIUOW_TRF)	• Archiving of ownership transfer documents	• The number of days that the system retains Ownership transfer documents for PRA is specified in Customizing under ▶ *Industry Solutions Oil & Gas (Production and Revenue Accounting)* ▶ *Ownership* ▶ *Owner Request* ▶ *Owner Request Global Settings* ▶. • The number of days should be greater than or equal to the spool retention period.	You can use the *Read* option to view data archived in Ownership at a later date as required.
Valuation(OIURV_VAL)	• Archiving of Combined Run data	• Valuation documents for the delivery network/ sales date/ frequency combination have been posted successfully and completely	You can use the *Read* option to view data pertaining to the Combined Run report at a later date as required. **Note:** Valuation history information that is required for reversals is available in RJE tables, and data from these tables will not be archived.
Tax Reporting(OIUTX_REP) Royalty Reporting(OIURY_REP)	• Archiving of reporting history data	• Reporting is finalized for the month in which data is being archived	None.
Journal Entry(OIUH_JE_GL)	• Archiving of data from the Journal Entry interface tables that is posted to the General Ledger (GL) • Archiving of GL history data	• Offsetting entries are posted in GL and all records total to zero	None.

See also:

Data Archiving for Production and Revenue Accounting [page 839]

22 PRA Data Management

Purpose

The goal of PRA Data Management is to allow seamless access to PRA data, across more than one PRA installation (more than one PRA instance). Another goal is to increase performance by bringing data that is not immediately needed into secondary databases. The overall effect is greatly improved performance for your PRA system. This solves the problem of too rapid data growth.

Most customers can generalize that twenty percent of their data residing in their system is used eighty percent of the time. As data ages, archiving is normally the standard solution used to reduce data volume in the ERP system (see PRA Archiving [page 659]). Archiving requires the data to be "business complete" (in other words, not change any more). However, certain business scenarios require aged data to be changed. Standard archiving is not the ideal solution for those cases, and thus SAP offers the PRA Data Management solution.

PRA PDM addresses that need to have large amounts of accessible data without the burden of having a huge database for common everyday usage, by splitting the data into several databases.

There are two central parts of PDM:

- **PDM Engine** – runs "behind the scenes" and selects the relevant instance (storage location) from the secondary instances. It can also merge data among instances.
- **PDM Administrator Workbench** – Allows the PDM Administrator to move data between instances, view table information, jobs, and table history (see: Using the PDM Administrator Workbench [page 844]).

The main benefits of implementing and using PDM are:

- Decreased data volumes
- Decreased data access times
- Much more efficient SQL statement processing times

The primary PRA installation contains the current data, and the historical data is distributed across one or more secondary installations (instances).
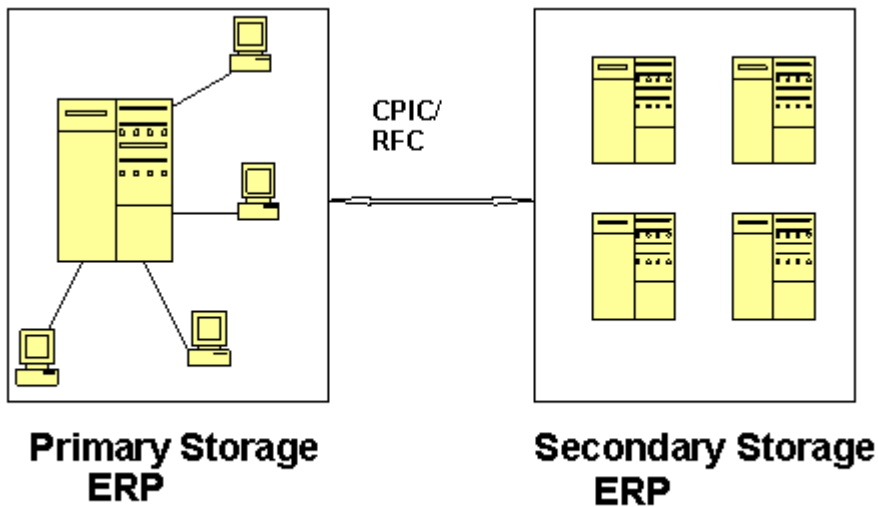
Communication between the instances occurs through a database connection:

- Primary storage (ERP system)
- Secondary storage (ERP system)

Implementation Considerations

You should implement PRA-PDM if data volumes are high enough to warrant this solution to improve performance. PDM offers the advantage of being able to access vast amounts of data, while simultaneously keeping your online database at a reasonable size. However, when access to the aged data is required, the access may take longer (and the complexity of the overall PRA solution increases). PDM should thusonly be implemented in cases in which the ability to change aged data is an absolute requirement.

ℹ

All instances/databases that are set up should be in synch with your company's overall backup plan and recovery procedures.

Features

When a user runs a program or process in the PRA system, the PDM Engine does the following:

1. Decides which instance the relevant data is on
2. Retrieves the data from the relevant instance(s).

In addition, PDM can do the following:

- Can merge the data, if multiple instances are used
- Presents the data to the PRAprogram/installation

- Updates the data in all relevant instances, if database updates are required by the PRA process
- Speed up SQL processing times

The PDM Administrator can decide to customize the system. For example, the administrator could set up the system as follows:

- Instance A = 36 month data retention
- Instance B = 60 month data retention
- Instance C = 80 month data retention

- The PDM Administrator is used to monitor and manage all PRA Data Management activities.

22.1 Using the PDM Administrator Workbench

Use

Use the PDM Administrator Workbench to carry out all activities required for the monitoring and management of PDM, including:

- Obtaining a logical view of all tables in their execution groups, which have been PDM-enabled
- Scheduling and moving data among the various instances (schedule a job for data movement)
- Obtaining the current status of each table
- Obtain a list of all jobs that have been scheduled to move data for a particular table or group
- Obtain the split details for each table on each instance
- Test database connections
- Check PDM references
- Display the record count for a table: the list shows the year, the number of records in that year, and that number as a percentage of the records.

Procedure

- ▐▶ *From the SAP Easy Access menu, choose Logistics* ❯ *Production and Revenue Accounting* ❯ *Tools* ❯ *Partitioned Data Management* ❯ *PDM Adminstrator Workbench.* ❯

The PDM Administrators' Workbench appears.

The PDM Administrators' Workbench is the central workplace for managing and moitoring PDM tables, data, and activities.

On the PDM Administrator Workbench, the left part of the screen is the Table List. It lists all PDM-relevant tables.

- In the tree control on the left part of the screen, select the relevant table, by double-clicking on it.

The table that you selected is now displayed in the right section of the screen, in the *Table* field. Based on the table you seelected, you can now select a screen tab in the right portion of the screen. The screen tabs are for the following:

Table 219:

Screen tab:	Allows you to:
Current status	View basic information on the table: database connection, retention months, and nearline date. The current status tab displays a list of the storage locations (instances or data-bases) for the table selected from the tree control structure that you selected. Each line on the list represents a different storage location, and allows you to see exactly how the data is currently split for that particular table (note that the list is display only).
Split logs	View information on the background jobs and certain other details (job name, status, start time, etc.) that pertain to the table.
Split details	View nearline data: the oldest month for which data can be found for that table in the secondary instance, for the table.
Move Data	
Job Status	
History	View a high-level overview of all the data movements for the selected table. Whether or not the data movement was part of a scheduled job or it was an ad-hoc movement, the details should be displayed on this list.

- To schedule a job, select *Define Background Job* . The *Define Background Job for Data Move* dialog box is displayed. On that dialog box, select the relevant settings (group ID, global path, and Job Class (priority of the job), and the server name. Make your settings and then select *Start Conditon* , or *Submit Job* . the job is submitted and begins.

- To test the database connections, from the SAP Easy Access menu, choose Tools *Test Connection(s).*

23 Destruction of Vendor Audit Table Content with a Data Destruction Object

You use the data destruction object OIUDP_RP_AUDIT_DELETE to destroy Vendor Audit Table content determined by the SAP Production and Revenue Accounting EoP utility for vendor replacement.

The data destruction object OIUDP_RP_AUDIT_DELETE is assigned ILM object OIUDP_RP_AUDIT_DELETE.

Table 220: Tables from which records are destroyed

Table	Table Name
OIUDP_T_AUDIT	PRA: DPP Audit Table

ILM-Related Information for Destruction Object

You use the standard fields to create ILM policies. No separate condition field is created for the data destruction object.

Available time reference - START_RET_DATE - Start of Retention Period.

Time offsets used are:

- END_OF_MONTH – End of Month
- END_OF_QUARTER – End of Quarter
- END_OF_YEAR – End of Year

Available Policy Categories

RST: Residence Rule

RTP: Retention Rule

Additional Checks by the Data Destruction Program

The vendor should exist in the audit table, and the retention period is considered before data destruction is executed.

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SAP Oil & Gas (PRA - Production and Revenue Accounting)
Destruction of Vendor Audit Table Content with a Data Destruction Object

Defining a Variant for the Data Destruction Object

A variant can be created for the destruction program OIUDP_RP_AUDIT_DELETE_DES, which can be used during the execution of the data destruction via ILM (that is, transaction ILM_DESTRUCTION).

Authorization

Authorization check is done at the transaction OIUDP_AUDIT_DELETE.

Related Information

Checking the ILM Object Assignment [page 847]
Finding Data Destruction Objects [page 848]

23.1 Checking the ILM Object Assignment

This task explains how to check the ILM object assignment to the data destruction object.

Procedure

1. Execute transaction IRM_CUST.
2. Navigate to object category *Specific Customizing*.

Related Information

Destruction of Vendor Audit Table Content with a Data Destruction Object [page 846]
Finding Data Destruction Objects [page 848]

23.2 Finding Data Destruction Objects

This task explains how to find data destruction object OIUDP_RP_AUDIT_DELETE proceed as follows.

Context

Procedure

1. Execute transaction DOBJ.
2. To search for the data destruction object, choose *Position*.
3. Double-click data destruction object OIUDP_RP_AUDIT_DELETE to view more information such as the data destruction program and the component.

Related Information

Destruction of Vendor Audit Table Content with a Data Destruction Object [page 846]
Checking the ILM Object Assignment [page 847]

Important Disclaimers and Legal Information

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