Engineering Change Proposal (ECP) Origination Instructions and Workflow for ECPs Costing Less Than $100,000

Prepared by:

WSR-88D Radar Operations Center
3200 Marshall Ave., Suite 100
Norman, OK 73072

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Engineering Change Proposal (ECP) Executive Summary

Engineering Change Proposals are the “umbrella” under which all components (ECOs, ACOs, DCRs, Modification Notes, etc.) of a system modification are organized. An approved ECP is required prior to incorporation of the various components into the WSR-88D baseline. This document outlines the procedures to produce, submit, review and adjudicate ECPs costing less than $100,000, including Test ECPs.

Acronyms

ACO	Artwork Change Order
CCB	Configuration Control Board
CCR	Configuration Change Request
CM	Configuration Management
DCR	Document Change Record
ECO	Engineering Change Order
ECP	Engineering Change Proposal
ROC	Radar Operations Center
TMS	Time Management System
TRC	Technical Review Committee
WPI	Work Practice Instructions

1. Launching the ECP Process

To activate a project, a request is made at a **Technical Review Committee (TRC)** meeting to take a CCR(s) from the System Project Pool and create an **Engineering Change Proposal (ECP)**. An ECP is the vehicle used to document the activities involved in the project. The TRC will assign the project lead, team members and ECP classification at this time. ECP classifications can be found in **Appendix A** of this document.

Creating the ECP Template

The CM Analyst will create the ECP template and populate the following fields:

On the Cover Page –

Number
Change Type
Change Administrator
Originator
Priority
Class
Workflow
Status
Product Line
Title
Date Originated

Detail Section –

ECP Number
Effectivity
Cognizant Engineer
Type
Engineering Area
Team Members
Driving CCRs

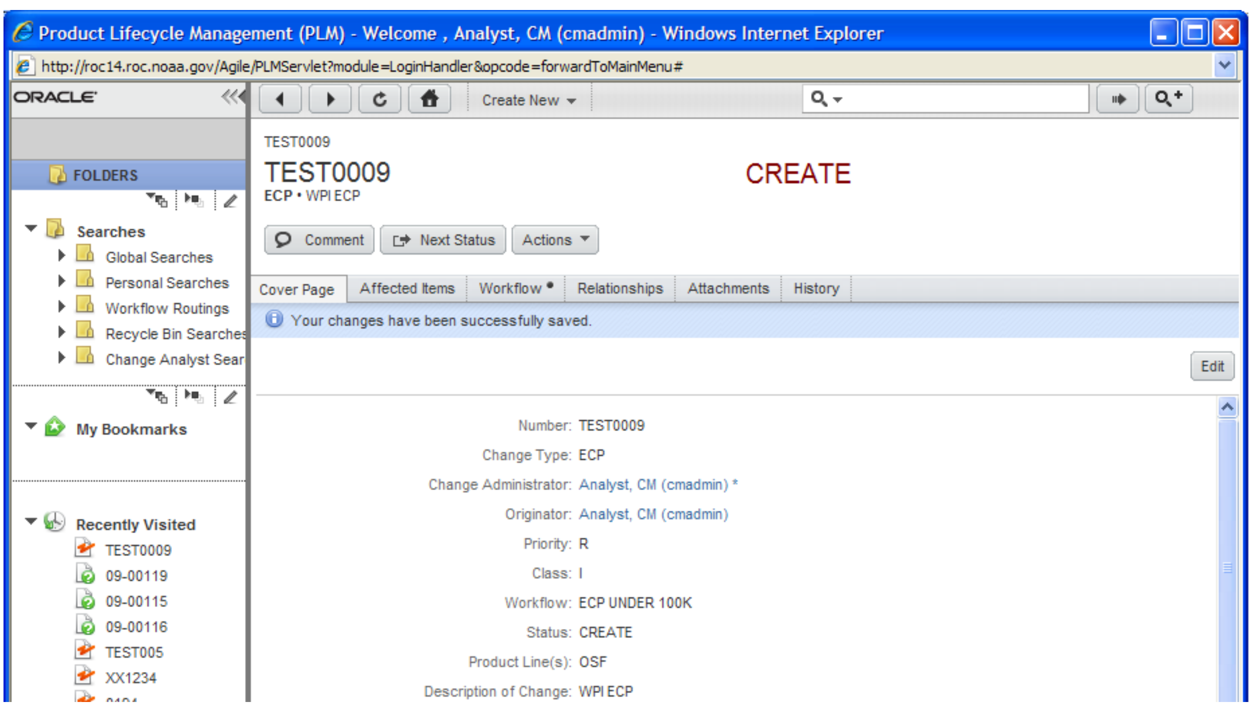


Figure 1: Agile ECP form.

Upon completing the fields listed above, the CM Analyst will advance the ECP to **CM Allocation** status. At this status the CM Analyst designates the team members and branch chief as approvers on the **Workflow tab**.

The CM Analyst will populate the **Relationships tab** noting all CCRs being implemented by the ECP.

The CM Analyst will then advance the ECP to **Pending** status and send an email notification to the originator (project lead) that the ECP has been produced (Figure 2). The email will also contain the name of the ECP Facilitator assigned to the project and offer the ECP Facilitator's services.

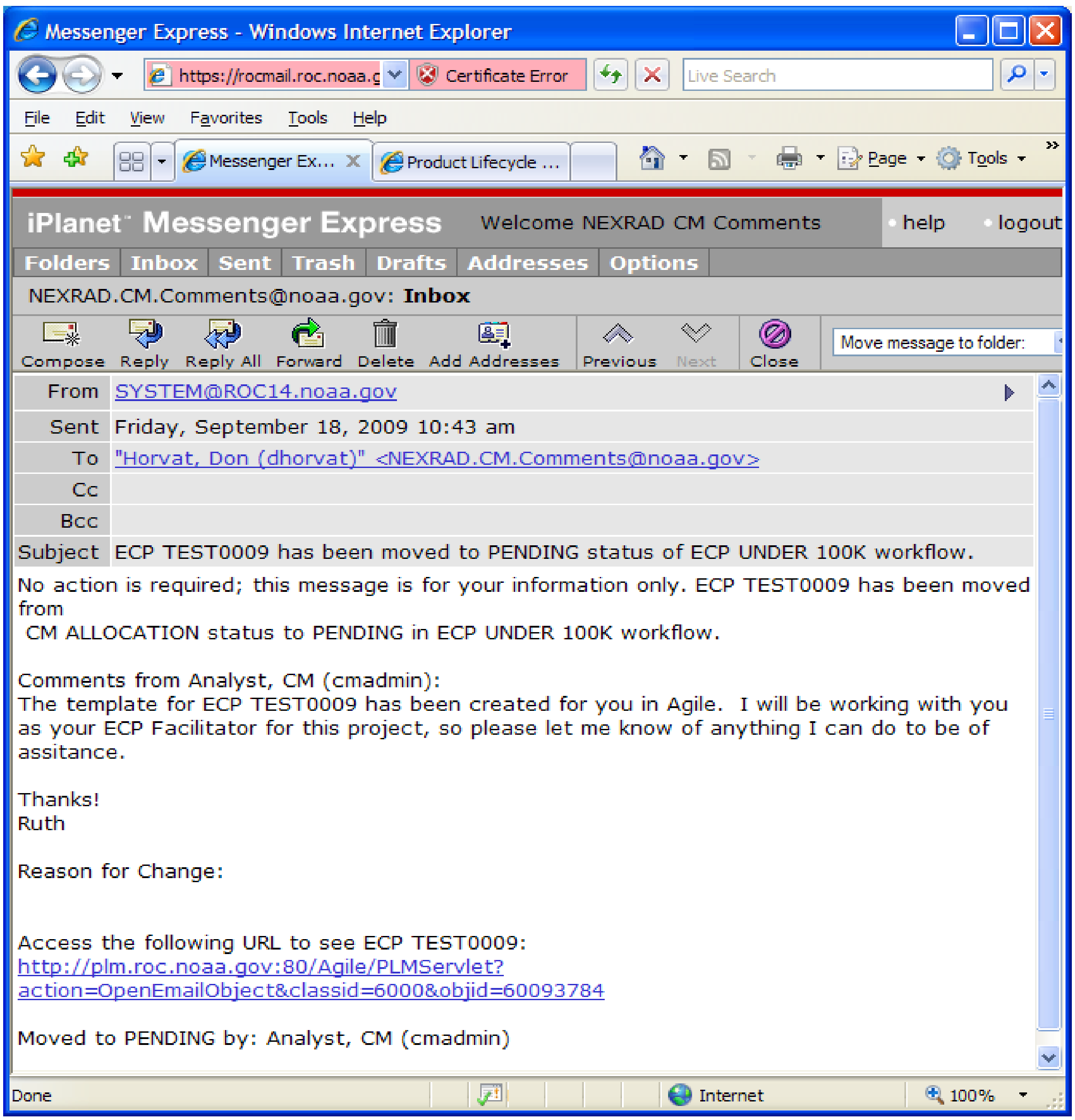


Figure 2: Email notification that ECP template has been produced.

The ECP Facilitator's function is to work with the project lead to:

- Ensure the project does not exceed the approved project requirements as stated in the associated CCRs
- Gather project data needed to populate the ECP and its attachments
- Help the project lead avoid pitfalls in the ECP review/approval process

2. Starting the ECP Process

The project lead should begin his ECP process with a **team meeting**, and he must conduct at least one team meeting while the ECP is in Pending status. (The CM Analyst will have listed the project team members in the **Team Members** field in the Detail section on the Cover Page tab of the ECP (Figure 3).)

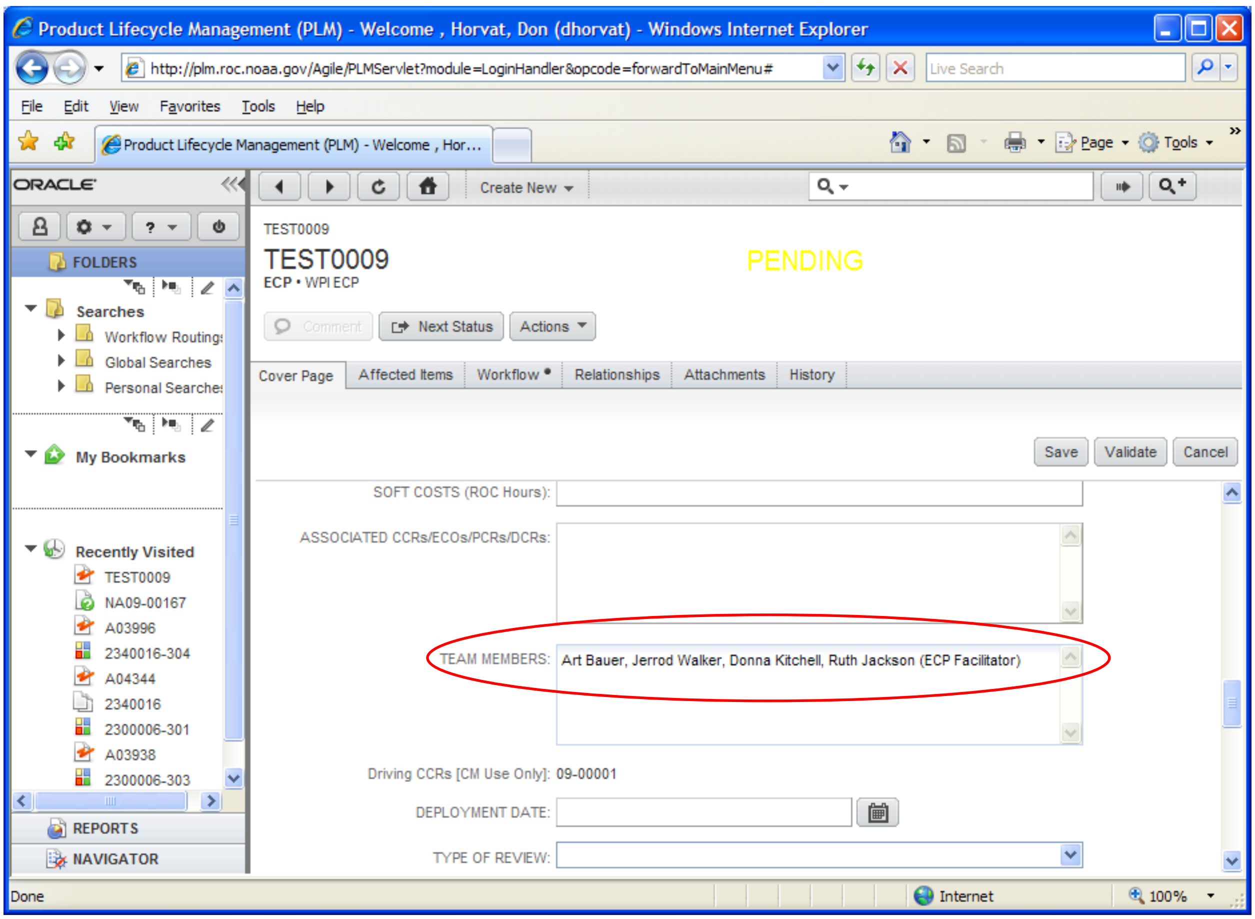


Figure 3: Team members listed on ECP form.

During the team meeting, the team members should provide much of the information required to populate the ECP.

NOTE: *By working with the ECP Facilitator, the project lead can skip all steps in section 3. However, if the project lead chooses to populate the ECP form and its attachments, he must complete section 3.*

3. Populating the ECP

1. The project lead can open the ECP by clicking the Agile ECP **URL** in the email notification (Figure 4). This will launch Agile.

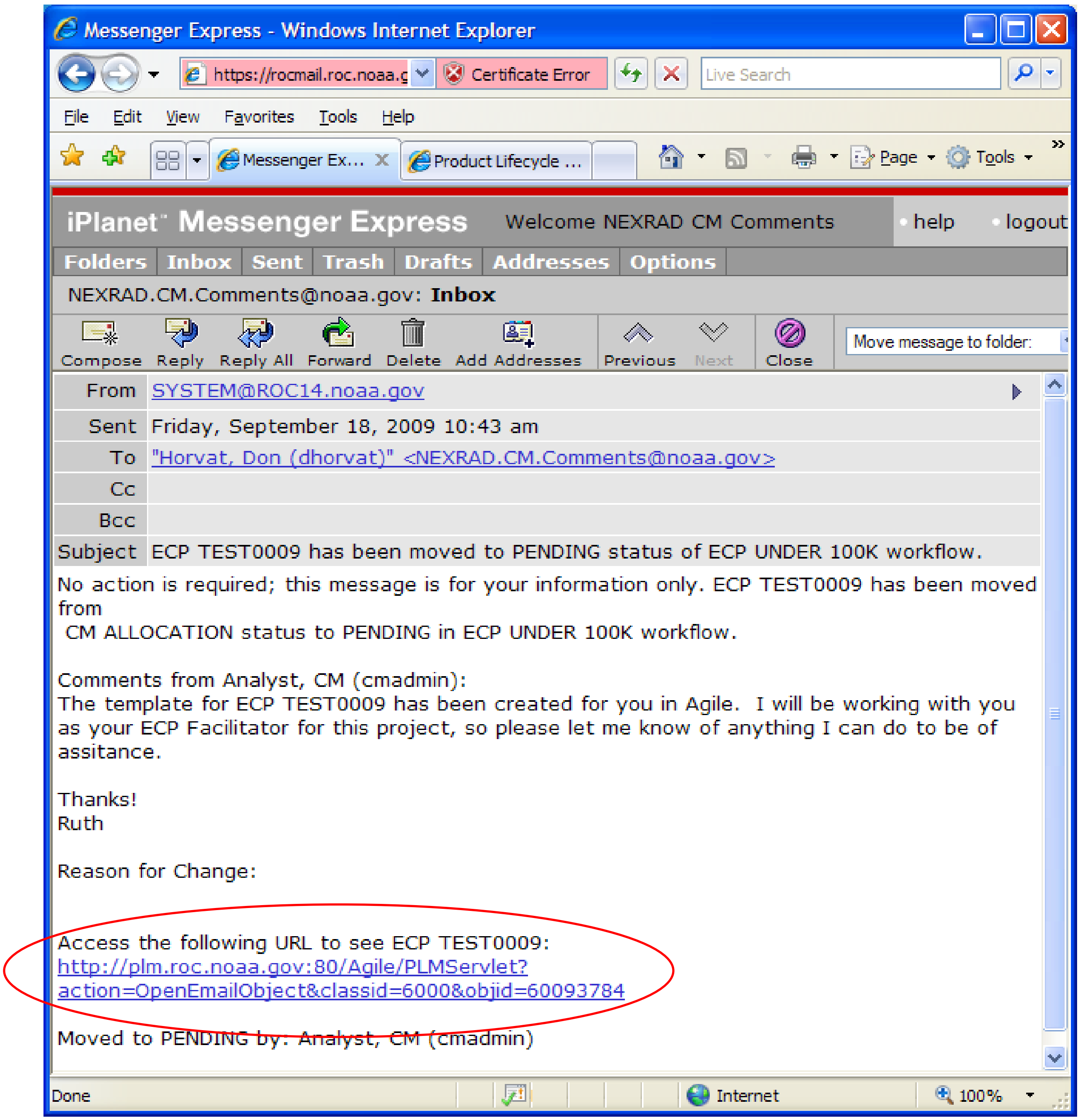


Figure 4: Agile ECP URL.

2. The **Product Lifecycle Management (PLM)** login screen will be displayed (Figure 5). Complete the **Username** and **Password** information and click **Login**.

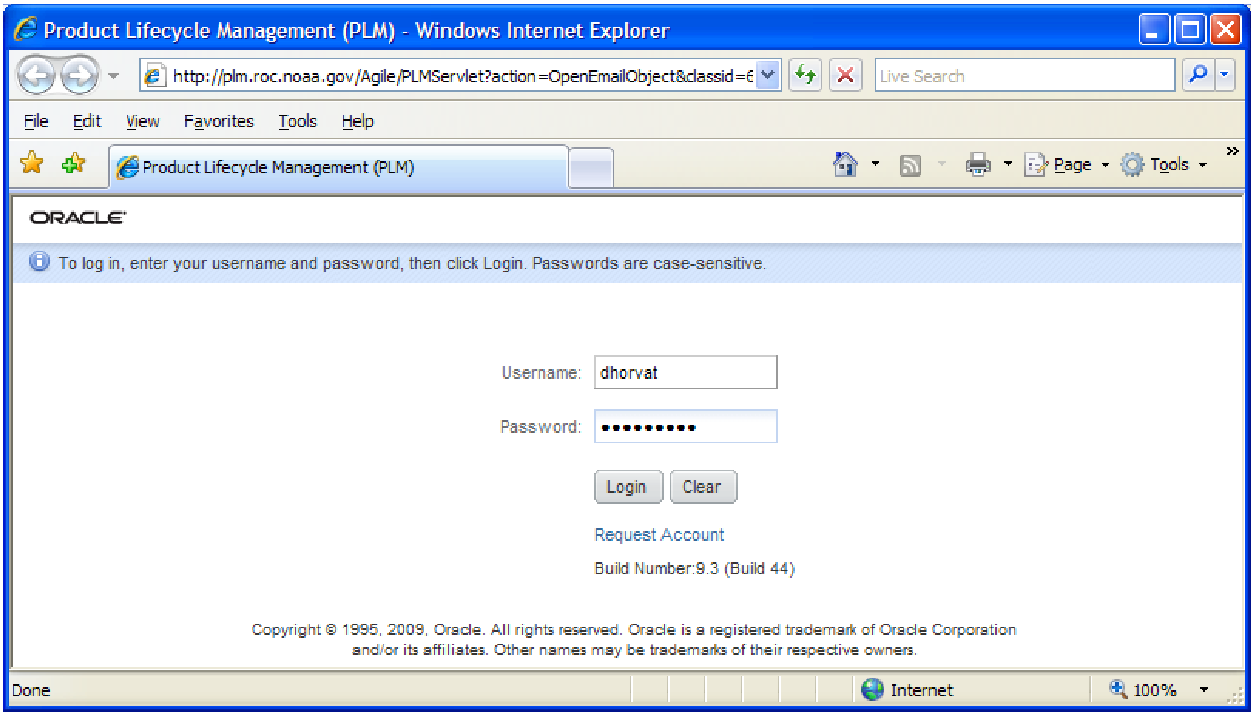


Figure 5: Product Lifecycle Management login screen.

3. The ECP (**TEST0009**) will be displayed (Figure 6). The project lead will receive the ECP in Pending status. All preparatory work for the ECP will be performed while the ECP is in this status.

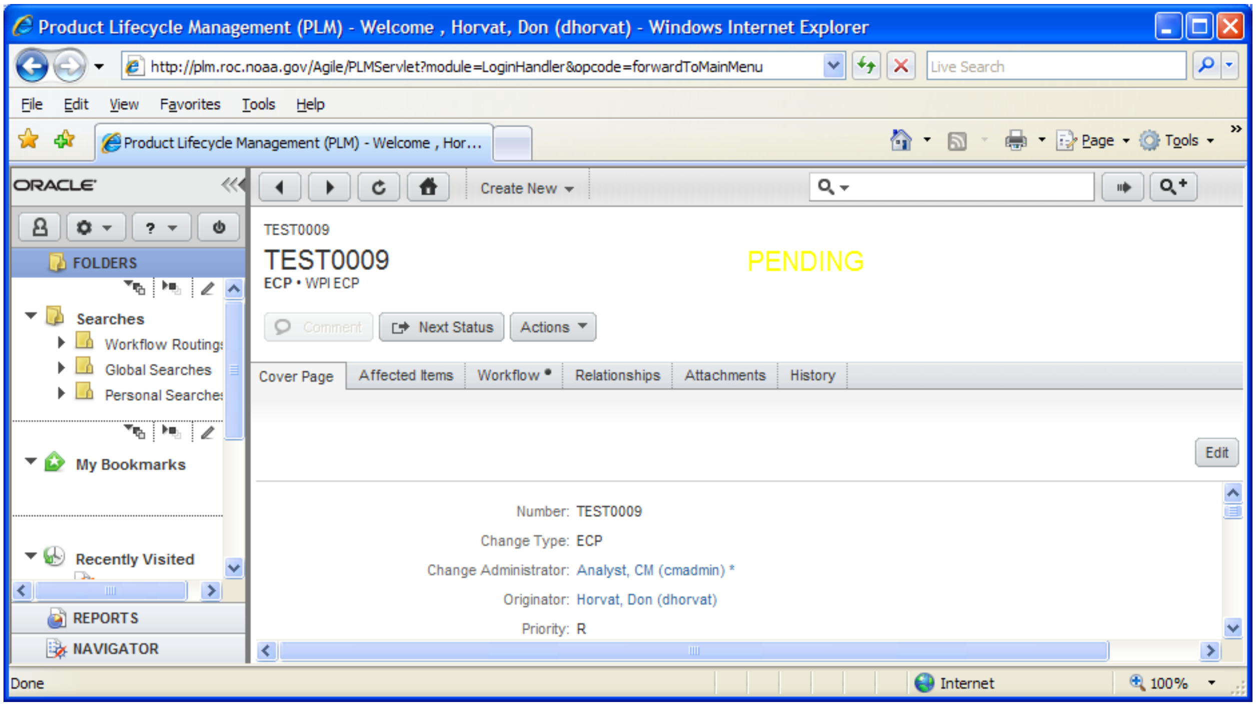


Figure 6: Agile ECP.

A. Cover Page

Complete the following blocks on the Cover Page of the ECP:

1. Description of Change:

This field will contain the **title** of the ECP (entered by the CM Analyst). Enter a blank line after the title and then enter a **description** of the proposed change. The description should identify the affected portion of the system and the problem in question.

NOTE: Many of the blocks on the Agile ECP form have limited character lengths, thus limiting the amount of data that can be entered. (A character counter has been added to the ECP form (Figure 7).) If the text is too long, it is necessary to use an attachment in order to include all the information in the ECP. **Attachment A** (Additional Information) is used for this purpose. An example of the Attachment A template has been included in **Appendix D** of this document. The template for Attachment A can also be found on the Attachments tab of this WPI form in Agile.

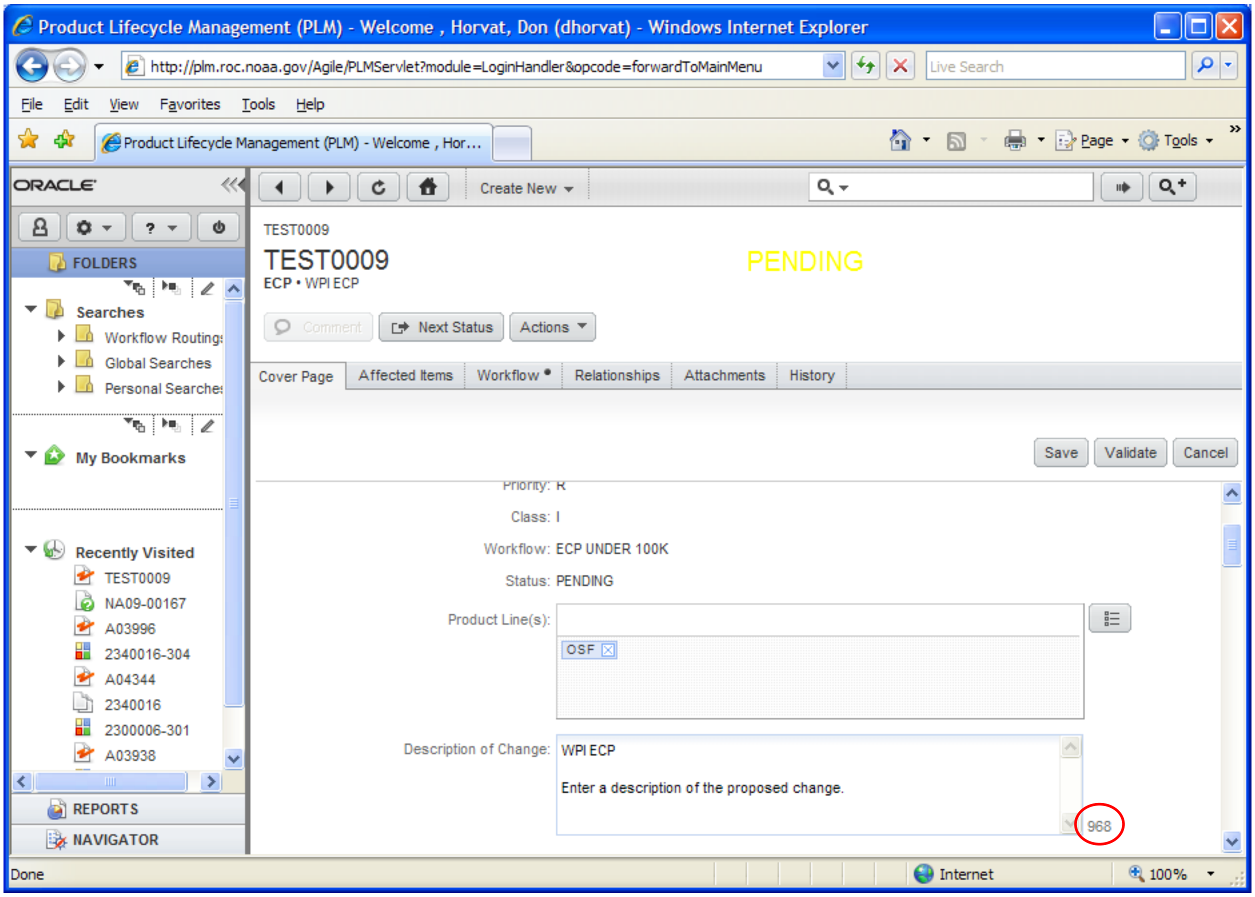


Figure 7: Character counter.

2. Reason For Change:

Enter a **proposed solution** in sufficient detail to adequately describe what the project is to accomplish.

B. Detail Section

Complete the following blocks in the Detail section of the Cover Page:

1. Justification Code:

Click the options button  to the right of the **Justification Code** block, and select one of the following from the options menu:

Interface – To eliminate incompatibility between CIs.
Compatibility – Proposed change is necessary to make the system/item work.
Deficiency – Eliminate a deficiency (use if more descriptive code doesn’t apply.)
Operational or Logistics Support – Make a significant change in operational capability or logistic support. (Commonly known as an improvement change.)

Production Stoppage – To prevent slippage in an approved production schedule.
Cost Reduction – To provide net total life-cycle cost savings.
Safety – To correct a hazardous condition.
Value Engineering – For a net life-cycle cost reduction.

2. CI/CPCI Number/Title:

Click the options button  to the right of the **CI/CPCI Number/Title** block, and select from the options menu all applicable CIs (CPCIs for SW Build Release ECPs) affected by this proposed change. All CIs and CPCIs are listed in **Appendix C** of this document.

3. Technical Manuals:

Click the options button  to the right of the **Technical Manuals** block, and select from the options menu all Technical Manuals affected by the proposed change. All Technical Manuals are listed in **Appendix C** of this document.

4. Estimated Hard Costs:

Estimated hard costs (procurements, travel, printing, field labor, shipping, media, credit card purchases, etc.) for the project should be calculated and attached to the Attachments tab of the ECP as **Attachment C** (Costing). An example of the Attachment C template has been included in **Appendix E** of this document. The Microsoft Excel template for Attachment C can also be found on the Attachments tab of this WPI form in Agile.

5. Soft Costs (ROC Hours):

Obtain soft costs from the **ROC Time Management System (TMS)**. (Instructions for using TMS to obtain this information can be found in **Appendix B** of this WPI.) Enter the team's **total hours** in the Soft Costs block in the **Detail section** of the ECP. Enter each team member's soft costs (by section) in the **Soft Costs** table included as part of **Attachment C** (Costing). An example of the Attachment C template has been included in **Appendix E** of this document. The template for Attachment C can also be found on the Attachments tab of this WPI in Agile.

6. Associated CCRs/ECOs/PCRs:

List all **CCRs**, **ECOs**, **PCRs**, **ACOs** and **MCNs** to be implemented by the project. It is *very important* to list all ECOs here, as they will not be listed on the Affected Items tab.

7. **Deployment Date:**

To display the **Deployment Date** calendar, click the calendar button  located on the right hand side of the Deployment Date block. Select the ECP's **estimated date of deployment**.

A MicroSoft Project **schedule** is required for each ECP. Using the **Attachment S** (Schedule) template from the Attachments tab, delete any tasks that are not applicable to the ECP. Then enter dates for the remaining project tasks. An example of the Attachment S template has been included in **Appendix G** of this document. The Microsoft Project template for Attachment S can also be found on the Attachments tab of this WPI in Agile.

8. **Suspense Date**

The Suspense Date block will be completed by the CM Analyst when the ECP is routed for review.

9. **Type of Review**

The Type of Review block will be completed by the CM Analyst when the ECP is routed for review.

C. **ECP Page 3 Section**

Complete the following blocks in the ECP Page 3 section of the Cover Page:

1. **Baseline Affected:**

Select one of the following options from the **Baseline Affected** drop-down list:

Functional
Allocated
Product

2. **Effects on Product:**

Click the options button  to the right of the **Effects on Product** block, and select all applicable options from the Effects on Product options menu:

Performance
Weight-Balance-Stability (Aircraft)
Weight-Moment (Other Equipment)
CDRL, Technical Data
Nomenclature

Explain the effects of each in **Attachment A** (Additional Information).

3. Effects on Logistics:

Click the options button to the right of the **Effects on Logistics** block, and select all applicable effects from the Effects on Logistics drop-down list:

ILS Plans
Maintenance Concept, Plans and Procedures
Logistics Support Analyses
Interim Support Programs
Spares and Repair Parts
Tech Manuals/Programming Tapes
Facilities
Support Equipment
Operator Training
Operator Training Equipment
Maintenance Training
Maintenance Training Equipment
Contract Maintenance
Packaging Handling, Storage, Transportability

Explain these effects if they are not covered in the modification/retrofit plan (**Attachment M**), which is the usual source for this type of information. It is possible that all information may not fit in this block, due to the limited character space allowed by Agile. If this is the case, use **Attachment A** (Additional Information) for the overflow text.

4. Effects on Operation:

Click the options button to the right of the **Effects on Operation** block, and select all applicable effects from the Effects on Operation drop-down list:

Safety
Survivability (includes nuclear survivability)
Reliability
Maintainability
Service Life
Operation Procedures
Electromagnetic Interference
Activation Schedule
Critical Single Point Failure Items
Interoperability

Explain the effects of each. Quantitative values are required when reliability and service life are impacted. It is possible that all information may not fit in this block, due to the limited character space allowed by Agile. If this is the case, use **Attachment A** (Additional Information) for the overflow text.

5. Effects on Configuration:

- Briefly describe any effects of the proposed change on performance allocations and functional/physical interfaces in the system specification.
- Briefly describe any effects of the proposed change on deployment, employment, logistics, and/or personnel and training requirements specified in the system and/or CI specifications, including any changes or effects on the operability of the system, particularly any effect on interoperability.
- Briefly describe any effects of the proposed change on configuration item specifications.
- Identify any other activities or systems affected by the proposed change, AWIPS for example.

NOTE: Many of the blocks on the Agile ECP form have limited character lengths, thus limiting the amount of data that can be entered. (A character counter has been added to the ECP form.) Therefore, an attachment must be used to include all necessary information in the ECP. **Attachment A** (Additional Information) is used for this purpose. An example of the template has been included in **Appendix D** of this document. The template for Attachment A can also be found on the Attachments tab of this WPI in Agile.

6. Trade-offs/Alternate Solution:

Provide a summary of the various solutions considered with an analysis showing the reasons for adopting the solution proposed by the ECP. It is possible that all information may not fit in this block, due to the limited character space allowed by Agile. If this is the case, use **Attachment A** (Additional Information) for the overflow text.

7. Other Considerations:

Explain other considerations in this block. Below are examples of possible effects:

- Interfaces having an effect on adjacent or related items (output, input, size, mating connections, etc.)
- Physical constraints, i.e., removal or repositioning of items, structural rework, increase or decrease in overall dimensions.
- Software (other than operational, maintenance, and training software) requiring a change to existing code and/or resources, or addition of new software.
- Government Furnished Data (GFD) changed, modified or now obsolete.

- Rework required on other equipment not previously included, which will effect the existing operational configuration.
- Additional or modified system test procedures.
- Any changes affecting existing warranties or guarantees.
- Changes or updates to the parts control program.
- Effects on life cycle cost projections for the configuration item or program.

It is possible that all information may not fit in this block, due to the limited character space allowed by Agile. If this is the case, use **Attachment A** (Additional Information) for the overflow text.

D. Affected Items Tab

No items are to be added to the Affected Items tab!

All affected items should be documented on separate ECOs and the ECOs listed in the **Associated CCRs/ECOs/PCRs** block on the Detail tab of the ECP. The ECO process is explained in Agile Work Practice Instructions **WPI0010**.

E. Workflow Tab

The **Workflow tab** (Figure 8) provides a graphical representation of the Agile statuses through which the ECP will pass in the course of the review/approval process.

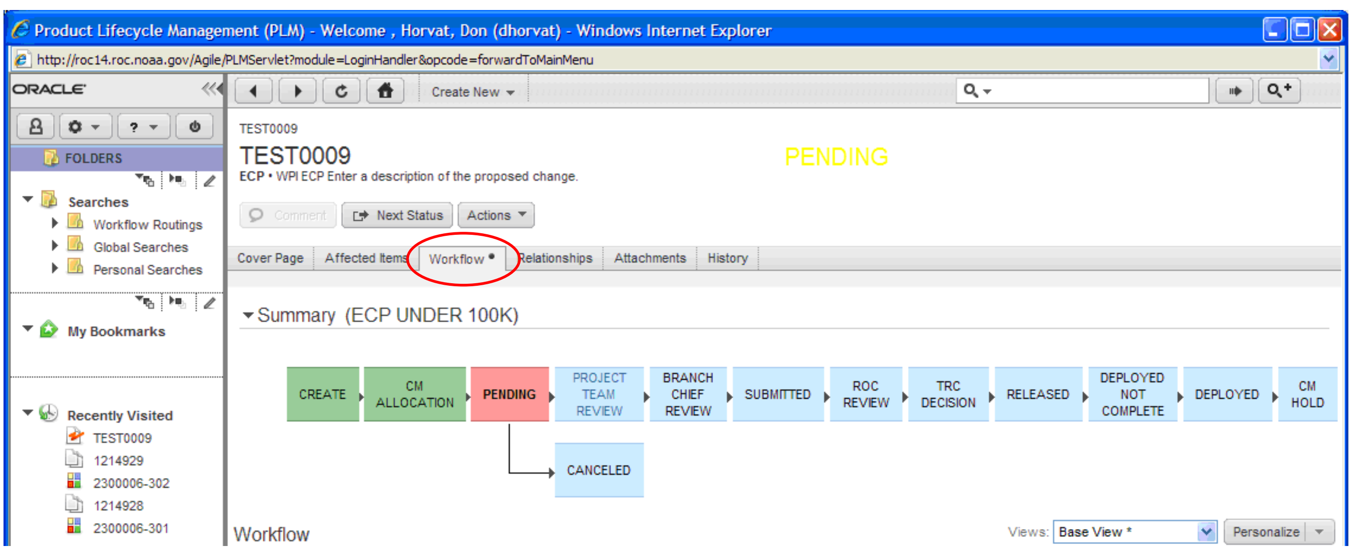


Figure 8: Workflow tab.

F. Relationships Tab

The **Relationships tab** will be populated by the CM Analyst. Initially, the items listed on this tab will be **CCRs** implemented by the ECP. Users will be able to click on a related item and the item will automatically open in Agile. When the ECP is submitted, the CM Analyst will add all **ECOs**, **PCRs**, **ACOs** and **MCNs** implemented by the ECP, which will allow reviewers to click on each related item for viewing.

G. Attachments Tab

The **Attachments tab** is to contain all documentation needed to give clarity to the proposed change. ECP attachments will vary from ECP to ECP; however, **ALL** ECPs must contain **costing**, **schedule**, and **modification/retrofit plan** attachments. **Test ECPs** must also contain **Test Plan** and **Test Report** attachments.

NOTE: The templates for the **costing**, **schedule**, and **modification/retrofit plan** attachments will have been added to the ECP when the ECP template was created by the CM Analyst.

1. To add attachments, select the **Attachments tab** on the ECP form (Figure 9).

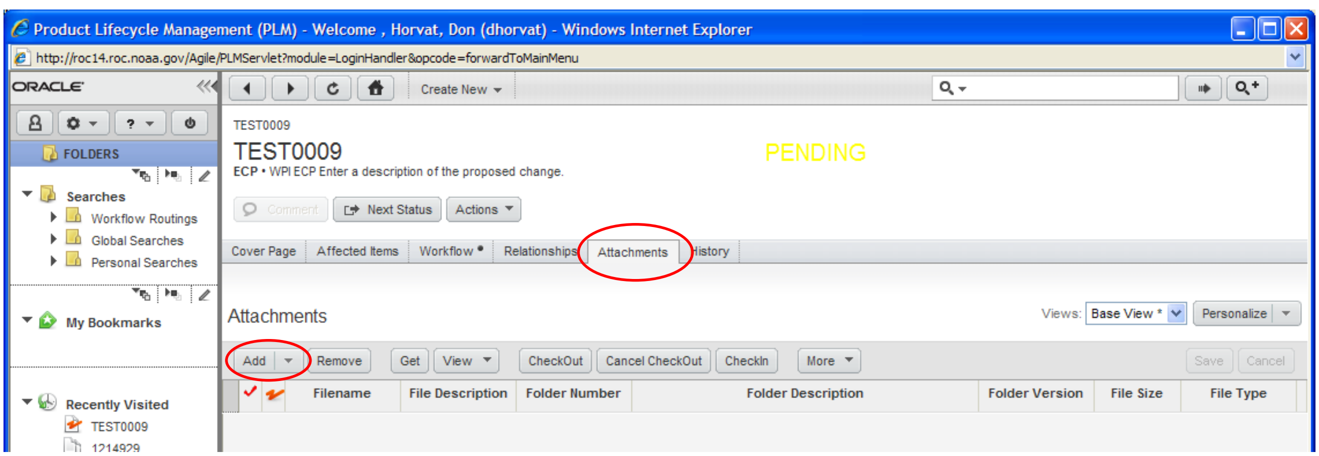
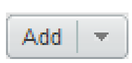


Figure 9: Attachments tab and Add button location.

2. Click the **Add** button  located on the Attachment tab's toolbar (Figure 9). The **File Uploader** dialog box will appear (Figure 10).

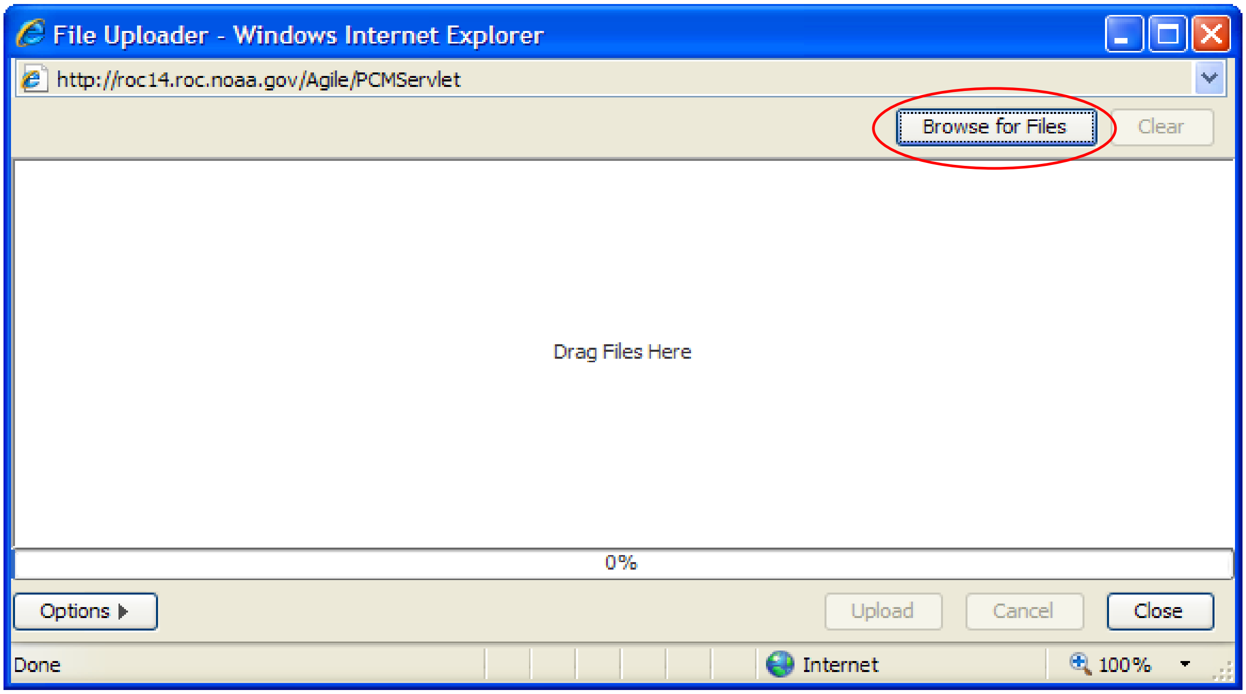


Figure 10: File Uploader and Browse for Files button.

3. Click the **Browse for Files** button on the **File Uploader** window (Figure 10).

4. The **Open** window will be displayed (Figure 11). Locate the file to be attached and click on the **file name**. This will highlight the name of the file and enter it in the **File name** block. Click **Open**.

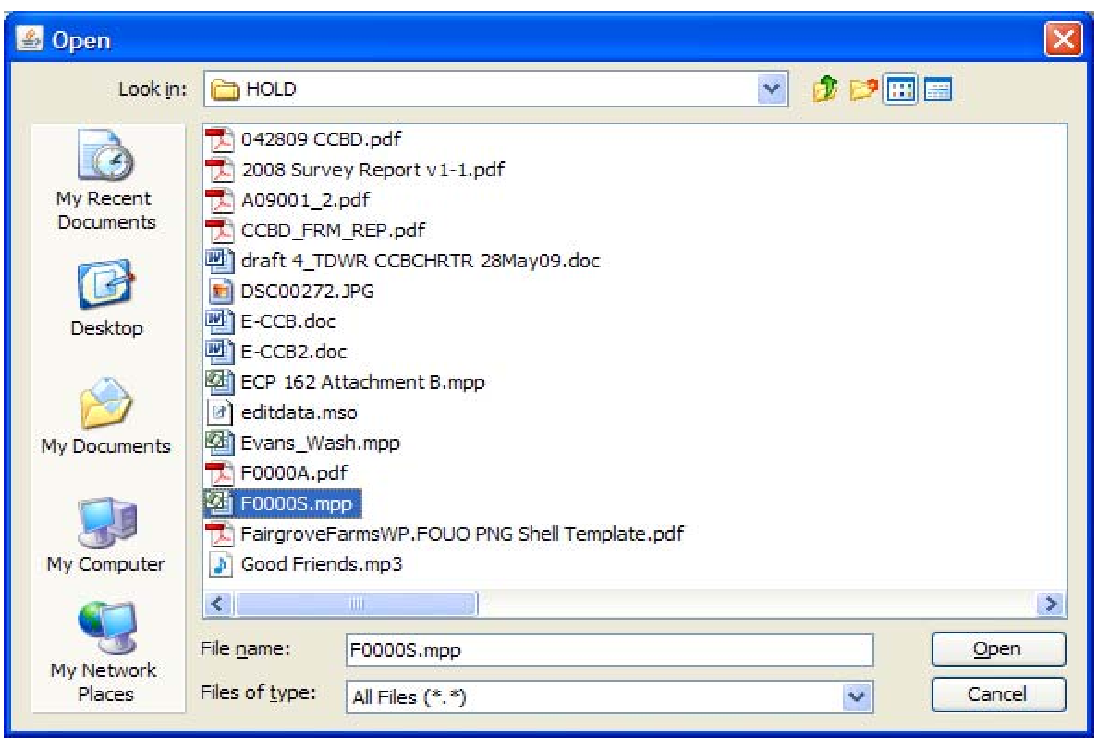


Figure 11: Open window.

5. The selected file will be added to the **File Uploader** dialog box (Figure 12). Use the Browse for Files button to add each attachment.

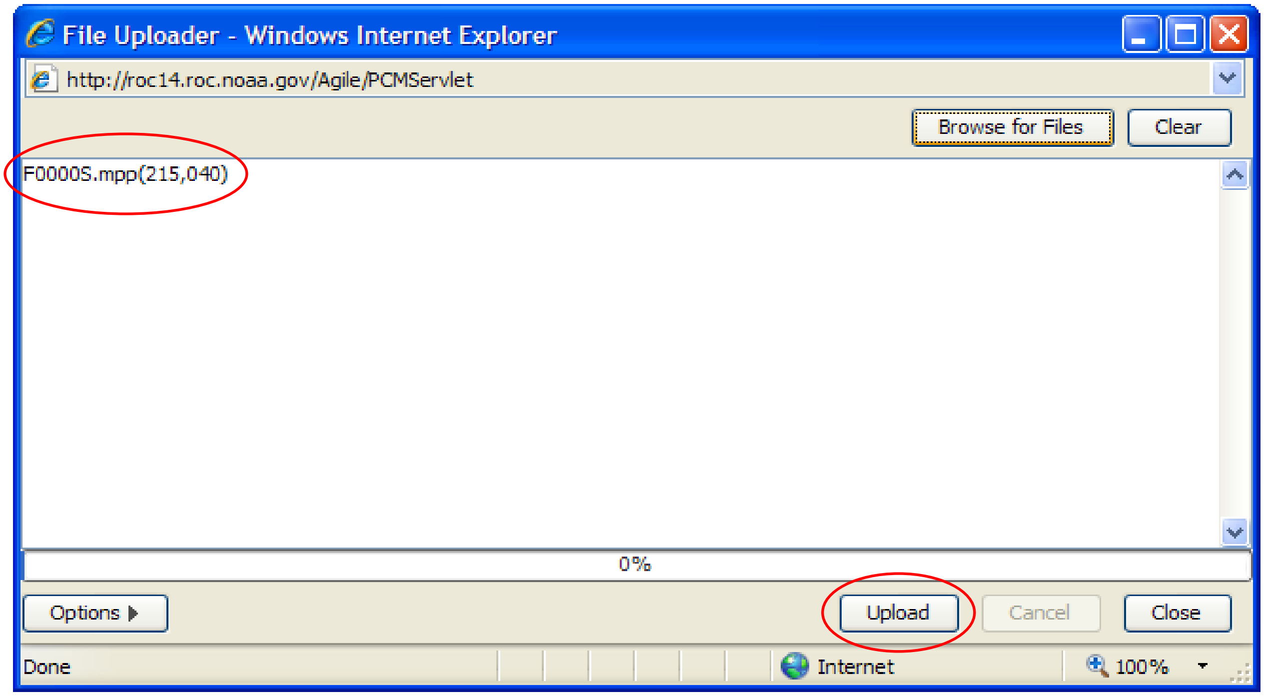


Figure 12: File Uploader with file added.

6. When all attachments have been added to the File Uploader, click **Upload**.

7. The **File Uploader** window will display the start and completion of the upload. Then a prompt asking to delete the uploaded file will appear. Click **Yes** to delete the file from the local computer; click **No** to retain the file (Figure 13).

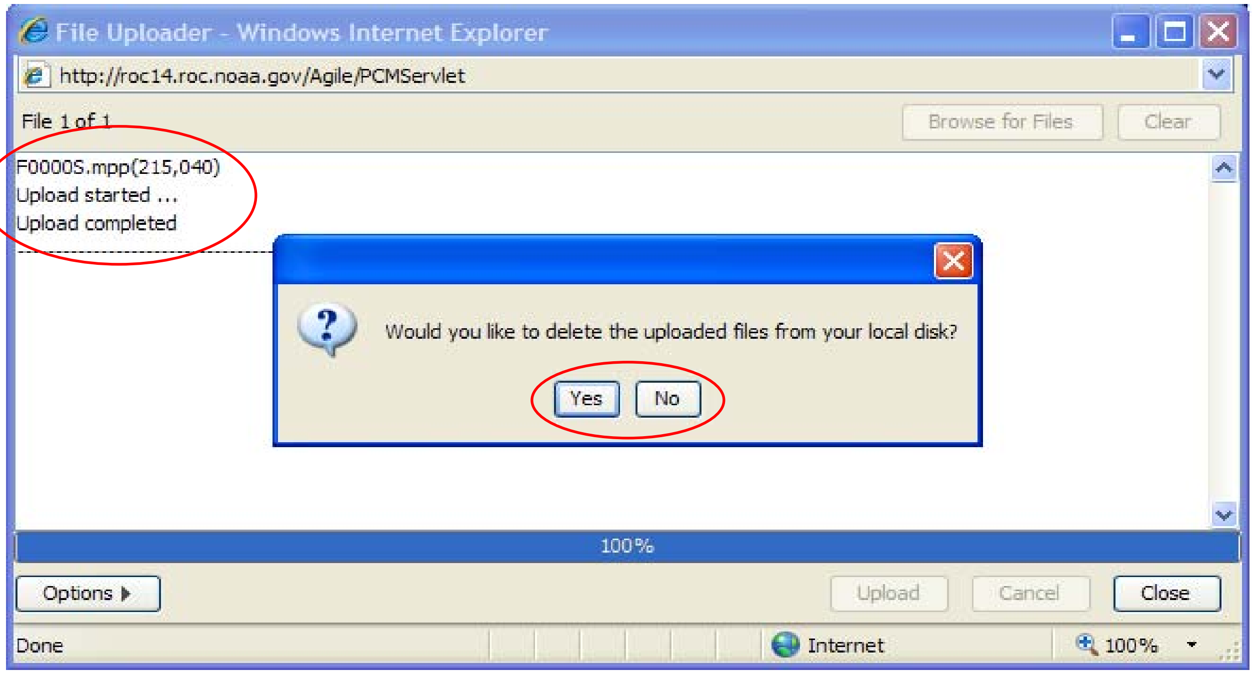


Figure 13: File Uploader displaying upload complete and prompt to delete file from local computer.

8. Enter a **description** of the file in the **File Description** block on the Attachments tab by double-clicking the white file description block (Figure 14). This will cause a blue line to appear around the block. Type in a description using the following naming convention:

ECP xxxx Attachment O – Obstruction Light Diagram
ECP xxxx Attachment T – Test Plan (For Test ECPs)
(Where **xxxx** is the **ECP number**.)

Use this naming convention for any attachments added to the ECP.

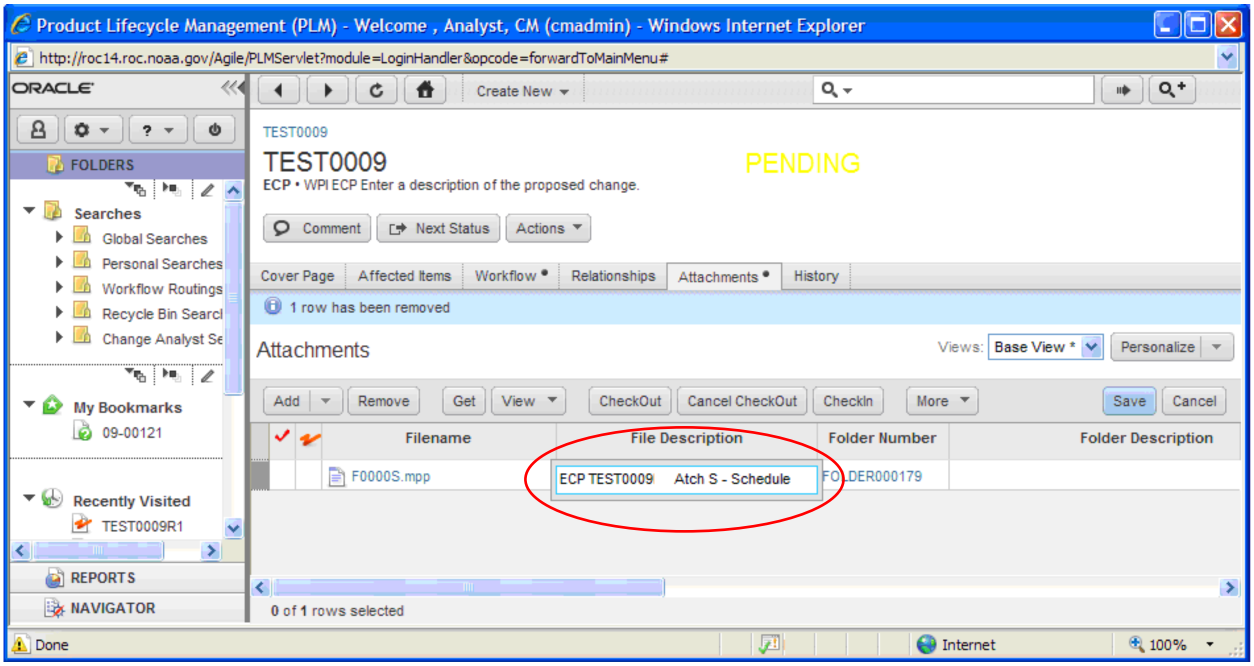
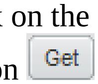


Figure 14: File description added.

9. Click **Enter**.

10. If a file was deleted from the local computer by mistake, the file can be replaced by performing a **Get**. To perform a Get, highlight the row containing the file attachment by clicking the gray box on the left-hand side of the CCR form (Figure 15). Click the **Get** button 

on the **Attachments** tab toolbar.

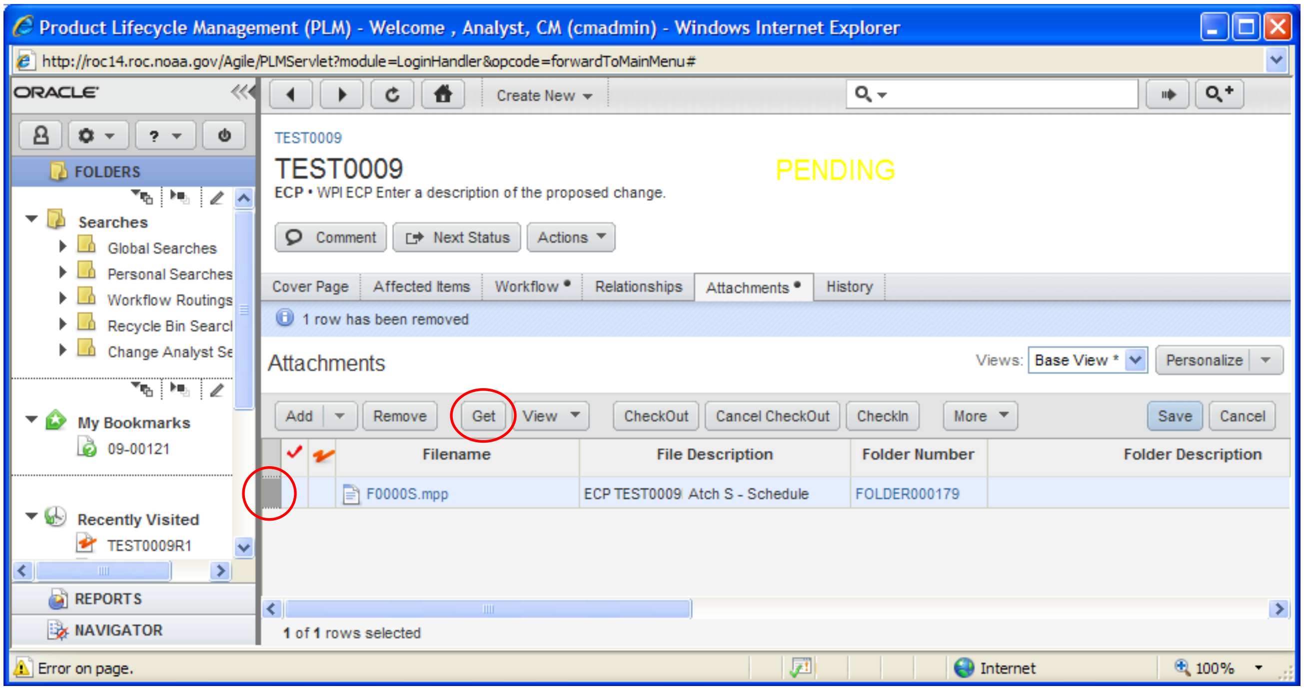


Figure 15: File row highlighted to perform a 'Get' and Get button location.

11. The **Select directory** window will be displayed (Figure 16).

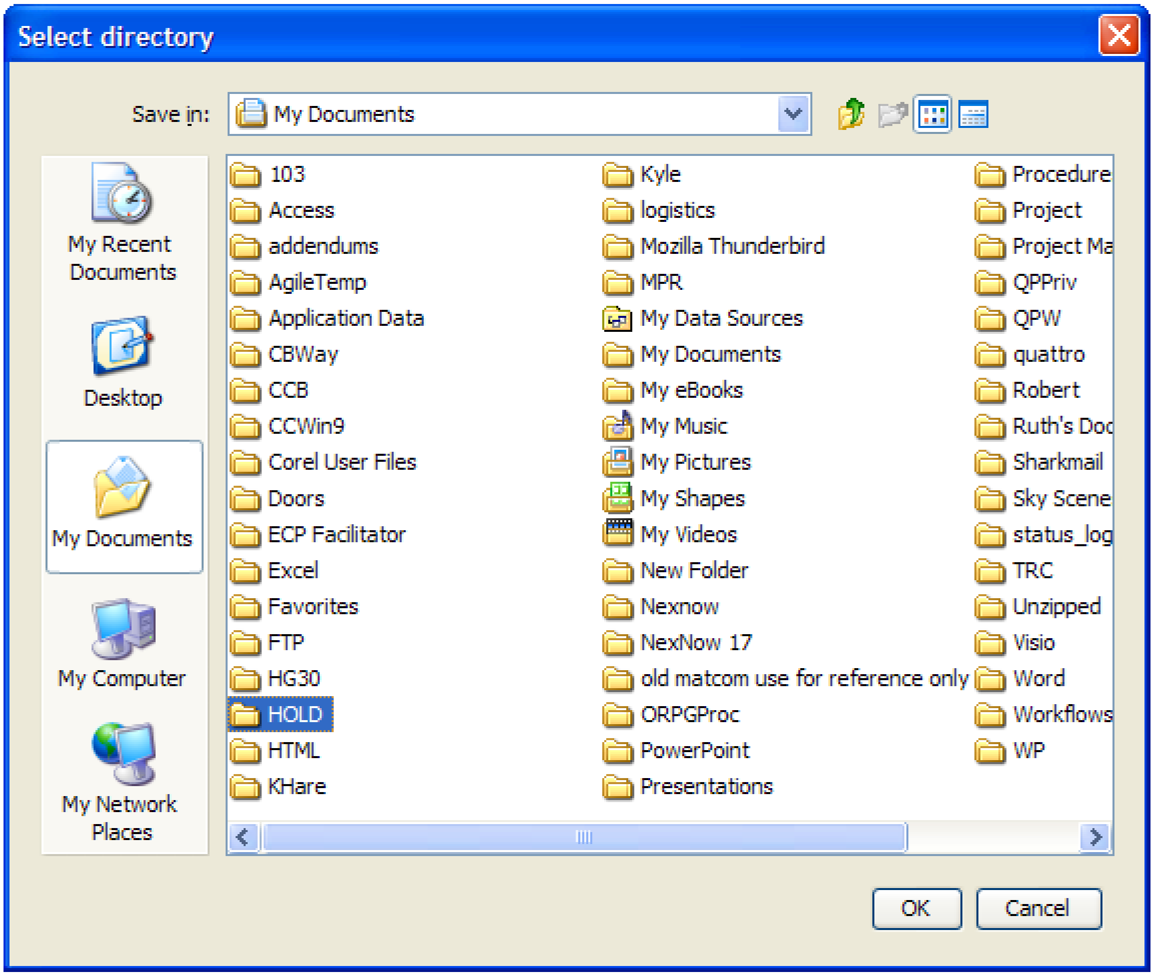
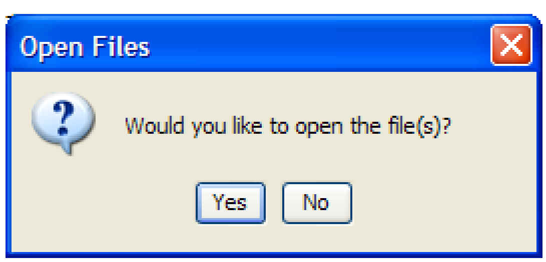


Figure 16: Select directory window with copy location folder selected.

12. Locate the folder into which the “Get” file should be copied (Figure 16); click **OK**.



13. A prompt to open the file will appear. Click **Yes** or **No** as desired.

H. History Tab:

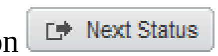
The History tab is automatically populated by Agile and is a permanent record of all Agile activity performed on the ECP.

4. Routing the ECP for Project Team Review

A. Routing the ECP

1. Once the ECP is complete, the originator will route the ECP for project team review.

NOTE: The team members assigned by the TRC were added to the ECP by the CM Analyst when the ECP was created. This allows the ECP to be automatically routed without the originator having to select addressees.

2. Click the **Next Status** button  on the Agile ECP form.

3. Agile will display a prompt offering to perform an audit release. With **Yes** selected, click **Finish** (Figure 17).

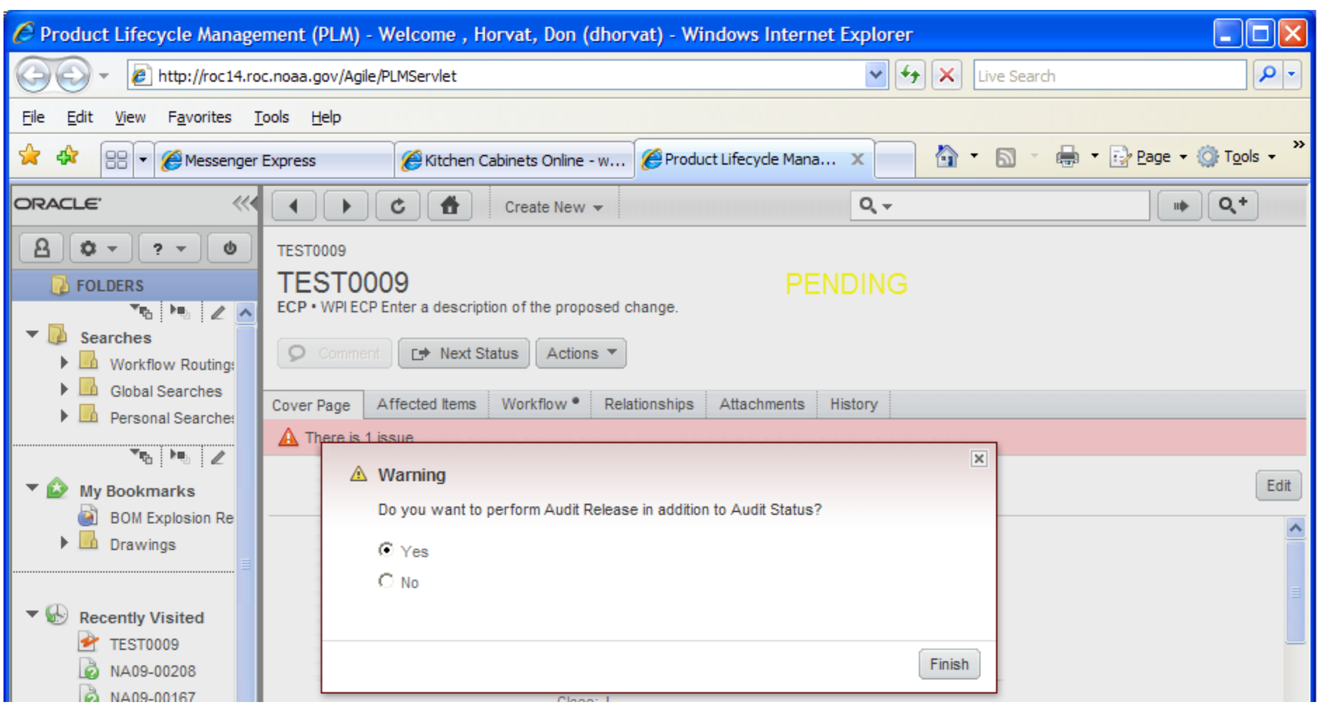


Figure 17: Audit prompt.

4. The **Audit Status Results** window will be displayed (Figure 18). Any required fields that were not populated will be discovered during the audit and displayed in the Audit Status Results window.

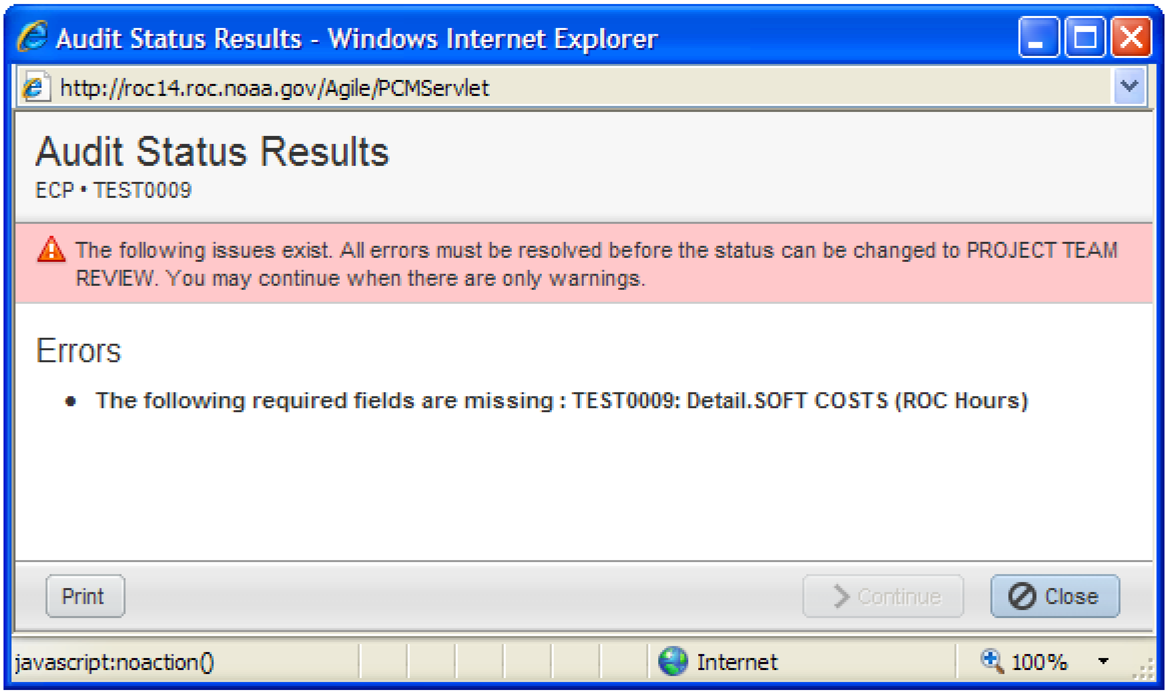


Figure 18: Audit Status Results window.

5. Click **Close** at the bottom of the **Audit Status Results** window.

6. Click the **Edit** button  on the Agile CCR form (Figure 19).

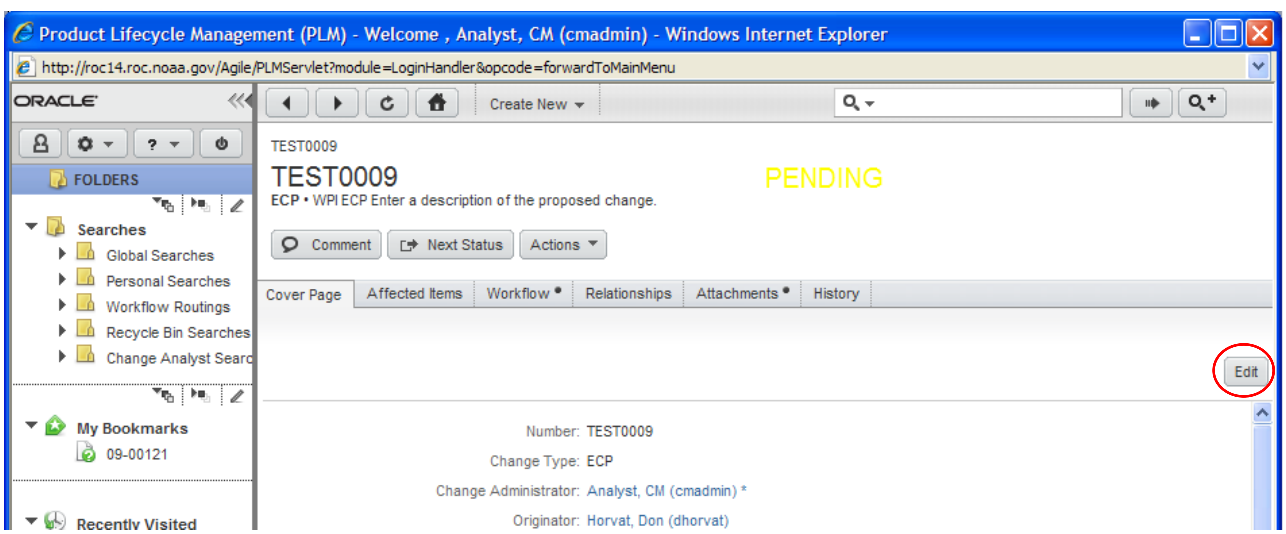


Figure 19: Edit button location on ECP form.

7. Populate all fields identified during the release audit.

8. Click the **Save** button  on the Agile ECP form (Figure 20).

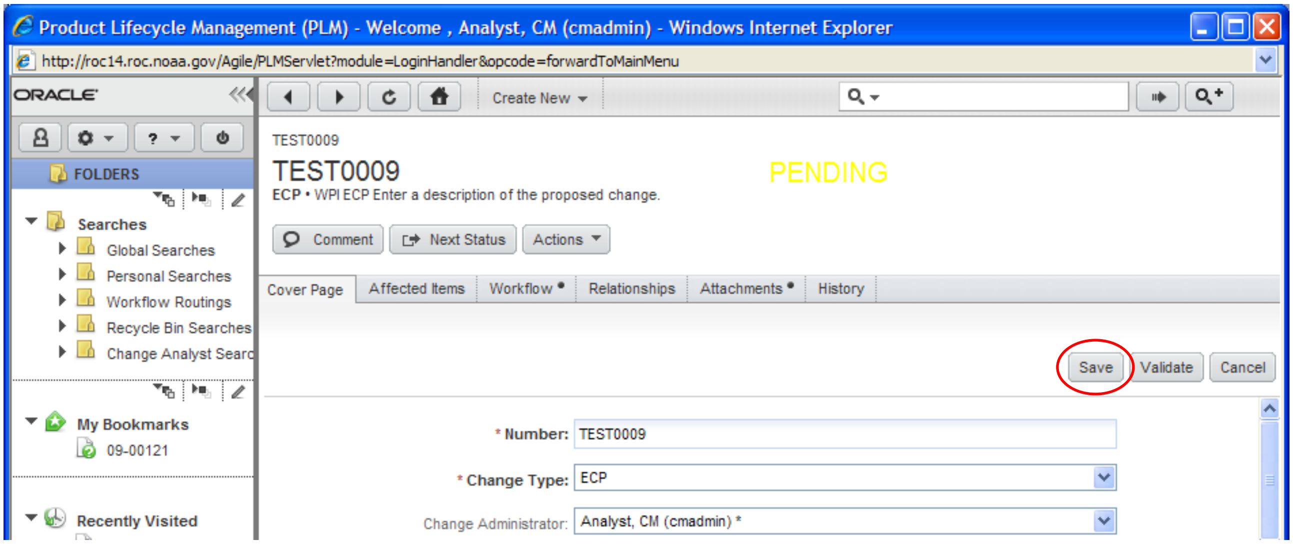
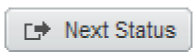


Figure 20: Save button location on ECP form.

9. To route for **Project Team Review**, click the **Next Status** button  on the Agile ECP form.

10. Agile will display a prompt offering to perform a release audit. With **Yes** selected, click **Finish**.

11. If no errors are detected, the **Change Status** dialog box will be displayed (Figure 21). Agile will populate the **Approver's** block with the team member's names; the originator's name will be displayed in the **Notify** block.

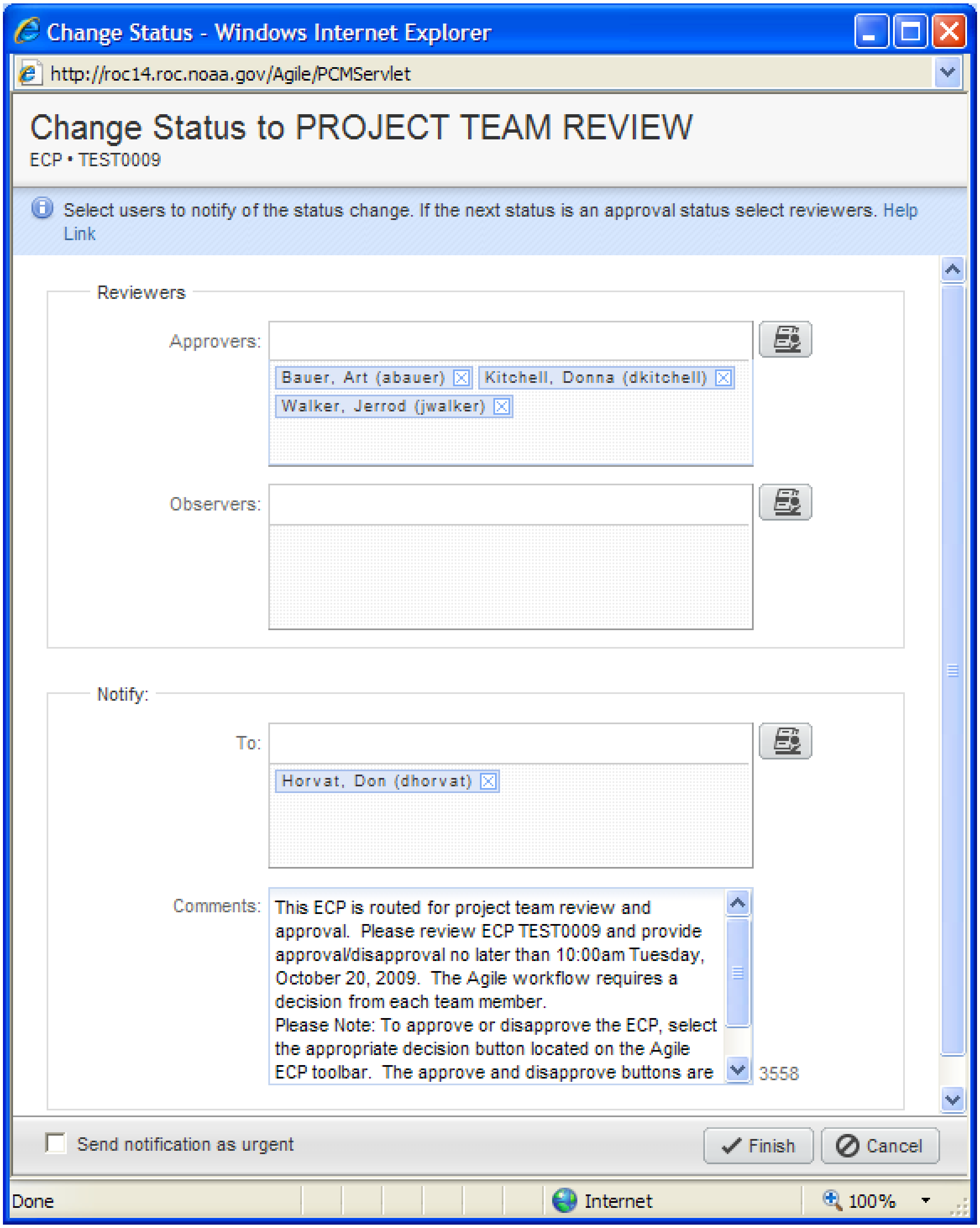


Figure 21: Change Status window.

12. In the **Comments** pane, the project lead will enter **instructions** for the team members reviewing the ECP (Figure 21). These instructions should include a **suspense date** by which time the reviewer must have approved/disapproved the ECP. The suspense date will be no later than **7 days** from the date and time the ECP is routed for review.

It may be helpful to also provide instructions concerning how to approve/disapprove. For example:

> **This ECP is routed for project team review and approval. Please review ECP TEST0009 and provide approval/disapproval no later than 10:00am Tuesday, October 20, 2009. The Agile workflow requires a decision from each team member.**
>
> **Please Note: To approve or disapprove the ECP, select the appropriate decision button located on the Agile ECP toolbar. The approve and disapprove buttons are located above the Cover Page tab on the ECP form.**

13. Click the **Finish** button 

at the bottom of the dialog box.

14. The status of the ECP will advance to **Project Team Review** (Figure 22).

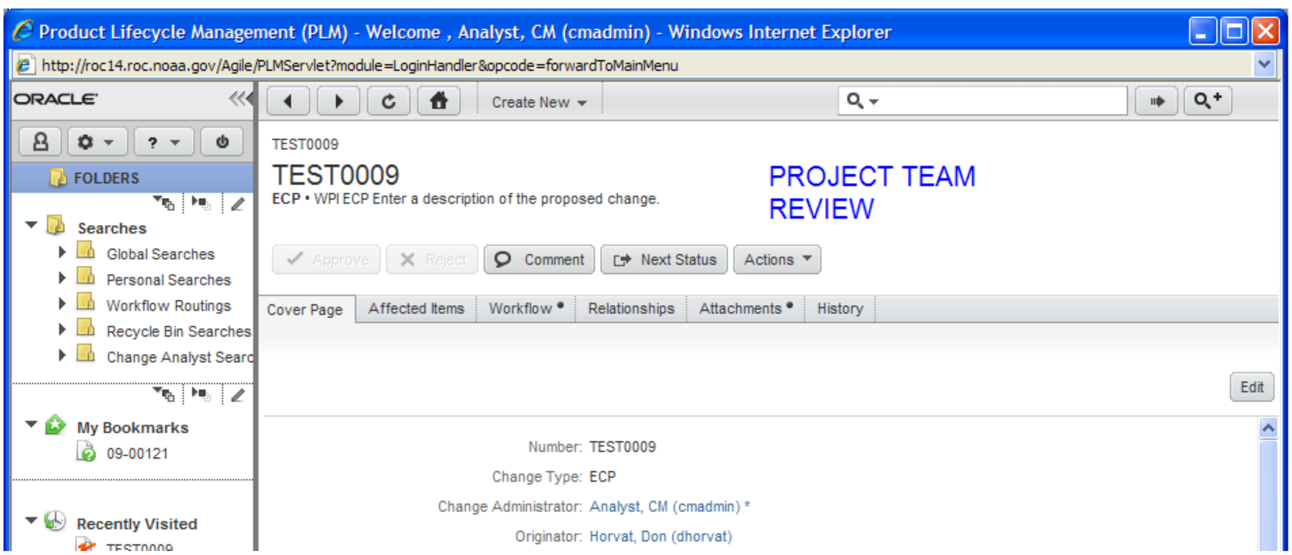


Figure 22: ECP advanced to Project Team Review status.

15. With this status change, Agile will send email notifications to the following persons listed on the **Change Status** dialog box - one to each team member stating his review and approval of the ECP is required, and one to the originator for information purposes only.

B. Project Team Review

1. When the ECP is routed for review, the project team members will have **7 days** to provide approval or disapproval of the ECP. Agile automatically monitors this process, which requires a response from all team members. Any team members who have not provided a decision within **5 days** will receive an email reminder from Agile.

NOTE: If a decision is not received by the end of the 7-day review cycle, Agile escalates the ECP to the team member's team lead for action.

2. To review the ECP, click on the Agile ECP **URL** in the email notification (Figure 23). This will launch Agile.

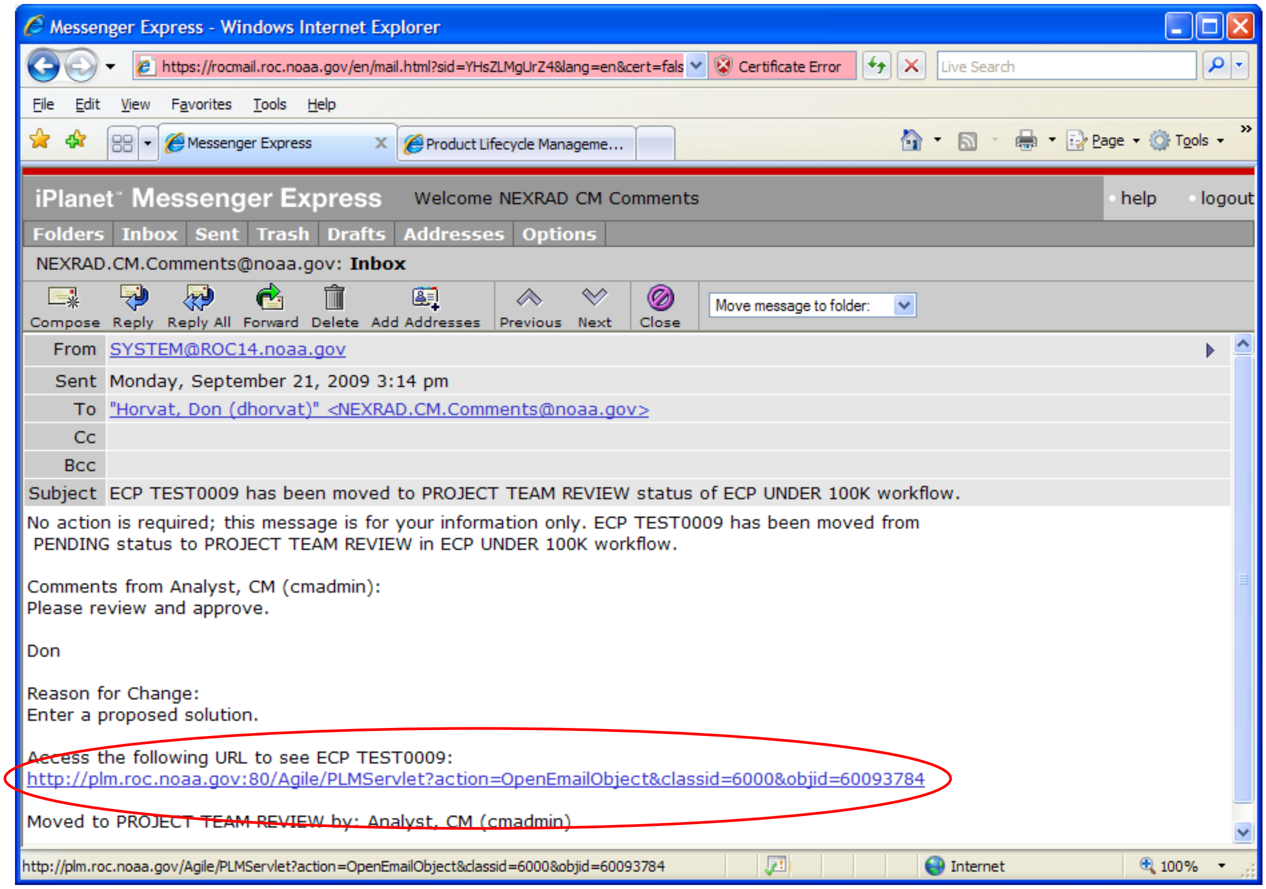


Figure 23: Agile ECP URL.

3. The **Product Lifecycle Management (PLM)** login screen will be displayed (Figure 24). Complete the **Username** and **Password** information and click **Login**.

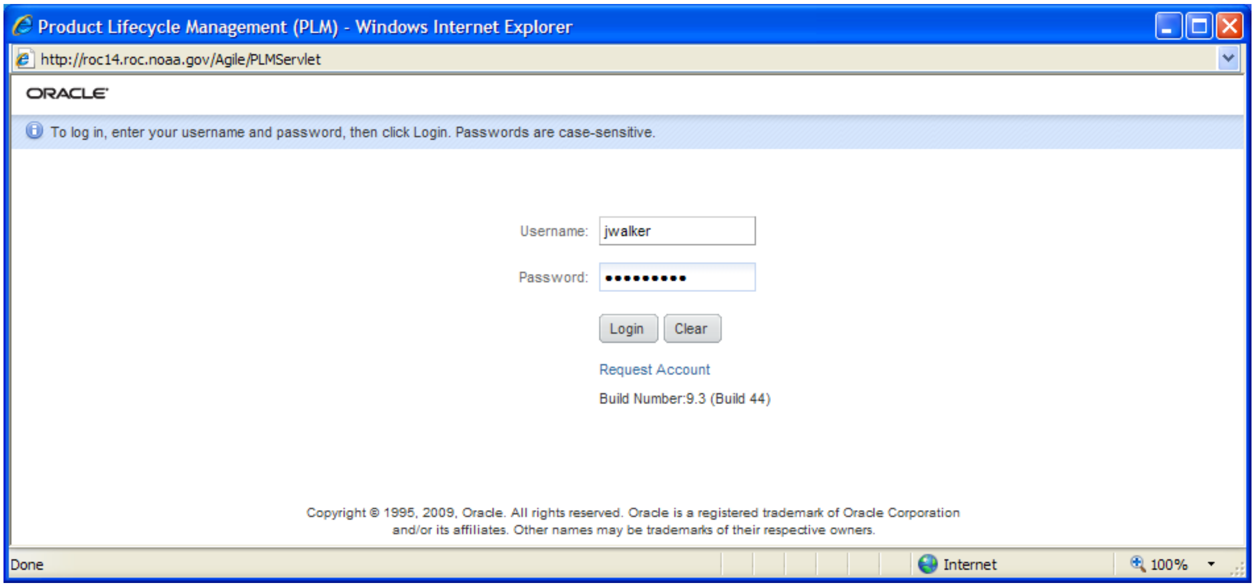


Figure 24: Product Lifecycle Management login screen.

4. The ECP to be reviewed (ECP **TEST0009**) will be displayed (Figure 25).

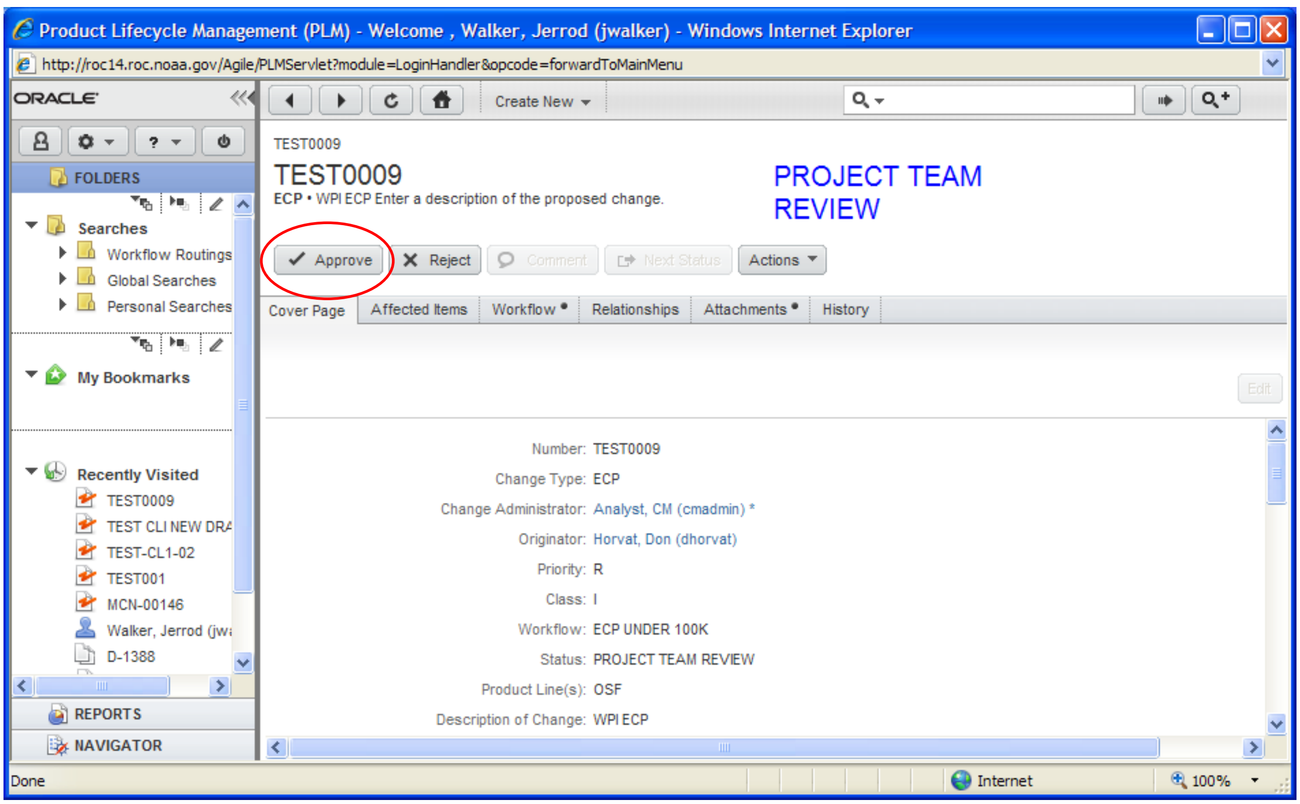


Figure 25: ECP to be reviewed and the Approve button location.

5. Project team members are to review the ECP to ensure that it's complete, i.e., all information is correct and it contains all required attachments. To

approve the ECP for submission, click the **Approve** button 

located on the Agile ECP form (Figure 25).

6. The **Approve** dialog box will be displayed (Figure 26). Enter the **password** in the **Password** block. Select **Change Analyst** and **Originator** to be notified, and Reviewers if desired. Enter any review **comments** in the **Comments** block, and click **Approve**.

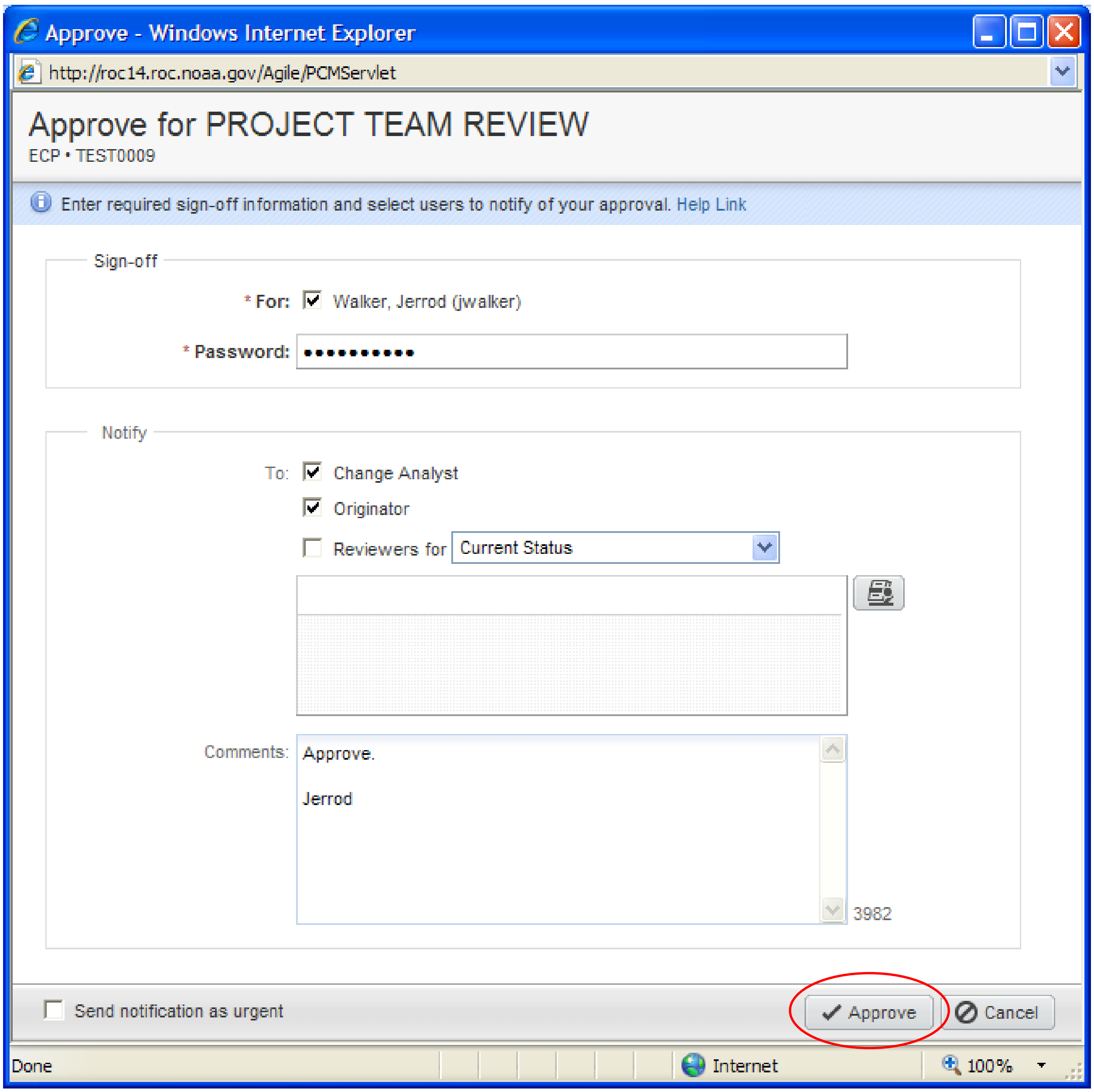


Figure 26: Approve dialog box and Approve button location.

7. The project lead will receive an email notification when **all** team members have approved the ECP.

8. Once all team members have provided their approvals, the ECP will automatically move forward to **Branch Chief Review** status. The branch chief review process is described in **Section 5** of this document

9. If a team member does not agree the ECP is ready for submission, the ECP can be rejected.

C. ECPs Rejected During Project Team Review

1. If a team member does not agree the ECP is ready for submission, he may reject the ECP. To do this, click the **Reject** button 

on the Agile ECP form (Figure 27).

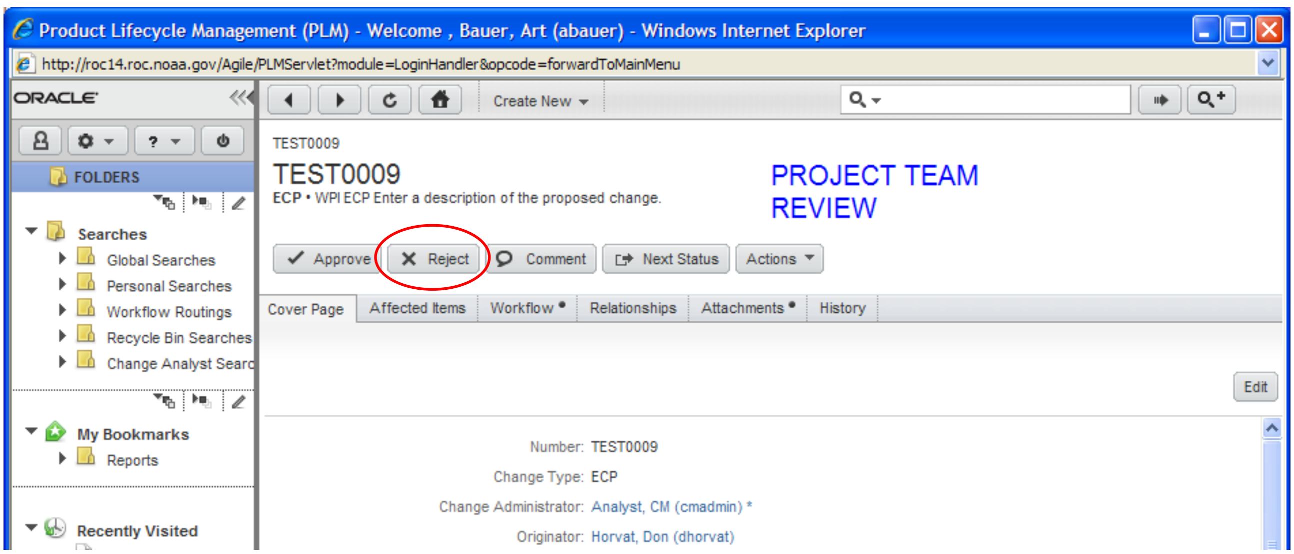


Figure 27: ECP to be reviewed and the Reject button location.

2. The **Reject** dialog box will appear (Figure 28). Enter the **password** in the **Password** block. Select **Change Analyst** and **Originator** to be notified, and Reviewers if desired. Enter the **reason for rejection** and list all items in need of attention, e.g., attachments are missing, information is incorrect or incomplete, etc., in the **Comments** block, and click **Reject**.

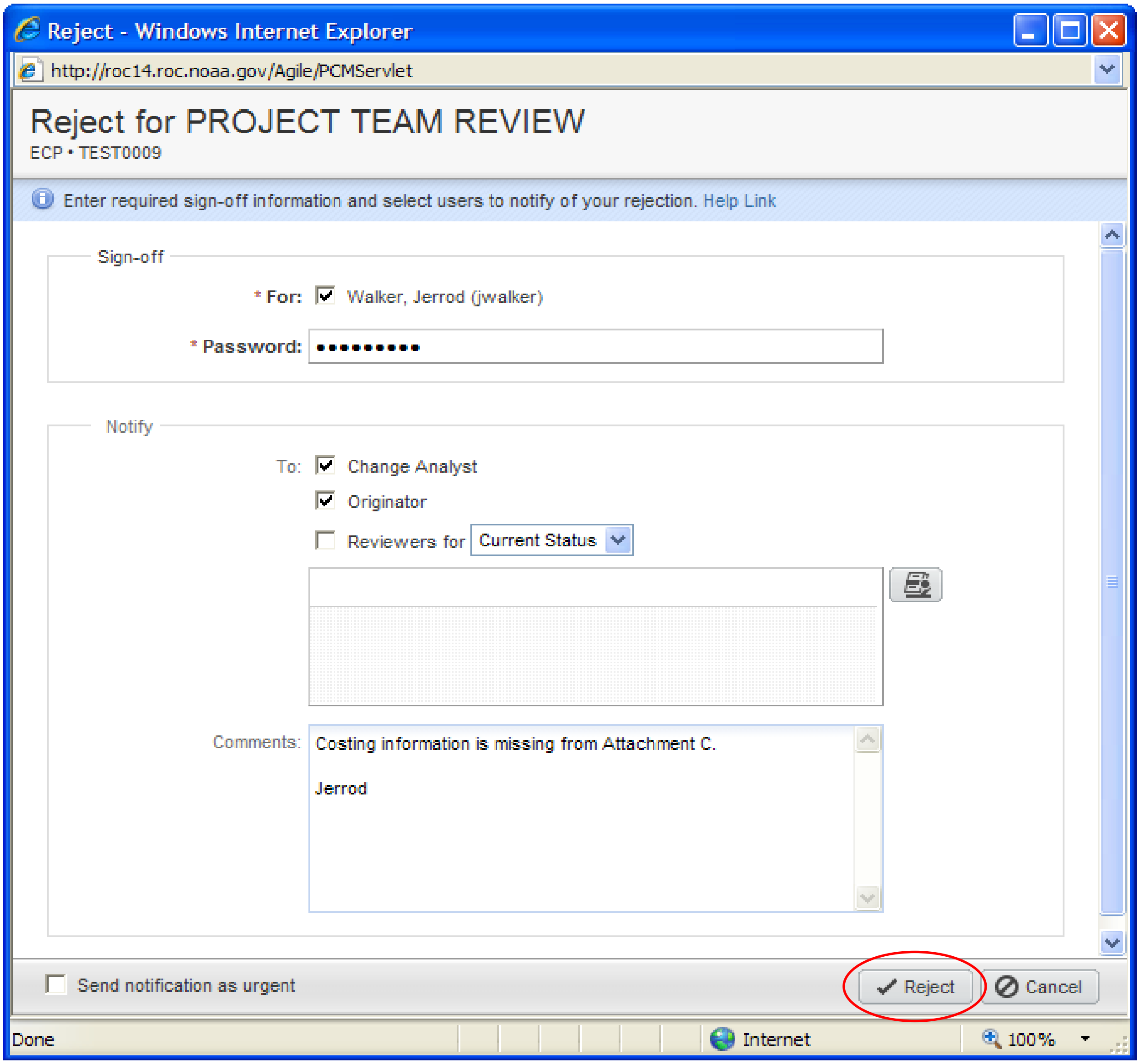


Figure 28: Reject dialog box and Reject button location.

3. If any team member rejects the ECP, it will automatically return to **Pending** status.

4. The project lead will receive **email notification** from Agile stating the ECP has been returned to Pending status.

5. The project lead should make all necessary adjustments to the ECP. If there is disagreement concerning the suggested changes, a **team meeting** should be held to reconcile the problems.

6. Once the ECP has been reconciled and the changes have been made, the project lead will return the ECP to the review cycle. To accomplish this, perform the steps for **Routing the ECP** in **Section 4 A** of this WPI.

Please Note: When the ECP was returned to Pending status, Agile automatically re-populated the **Workflow** tab. Therefore, all team members must once again perform the steps for **Project Team Review** in **Section 4 B** of this WPI.

7. When all team members provide their approvals, the ECP will automatically move forward to **Branch Chief Review** status (Figure 29).

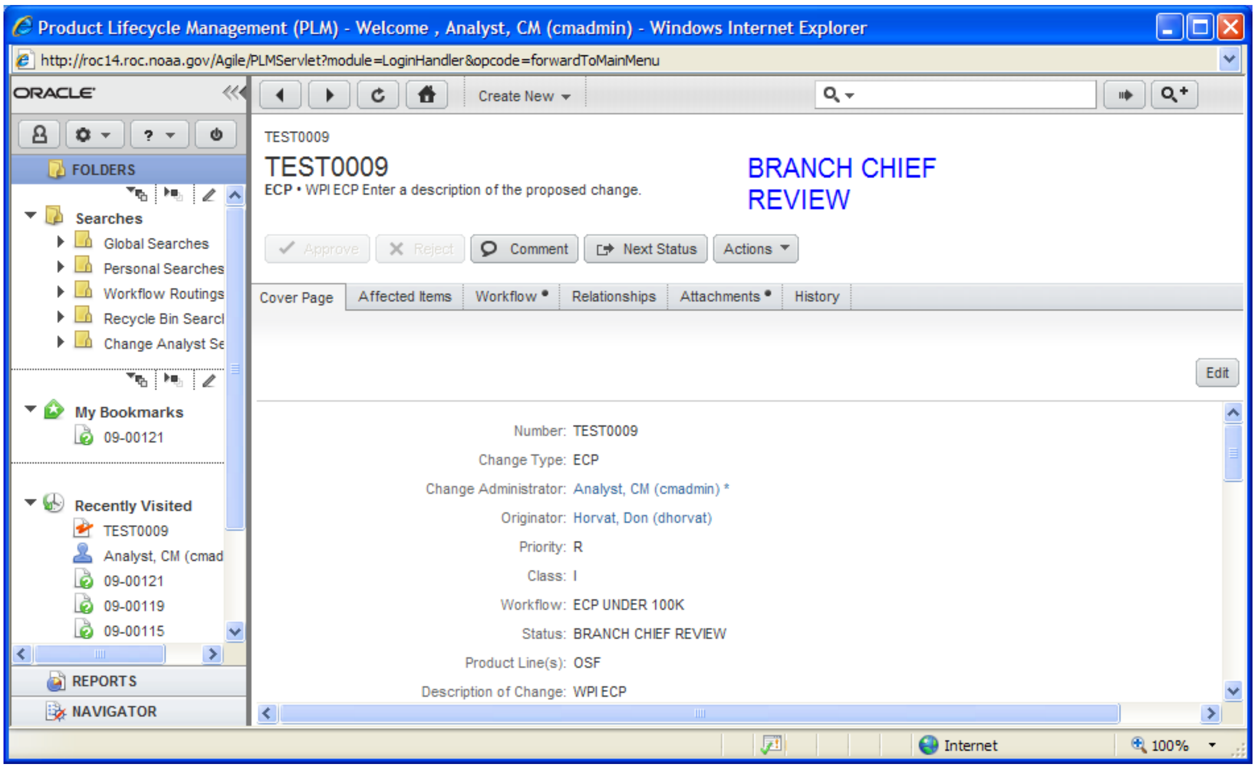


Figure 29: ECP advanced to Branch Chief Review status.

8. Agile will send the project lead an email notification that the status of the ECP has changed to **Branch Chief Review** status.

5. Branch Chief Review

a. When the ECP enters **Branch Chief Review** status, Agile will send the branch chief an email notification of the ECP requiring his review and approval (Figure 30).

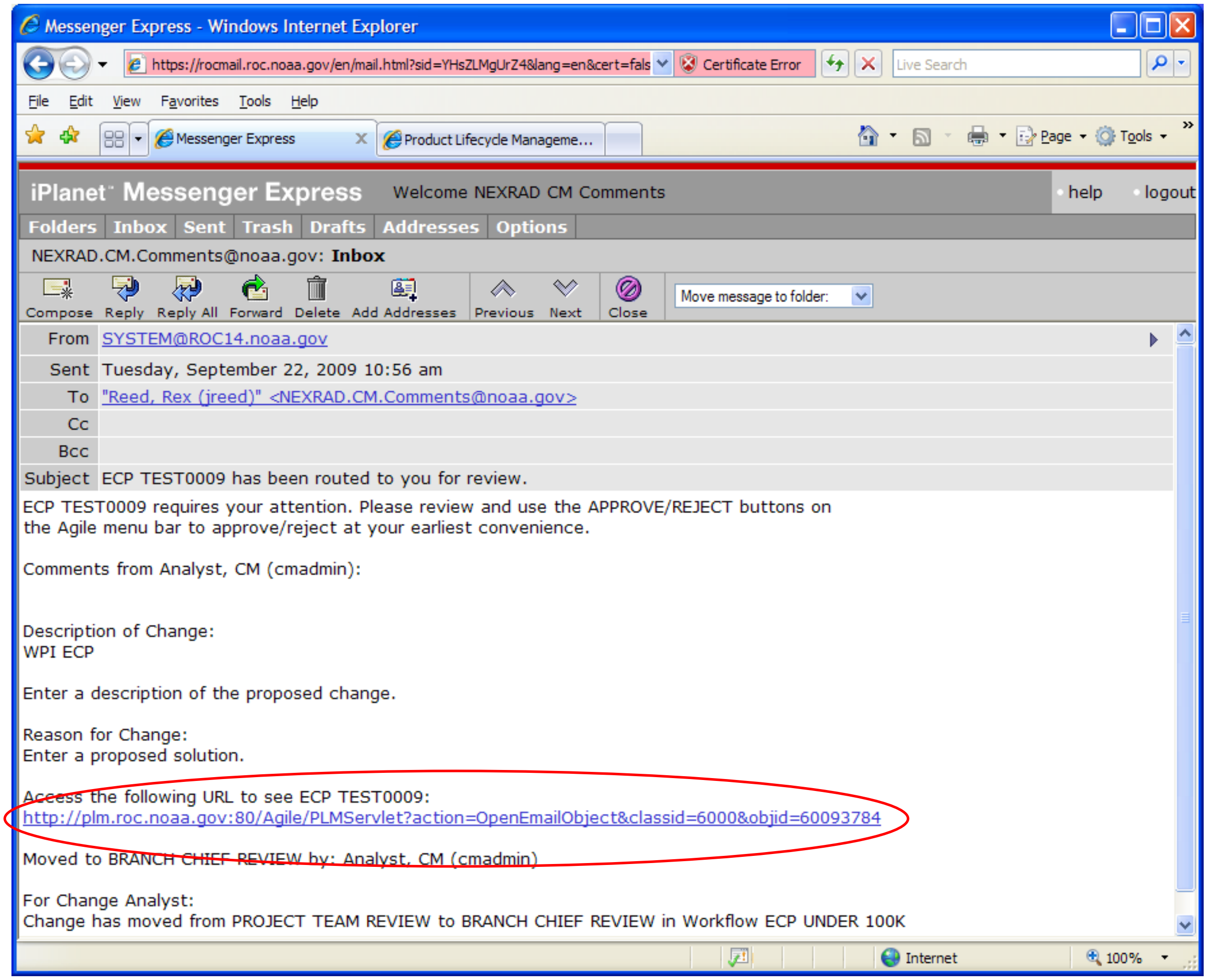


Figure 30: Email notification to branch chief containing Agile ECP URL.

b. When the branch chief receives the ECP for review, he will have **7 days** to provide approval or disapproval of the ECP. Agile automatically monitors this process. If the branch chief has not provided a decision within **5 days**, he will receive an email reminder from Agile.

NOTE: If a decision is not received by the end of the 7-day review cycle, Agile escalates the ECP to the CM team lead for action.

c. To review the ECP, click on the Agile ECP **URL** in the email notification (Figure 30). This will launch Agile.

d. The **Product Lifecycle Management (PLM)** login screen will be displayed (Figure 31). Complete the **Username** and **Password** information and click **Login**.

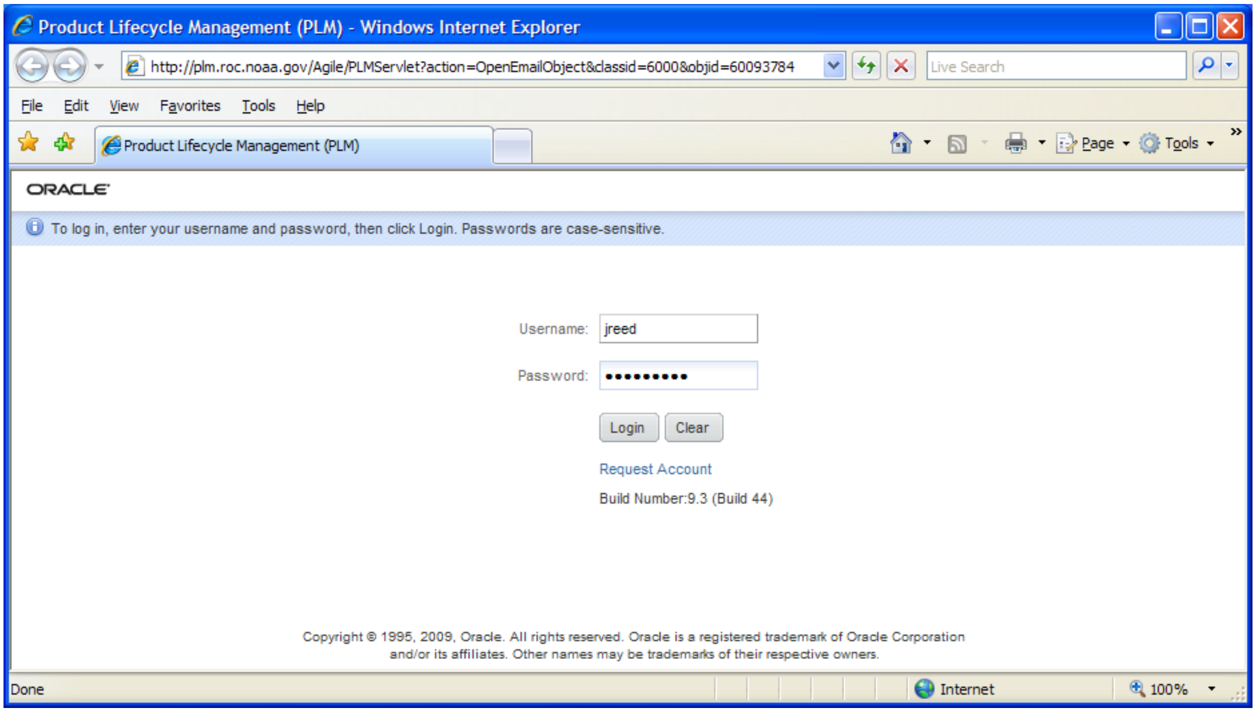


Figure 31: Product Lifecycle Management login screen.

e. The ECP to be reviewed (ECP **TEST0009**) will be displayed (Figure 32).

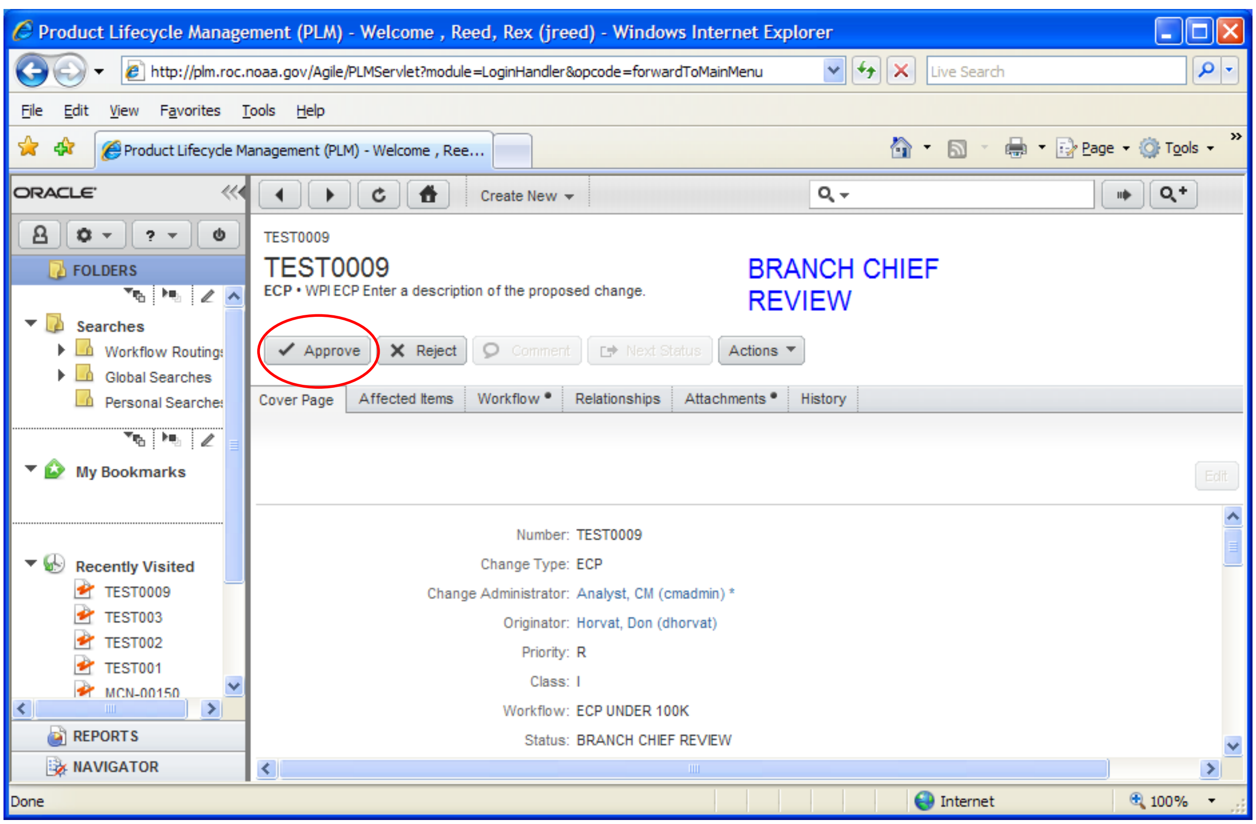
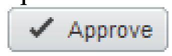


Figure 32: ECP to be reviewed and Approve button location.

f. The branch chief is to review the ECP to ensure that it's complete, i.e., all information is correct and it contains all required attachments. To approve the ECP for submission, click the **Approve** button 

located on the Agile ECP form (Figure 32).

g. The **Approve** dialog box will be displayed (Figure 33). Enter the **password** in the **Password** block. Select **Change Analyst** and **Originator** to be notified. Enter any review **comments** in the **Comments** block, and click **Approve**.

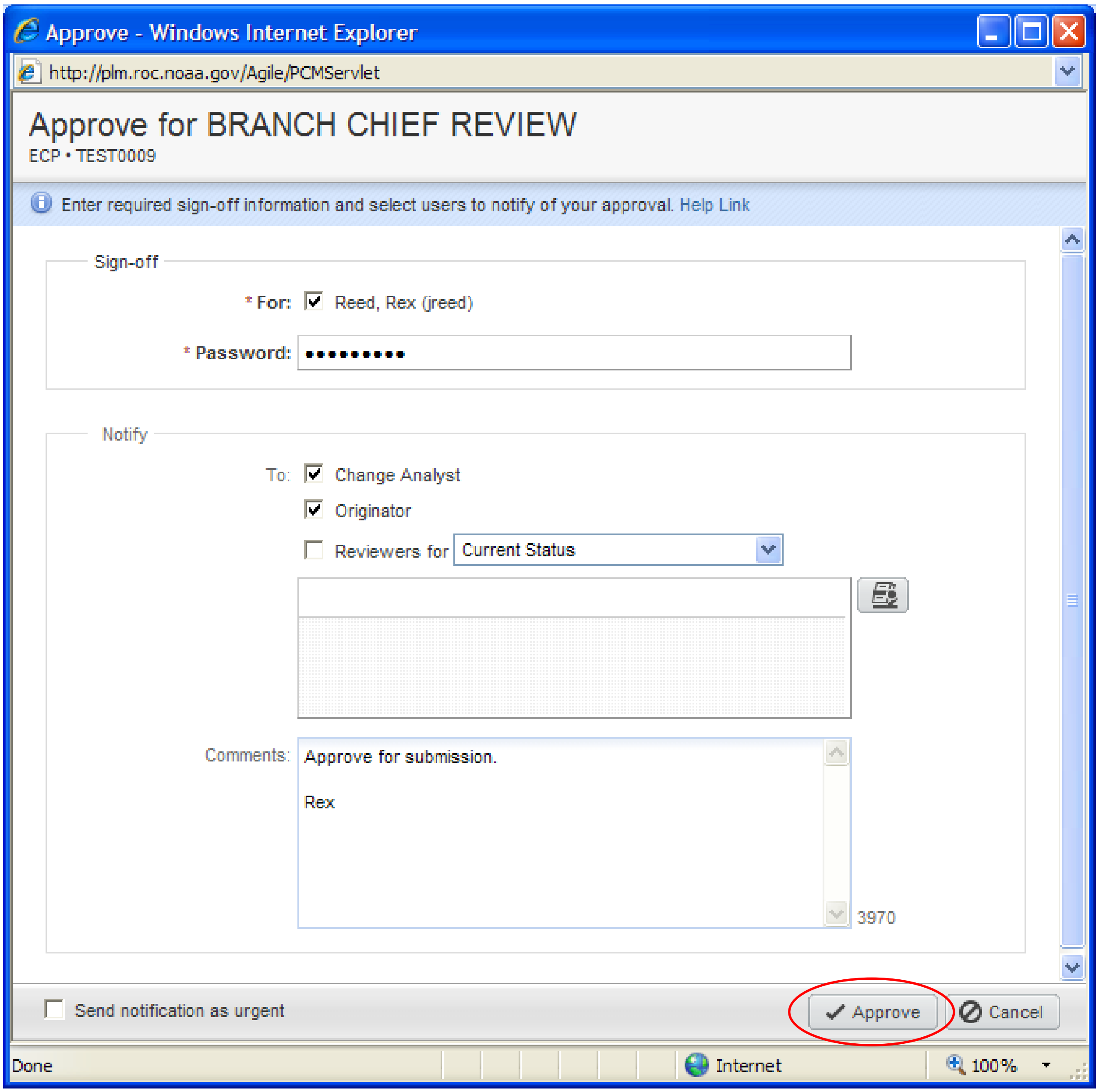


Figure 33: Approved dialog box and Approve button location.

h. The project lead will receive an email notification when the branch chief approves the ECP.

i. If the branch chief does not agree the ECP is ready for submission, the ECP can be rejected. Instructions for rejecting and the process for handling rejected ECPs are described in **Section 6** of this document.

j. Once the branch chief has provided his approval, the ECP will automatically move forward to **Submitted** status (Figure 34). The process for handling submitted ECPs is described in **Section 7** of this WPI.

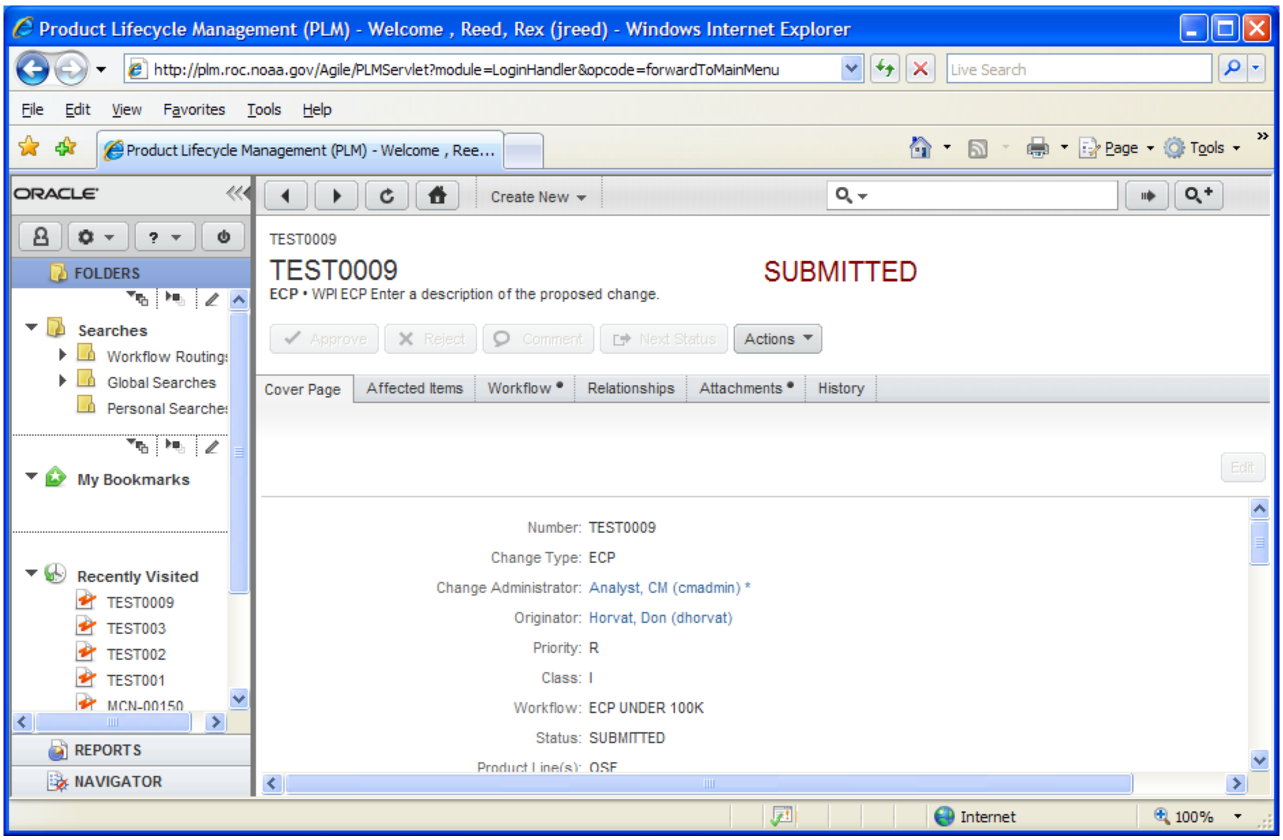
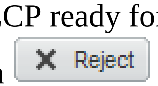


Figure 34: ECP as Submitted status.

6. ECPs Rejected During Branch Chief Review

a. If the branch chief does not find ECP ready for submission, he may reject the ECP. To do this, click the **Reject** button 

on the Agile ECP form (Figure 35).

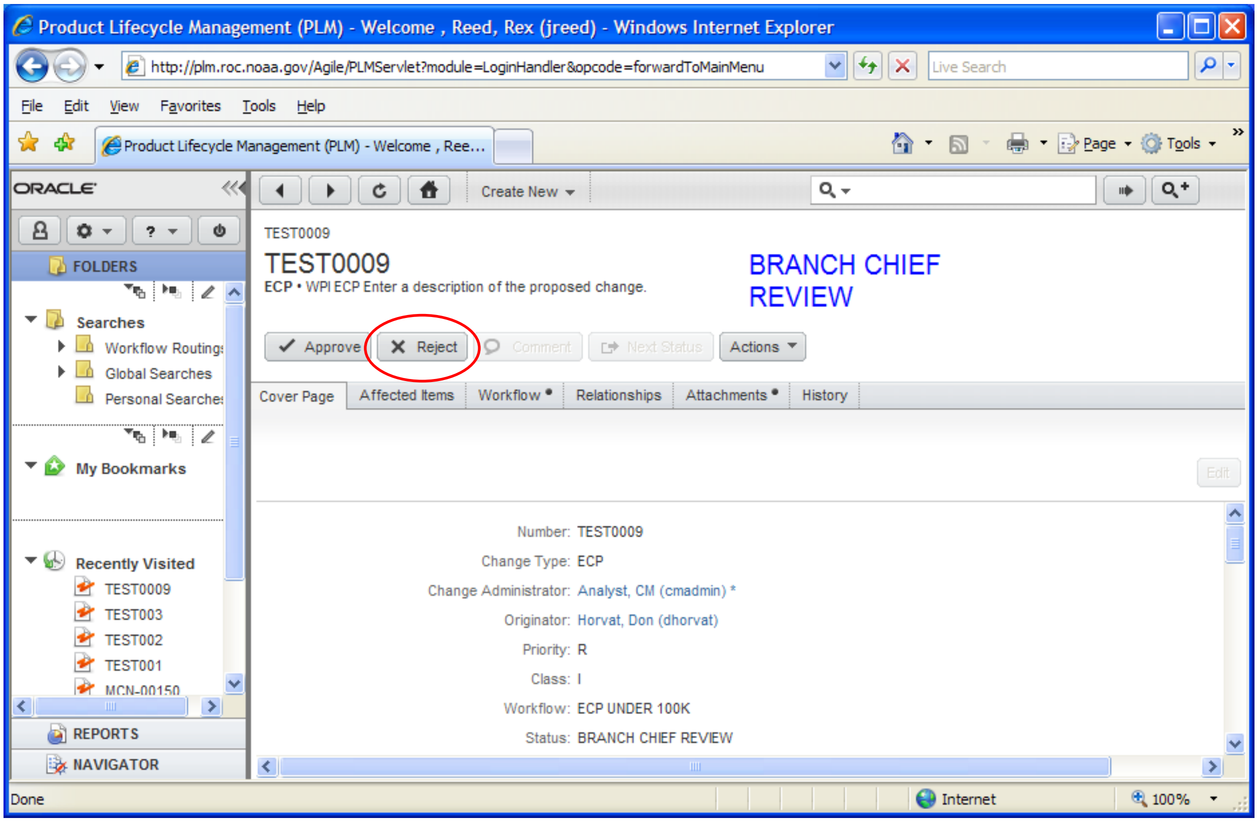


Figure 35: Agile ECP form and Reject button location.

b. The **Reject** dialog box will appear (Figure 36). Enter the **password** in the **Password** block and select **Change Analyst** and **Originator** to be notified. Enter the **reason for rejection** in the **Comments** block and list all items in need of attention, e.g., attachments are missing, information is incorrect or incomplete, etc. Click **Reject**.

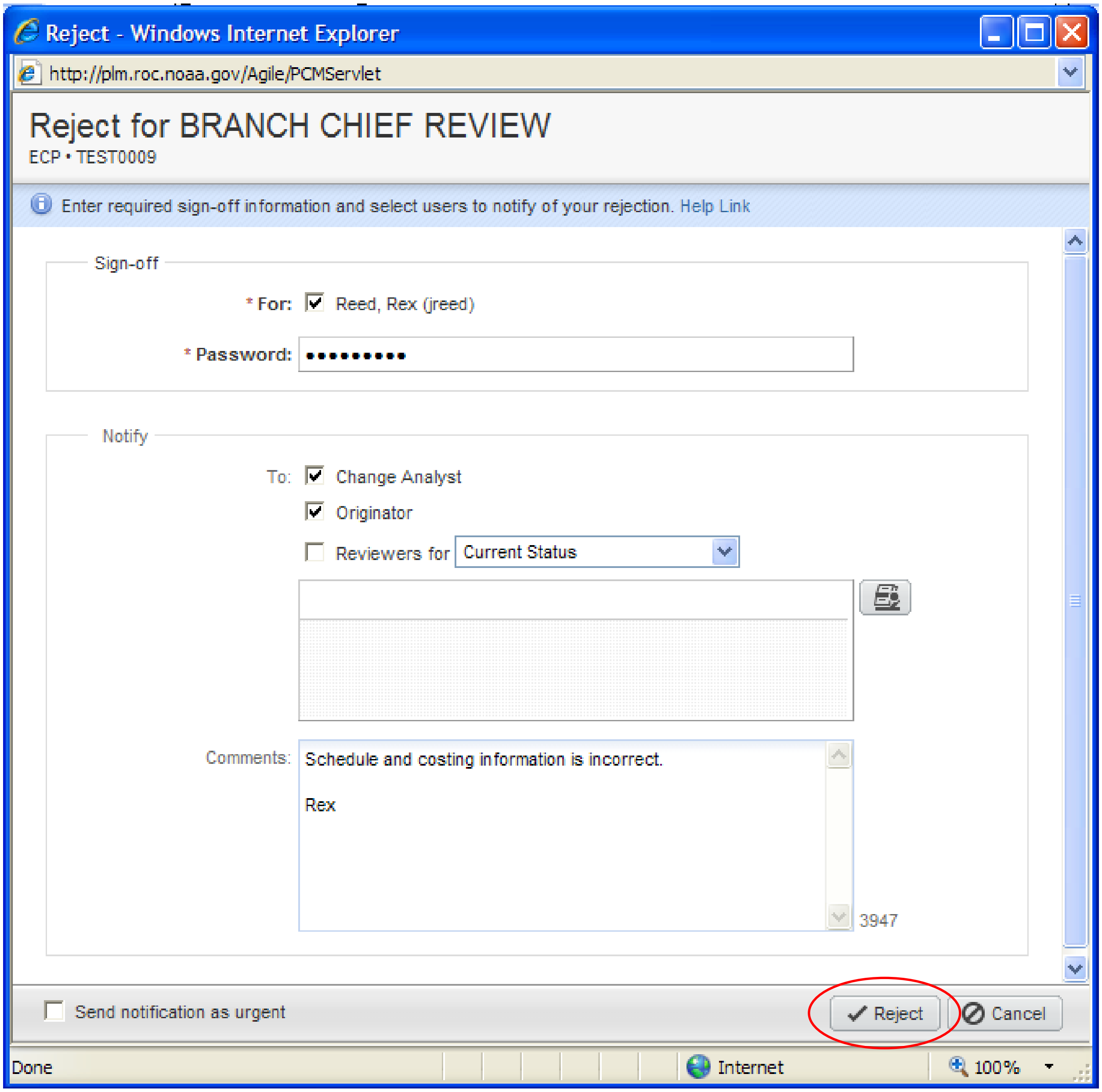


Figure 36: Reject dialog box and Reject button location.

c. The ECP will automatically return to **Pending** status (Figure 37).

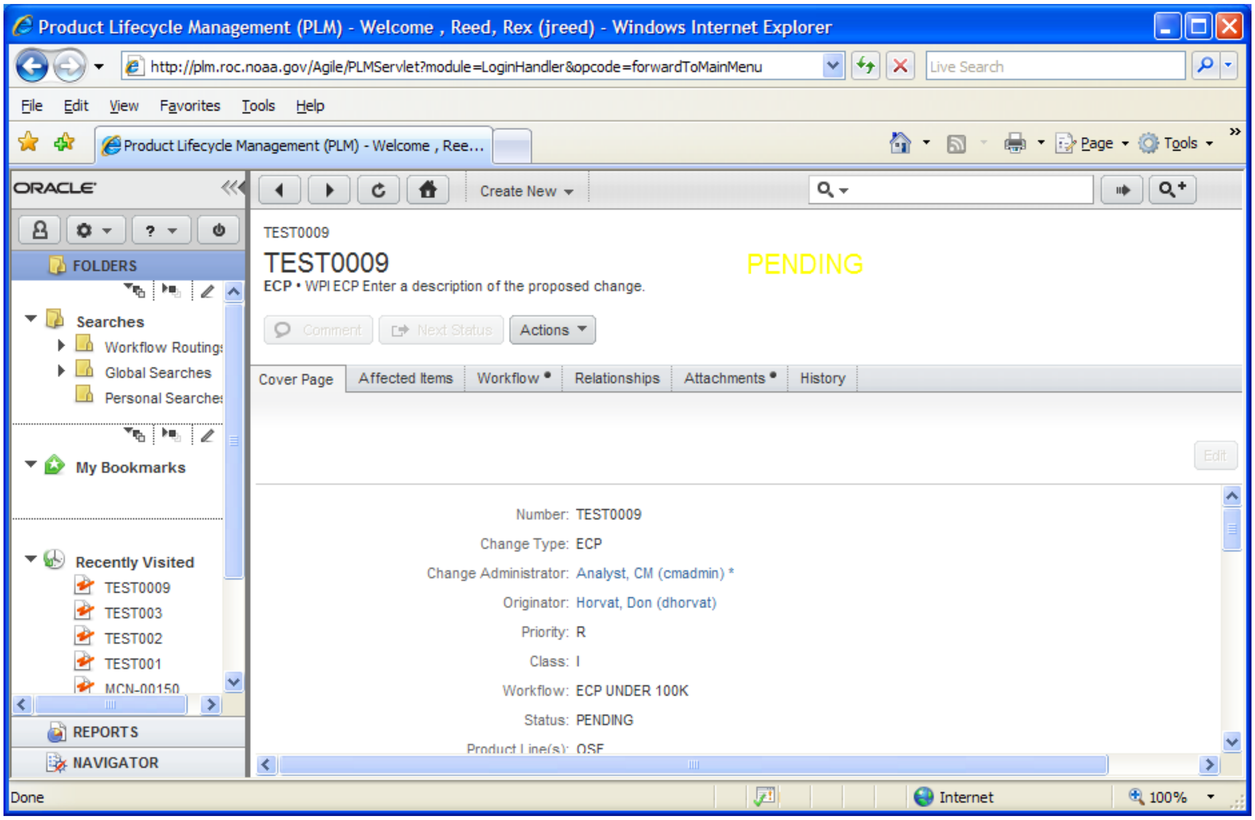


Figure 37: Agile ECP returned to Pending status.

d. The project lead will receive an email notification from Agile stating the ECP has been returned to **Pending** status.

e. The project lead should make all necessary adjustments to the ECP.

f. Once the ECP has been reconciled and the changes have been made, the project lead will return the ECP to the review cycle. To accomplish this, perform the steps for **Routing the ECP** in **Section 4 A** of this WPI.

g. When the ECP was returned to **Pending** status, Agile once again re-populated the **Workflow** tab. Therefore, all team members will be required to once again perform the steps for **Project Team Review** in **Section 4 B** of this WPI.

h. When all team members provide their approvals, the ECP will automatically move forward to **Branch Chief Review** status.

i. Since Agile re-populated the Workflow tab, the branch chief will be required to once again perform the steps for **Branch Chief Review** in **Section 5** of this WPI.

j. When the branch chief approves the ECP, it will automatically move forward to **Submitted** status.

k. Agile will send the project lead an email notification that the status of the ECP has been changed to **Submitted**.

7. Submitted ECPs

a. Agile will send an email notification to the CM Analyst that the ECP has been submitted.

b. The CM Analyst will review the ECP to ensure, as much as possible, the completeness and accuracy of the information provided.

c. If the ECP is complete (contains information in all required fields and all attachments have been included), the CM Analyst will route the ECP, which will advance it to **ROC Review** status.

d. Agile will send the project lead an email notification that the status of the ECP has been changed to **ROC Review**.

e. The **ROC Review** process is explained in **Section 9** of this document.

f. However, if any of the three required attachments, five for Test ECPs, (**Attachment C –** Costing; **Attachment M –** Modification/Retrofit Plan/Effectivity; **Attachment S –** Schedule; **Attachment T –** Test Plan and **Attachment R –** Test Report (For Test ECPs)) are not included in the ECP, the ECP will be **rejected**, thus returning it to **Pending** status. Instructions for handling rejected ECPs are described in **Section 8** of this document.

8. ECPs Rejected at Submitted Status

a. If the ECP is rejected by the CM Analyst, it will return to **Pending** status. Agile will send the originator an email notification of the rejection and status change.

b. The project lead should make all necessary adjustments to the ECP.

c. Once the ECP has been reconciled and the changes have been made, the project lead will return the ECP to the review cycle. To accomplish this, perform the steps for **Routing the ECP** in Section **4 A** of this WPI.

d. When the ECP was returned to **Pending** status, Agile once again re-populated the Workflow tab. Therefore, all team members will be required to once again perform the steps for **Project Team Review** in **Section 4 B** of this WPI.

e. When all team members provide their approvals, the ECP will automatically move forward to **Branch Chief Review** status.

f. Since Agile re-populated the Workflow tab, the branch chief will be required to once again perform the steps for **Branch Chief Review** in **Section 5** of this WPI.

g. When the branch chief approves the ECP, it will automatically move forward to **Submitted** status.

h. Agile will send the project lead an email notification that the status of the ECP has been changed to **Submitted**.

i. When the ECP has once again been submitted, the CM Analyst will perform the steps for processing **Submitted** ECPs as described in **Section 7** of this WPI. When the CM Analyst approves the ECP, it will be routed for **ROC Review**.

9. ROC Review

a. The ROC Technical Review Committee (**TRC**) has approval authority for ECPs costing less than $100,000. ECPs in the **ECP Under 100K** workflow will be routed to TRC members for review and approval.

b. Agile will send each TRC member an email notification of the ECP requiring his review.

c. When the TRC member receives the ECP for review, he will have **21 days** to approve or reject the ECP. Agile automatically monitors this process and notifies the CM Analyst when the review cycle has ended.

NOTE: If the ECP has not advanced to TRC Decision status by the end of the 21-day review cycle, Agile escalates the ECP to the CM team lead for action.

d. To review the ECP, click on the Agile ECP **URL** in the email notification (Figure 38). This will launch Agile.

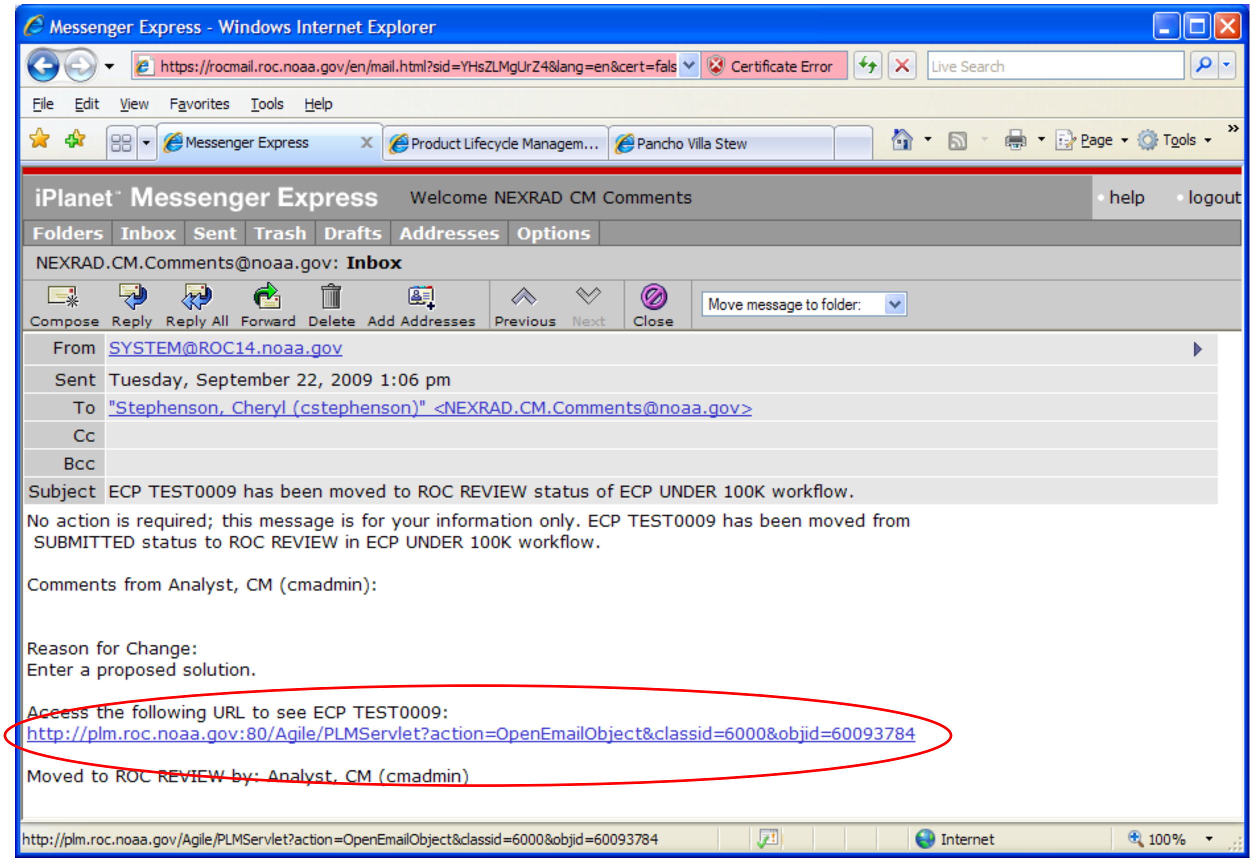


Figure 38: Email notification of ECP to be reviewed and Agile ECP URL.

e. The **Product Lifecycle Management (PLM)** login screen will be displayed (Figure 39). Complete the **Username** and **Password** information and click **Login**.

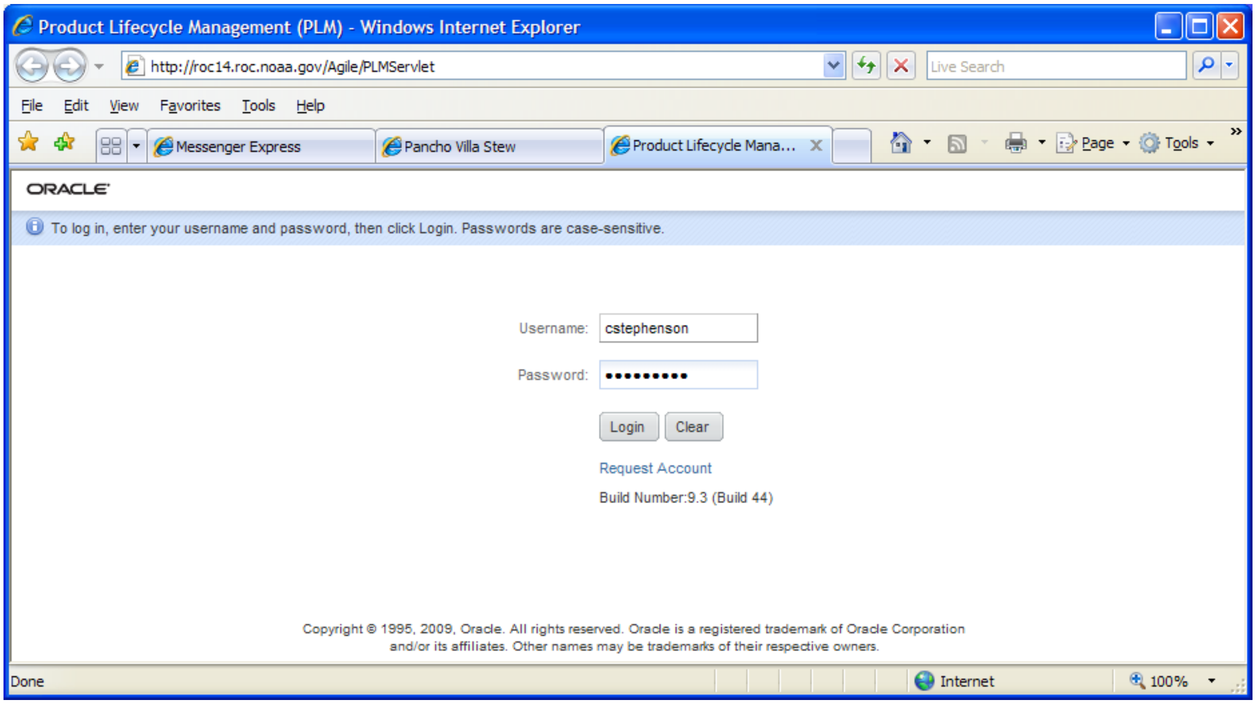


Figure 39: Product Lifecycle Management login screen.

f. The ECP to be reviewed (ECP **TEST0009**) will be displayed (Figure 40).

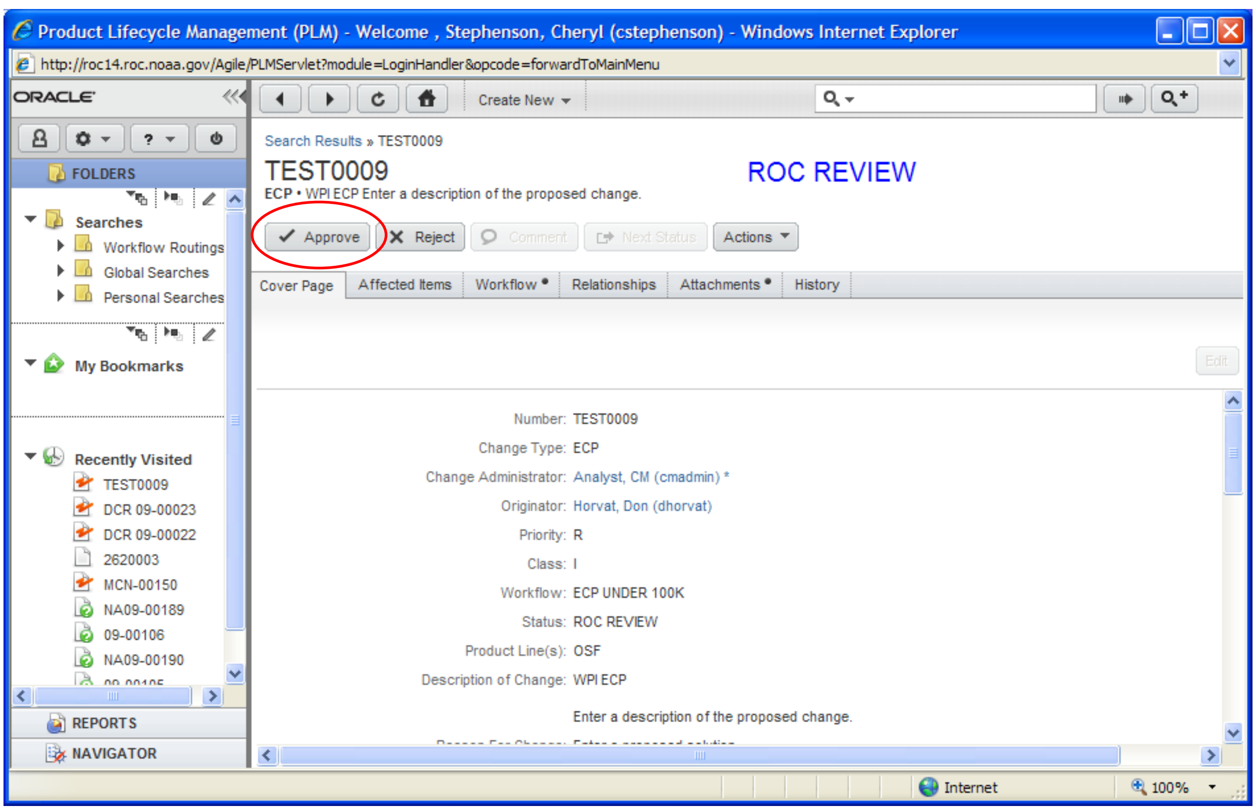
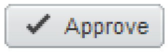


Figure 40: ECP to be reviewed and Approve button location.

g. Review the ECP to ensure that it's complete, i.e., all information is correct and it contains all required attachments. To approve the ECP, click the **Approve** button 

located on the Agile ECP form (Figure 40).

h. The **Approve** dialog box will be displayed (Figure 41). Enter the **password** in the **Password** block. Select **Change Analyst** and **Originator** to be notified, and Reviewers if desired. Enter any review **comments** in the **Comments** block, and click **Approve**.

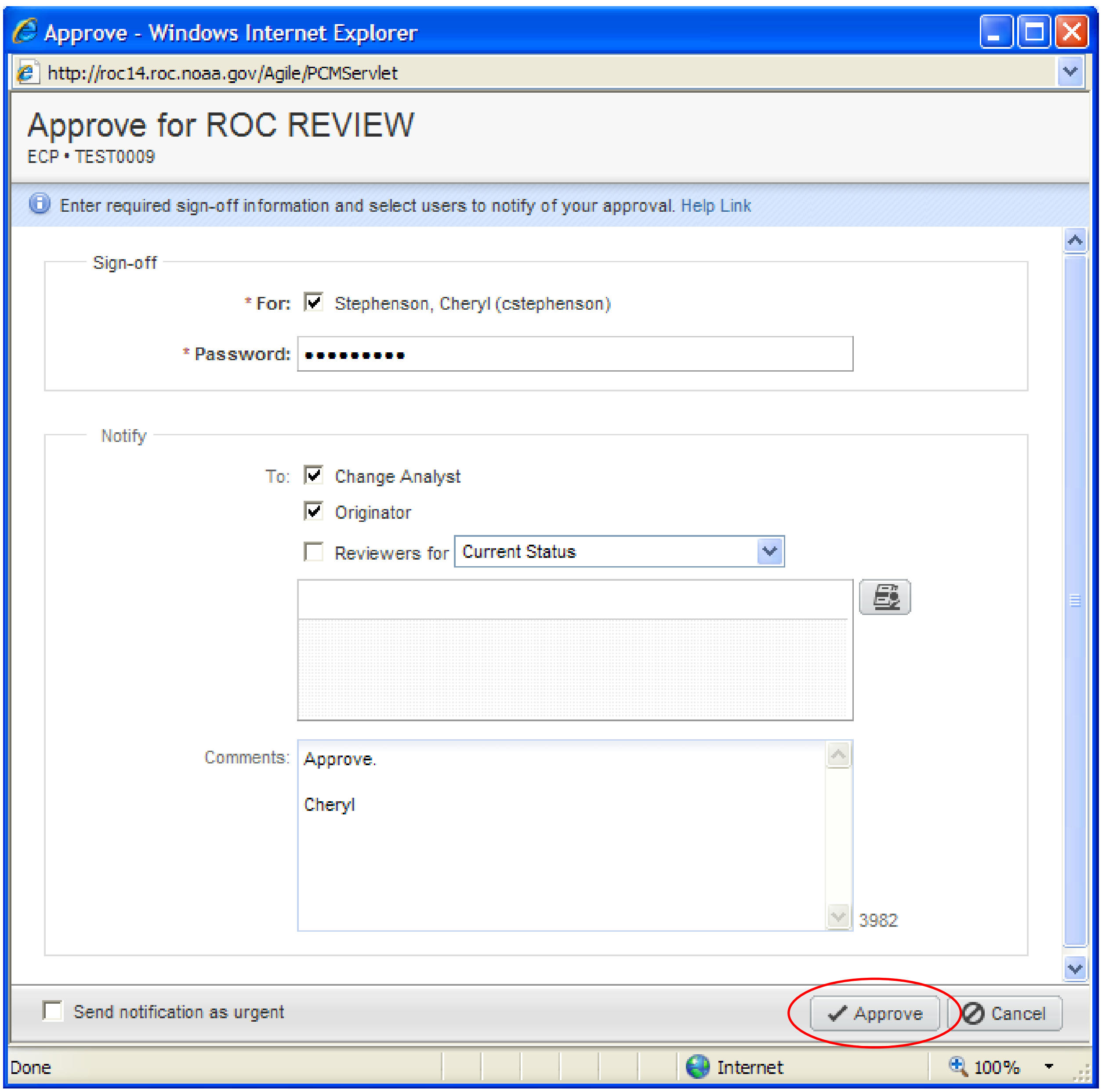


Figure 41: Approve dialog box with Approve button location.

i. Each addressee will receive an email notification containing the review comments.

j. At the conclusion of the ECP's review cycle, the CM Analyst will advance the ECP to **TRC Decision** status. Agile will send the project lead an email notification of the status change.

k. If dissenting comments are received, the ECP will not move into a hold status. Instead, it will be adjudicated at the next TRC meeting.

10. TRC Decision

a. Once the ECP has completed its ROC review cycle, it will move to **TRC Decision** status and remain in this status until it is presented at the next scheduled TRC meeting. Agile automatically monitors the length of time the ECP remains at TRC Decision status and notifies the CM Analyst when the allotted amount of time for an ECP in this status has expired.

Please Note: If the ECP has not moved from TRC Decision status by the end of the allotted time period, Agile escalates the ECP to the CM team lead for action.

b. If there are no dissenting comments to be reconciled when the ECP is presented to the TRC, and all TRC members agree, the ECP will be approved and advanced to **Released** status. The process of releasing an ECP is explained in **Section 12** of this document.

c. However, if there are dissenting review comments that cannot be resolved during the TRC meeting, the CM Analyst will move the ECP to **CM Hold (Mediate)** status. Instructions for handling ECPs in CM Hold (Mediate) status are explained in **Section 11** of this document.

11. CM Hold (Mediate)

a. If an ECP with dissenting comments cannot be resolved during the TRC meeting, the ECP is placed in **CM Hold (Mediate)** status. In this status, the CM Analyst will work with the originator and the party that provided the dissenting comments in an effort to bring the parties to a mutual agreement concerning the ECP. This may require the originator to gather additional data, make adjustments to the ECP, etc.

b. Agile will automatically send the originator email notification that the ECP has entered **CM Hold (Mediate)** status.

c. Once an agreement has been reached, the CM Analyst will move the ECP from **CM Hold (Mediate)** status and re-introduce it back into the workflow. The ECP can be placed anywhere in the workflow depending on the outcome of the mediation. For example, if the agreement calls for the originator to provide a more detailed description of the proposed solution, the ECP would be returned to **Pending** status to allow the project lead to add the required information. If the agreement was to provide answers to review questions that had not been addressed during the review cycle or the TRC meeting, the ECP could be returned to **TRC Decision** status following receipt of the necessary answers.

d. When the terms of agreement have been fulfilled and the ECP is ready to be returned to the workflow, the originator is to notify the CM Analyst who will provide processing instructions for the originator via email. It is very important that the originator follow these instructions, as they will explain how to move the ECP forward in the timeliest manner and avoid unnecessary delays. The CM Analyst's instructions will be included in the Comments section of the email message.

e. Once the ECP is returned to the workflow, it will move forward following the regular path of the workflow.

12. Released

a. The **Released** status in the Agile ECP workflow means the ECP has been approved by the appropriate approval authority – that being the **TRC** for ECPs costing less than $100,000.

b. The project lead will receive an email notification when the CM Analyst approves the ECP for release.

c. If there are outstanding deliverables for the ECP, the CM Analyst will advance the ECP to **Deployed – Not Complete** status and send the originator and team members email notification explaining the status change and their responsibility to notify the CM Analyst when these deliverables are complete. **The Deployed – Not Complete** process is explained in **Section 13** of this document.

d. If the ECP is complete and has no outstanding deliverables when released, the ECP will be advanced to **Deployed** status. The **Deployed** process is explained in **Section 14** of this document.

13. Deployed – Not Complete

a. If an ECP is approved, yet has outstanding deliverables, the originator and team members have a requirement to notify the CM Analyst when these deliverables are complete. The CM Analyst will send the originator and team members email notification explaining this requirement. Agile automatically monitors this process and will notify the CM Analyst if the ECP has not advanced from **Deployed – Not Complete** status within **60 days**, at which time the CM Analyst will contact the originator and each team members for a status update.

NOTE: A **Test Report** will be a required deliverable for all **Test ECPs**.

b. If the deliverables have yet to be completed, the ECP will remain in **Deployed – Not Complete** status and the **60-day** cycle will begin again. **Deployed – Not Complete** steps **13a-13b** will be repeated until the ECP deliverables have been completed.

c. Once the CM Analyst receives notification that all deliverables have been completed, the ECP will be advanced to **Deployed** status. Agile will send the project lead email notification of the status change.

14. Deployed

a. Upon notification that all outstanding deliverables have been completed, the CM Analyst will advance the ECP to **Deployed** status.

b. Agile will send the originator email notification of the change in status.

c. The completion of the ECP will be reported in the TRC agenda, and the TRC will be asked to provide approval to remove the ECP from the Active Projects List.

15. ECP Revisions

a. The CM Analyst will create the template for the ECP revision and populate the following fields:

On the Cover Page –	Detail Section –
Number	ECP Number
Change Type	Effectivity
Change Administrator	Cognizant Engineer
Originator	Type
Priority	Engineering Area
Class	Team Members
Workflow	Driving CCRs
Status	
Product Line	
Title	
Date Originated	

b. Upon completing the fields listed above, the CM Analyst will advance the ECP to **CM Allocation** status. At this status the CM Analyst designates the team members and branch chief as approvers on the **Workflow tab**. The same team members assigned to the base ECP will also be assigned to the revised ECP.

c. The CM Analyst will then advance the ECP to **Pending** status and send an email notification to the originator (project lead) that the ECP has been produced. The email will also contain the name of the ECP Facilitator assigned to the project and offer the ECP Facilitator's services.

The ECP Facilitator's function is to work with the project lead to:

- Ensure the project does not exceed the approved project requirements as stated in the associated CCRs
- Gather project data needed to populate the ECP and its attachments
- Help the project lead avoid pitfalls in the ECP review/approval process

NOTE: *By working with the ECP Facilitator, the project lead can skip all steps in this section. However, continue on if the project lead chooses to populate the ECP form and its attachments himself.*

d. On the **Cover Page**, update the **Description of Change** and **Reason For Change** blocks to explain how the revision differs from the base ECP.

e. Complete the **Detail section** of the Cover Page tab **CI/CPCI Number/Title**; **Technical Manuals**; **Estimated Hard Costs**; **Soft Costs**; **Associated CCRs/ECOs/PCRs**; and **Deployment Date** blocks with the revision information that differs from the information included in the base ECP.

f. Complete the blocks in the **ECP Page 3 section** as necessary.

g. The **Attachments tab** is to contain all documentation needed to give clarity to the proposed change. ECP attachments will vary from ECP to ECP; however, **ALL** ECPs must contain **costing**, **schedule**, and **modification/retrofit plan** attachments. **Test ECPs** must also contain **Test Plan** and **Test Report** attachments.

NOTE: The templates for the **costing**, **schedule**, and **modification/retrofit plan** attachments will have been added to the ECP when the ECP template was created by the CM Analyst.

h. To add attachments, select the **Attachments tab** on the ECP form (Figure 42).

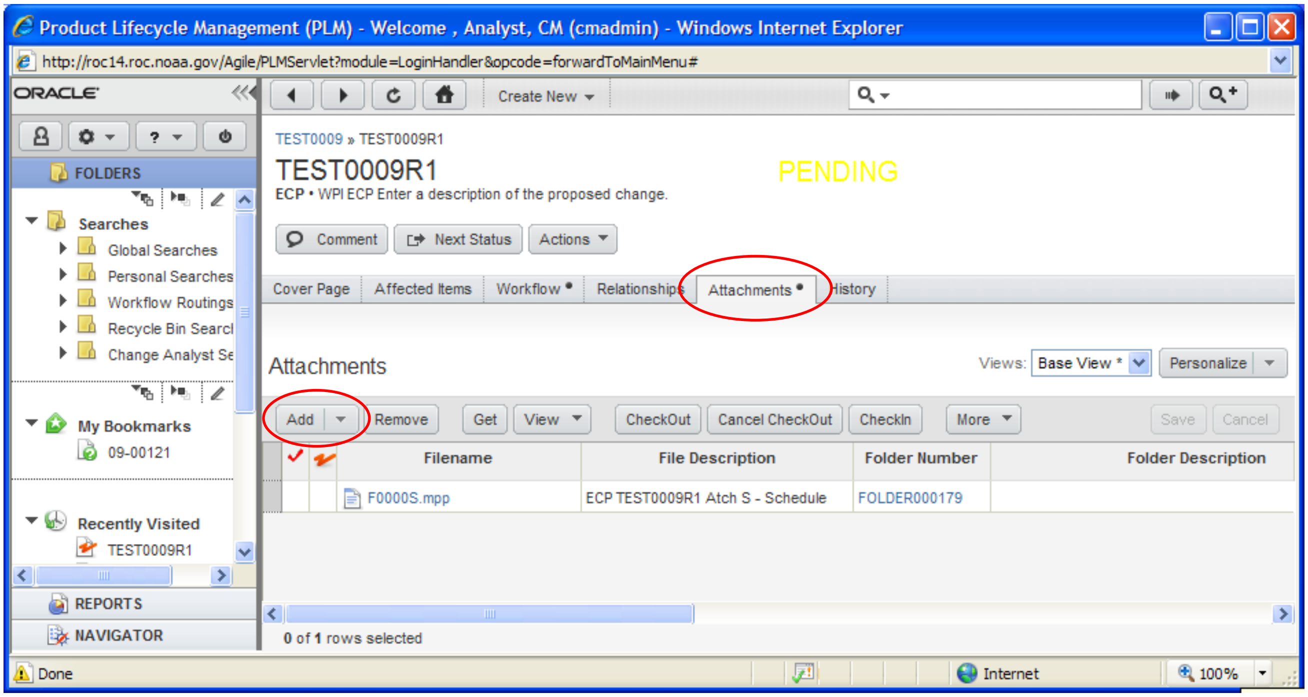
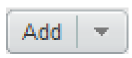


Figure 42: Attachments tab and Add button location.

i. Click the **Add** button  located on the Attachment tab's toolbar (Figure 42). The **File Uploader** box will appear (Figure 43).

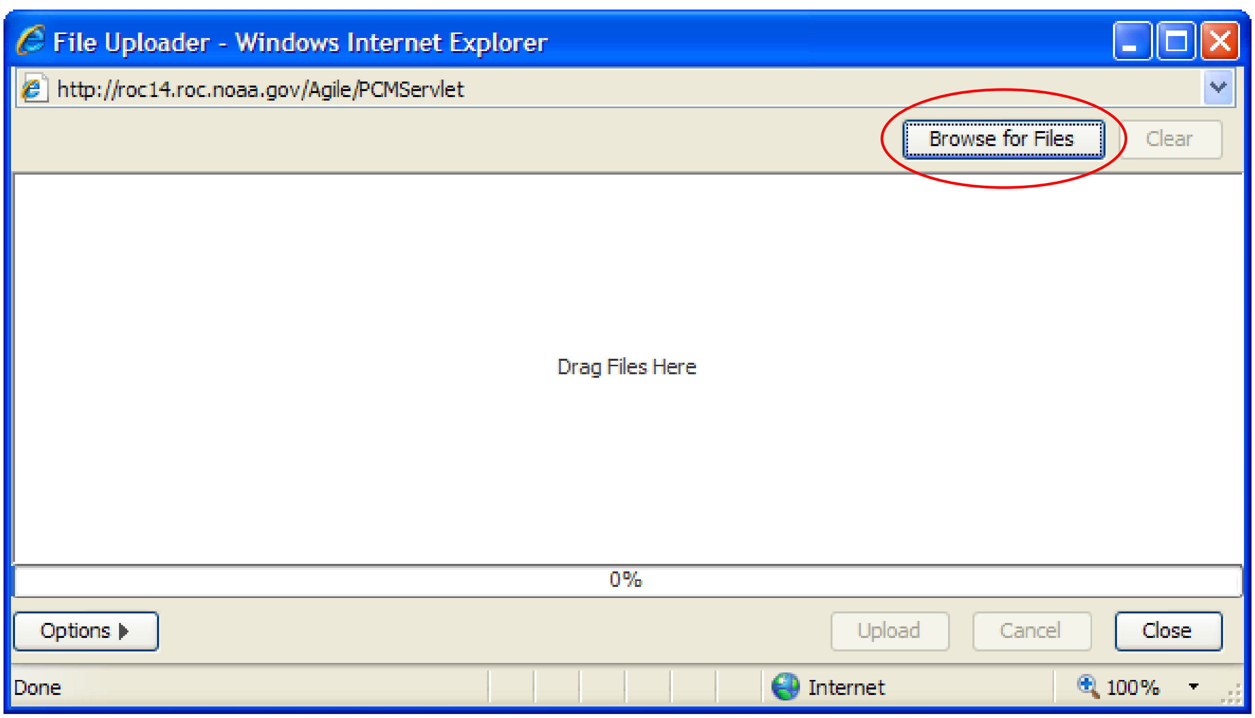


Figure 43: File Uploader and Browse for Files button location.

j. Click the **Browse for Files** button (Figure 43).

k. The **Open** window will appear (Figure 44). Locate the file to be attached and click on the **file name**. This will highlight the name of the file and enter it in the **File name** block. Click **Open**.

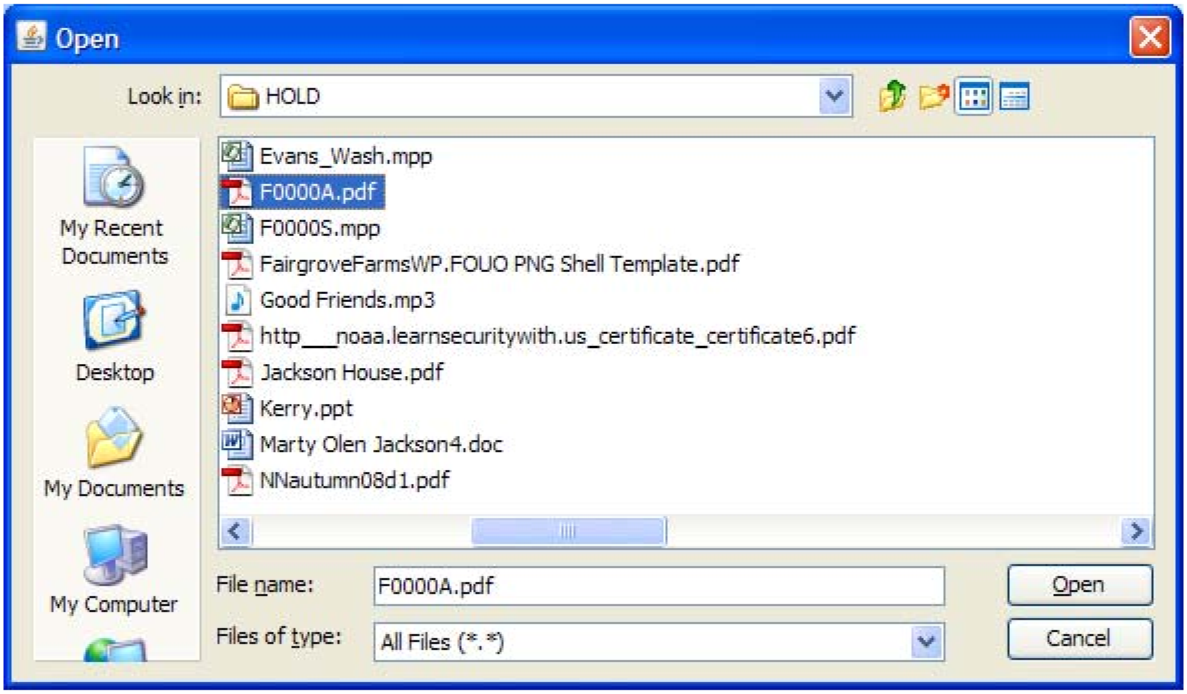


Figure 44: Open window.

l. The selected file will be added to the **File Uploader** dialog box (Figure 45). Use the Browse for Files button to add each attachment.

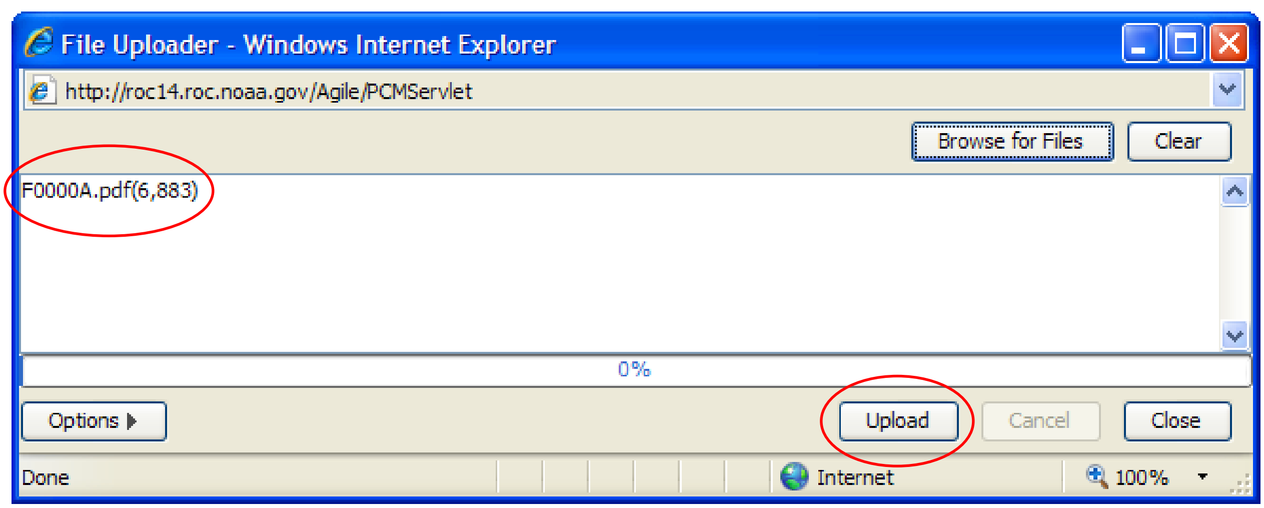


Figure 45: File added to File Uploader and Upload button location.

m. When all attachments have been added to the File Uploader, click **Upload** (Figure 45).

n. The File Uploader window will display the start and completion of the upload (Figure 46). Then a prompt asking to delete the uploaded file will appear. Click **Yes** to delete the file from the local computer; click **No** to retain the file.

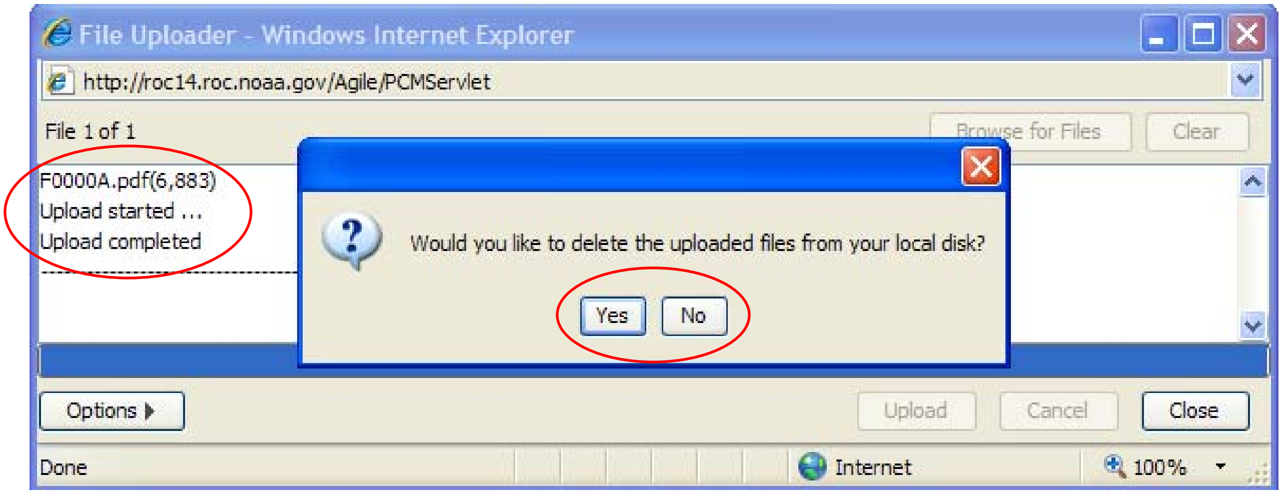


Figure 46: File upload complete and prompt to delete file from local computer.

o. Enter a **description** of the file in the **File Description** block on the Attachments tab by double-clicking the white file description block (Figure 47). This will cause a blue line to appear around the block. Type in a description using the following naming convention:

ECP xxxx Attachment O – Obstruction Light Diagram
ECP xxxx Attachment T – Test Plan (For Test ECPs)
(Where **xxxx** is the **ECP number**.)

Use this naming convention for any attachments added to the ECP.

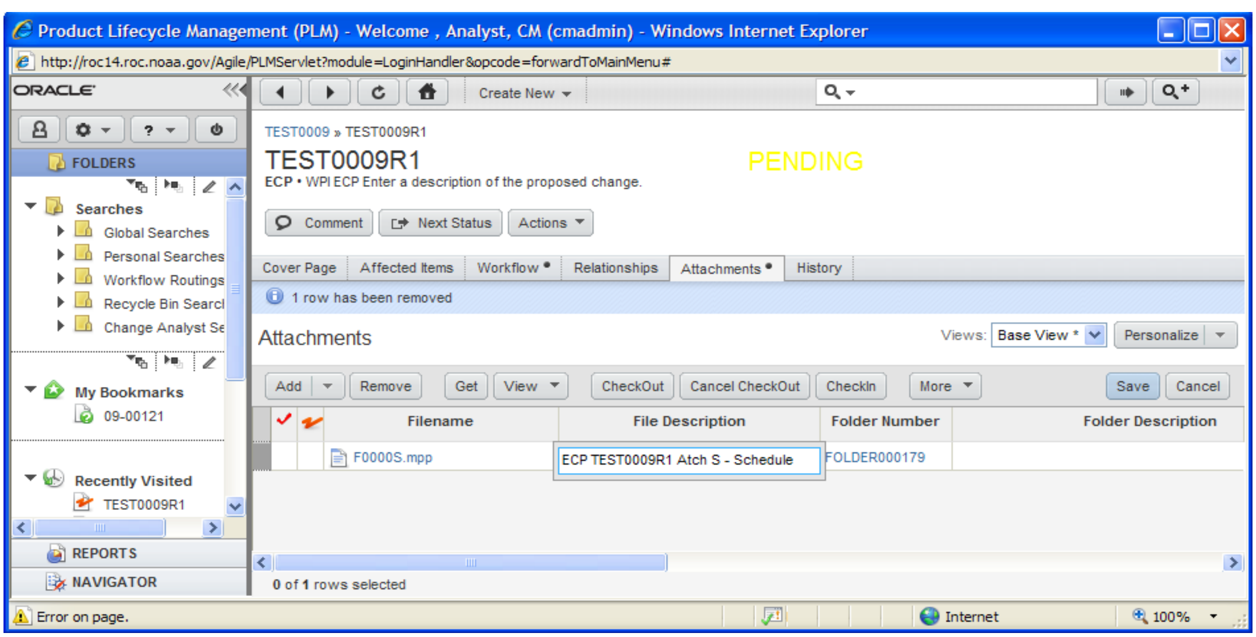


Figure 47: File description added.

p. Once all required ECP blocks have been completed and attachments attached, the Revision ECP will follow the regular steps of the workflow beginning at **Section 4** of this WPI, **Routing for Project Team Review**.

Appendix A – ECP Classification

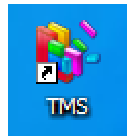
ECP Classification and Approval Authorities are based on the project's cost

If the ECP cost is:	Approval Authority:
Less than $100,000	ROC Technical Review Committee (TRC)
Between $100,000 and $1,000,000	WSR-88D Configuration Change Board (CCB).
Over $1,000,000	NEXRAD Program Management Committee (NPMC)

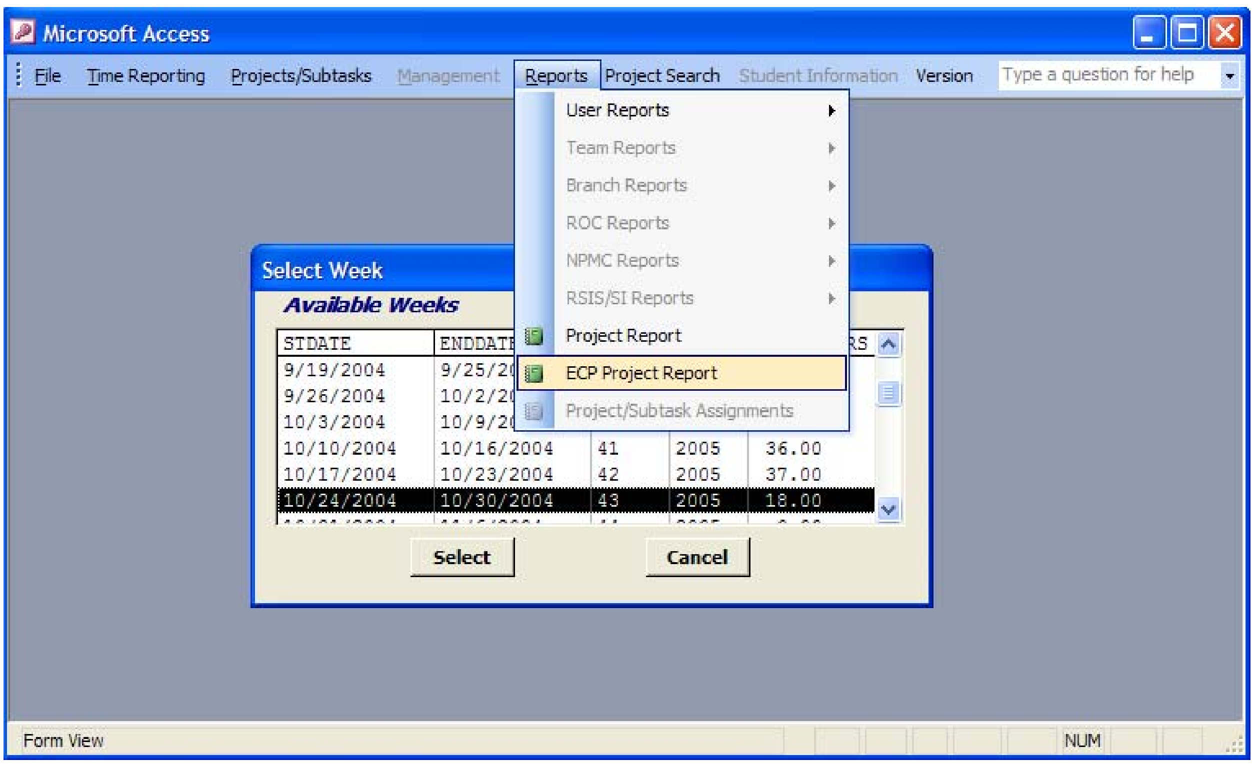
Based on a change in the project, is an ECP revision or change required

If the change is:	Implementation requires:
ECP: **Kit changes;** **Effectivity changes;** **Cost changes over $2,500 or moves total cost of project over $100,000 limit;** **Changing implementation approach.**	Revision to the ECP.
ECP: **Scheduling changes;** **Cost changes under $2,500.**	Change to the ECP.

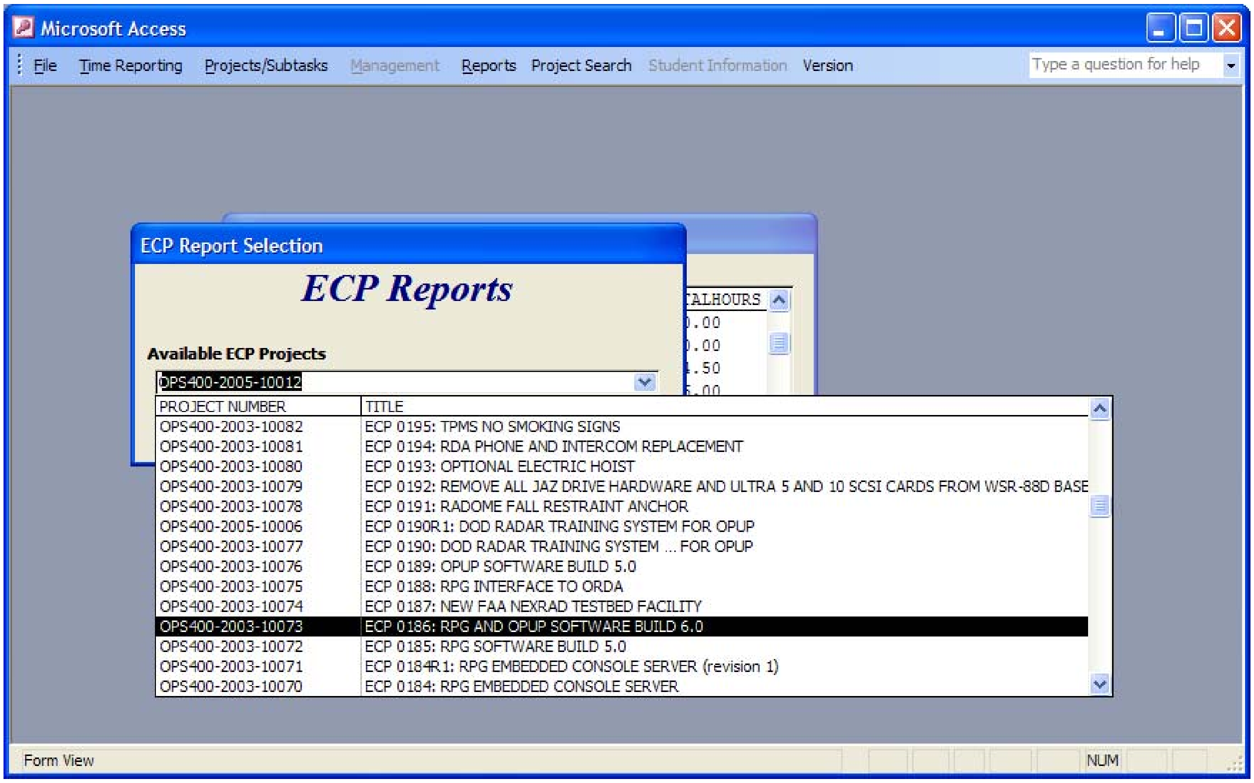
Appendix B – Team Member Hours in TMS

1. Open **TMS** using the desktop TMS icon. 

2. From the TMS toolbar, select **Reports** to display the Reports drop-down menu, and then select **ECP Project Report**.

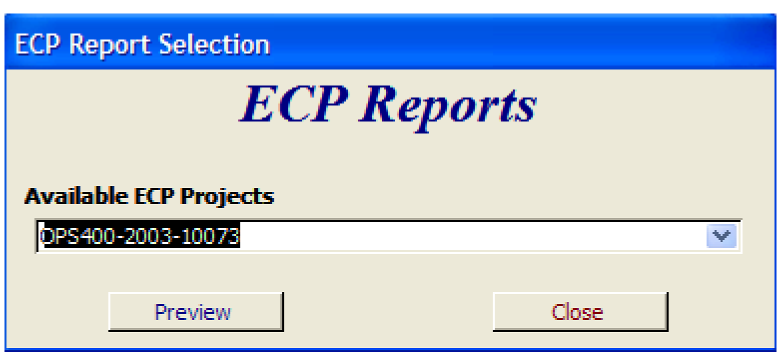


3. The **ECP Report Selection** dialog box will be displayed. Click on the blue down arrow located on the right-hand side of the **Available ECP Projects** window. The Available ECP Projects drop-down menu will be displayed.



4. Using the scroll bar on the right-hand side of the drop-down menu, scroll through the available ECPs to locate the desired ECP.

5. To select the ECP, click on the **ECP title**. Then click the **Preview** button on the bottom of the **ECP Report Selection** dialog box.



6. An **ECP Report** will be displayed, which provides a total number of hours worked on the project listed by branch, by section, and total project hours.

ECP REPORT

OPS400-2003-10073

ECP 0186: RPG AND OPUP SOFTWARE BUILD 6.0

APPS		
	APPS	1840.15
	Total Branch Hours	**1840.15**
DIR		
	DIR	31.25
	Total Branch Hours	**31.25**
ENG		
	ENG	4.50
	SW	13740.43
	SYS	71.00
	Total Branch Hours	**13815.93**
OPS		
	EMS	2.00
	FST	17.00
	OPS	69.50
	ROT	3777.00
	Total Branch Hours	**3865.50**
PGM		
	CMT	1288.50
	PGM	5.00
	RMT	48.00
	SDT	2149.00
	Total Branch Hours	**3490.50**
	Total Project Hours	**23043.33**

Wednesday, October 27, 2004

Appendix C – CI/CPCI/Tech Manual Tables

CI Number	CI Title
CI-01	Tower/Utilities
CI-02	Antenna/Pedestal
CI-03	Transmitter
CI-04	Receiver Signal Processor
CI-05	RDA Control
CI-06	Wideband Communications
CI-07	RPG Equipment
CI-08	PUP/RPGOP Equipment
CI-09	RDA Equipment
CI-11	Archive II
CI-12	OPUP Equipment
CI-14	Signal Processor
CI-15	RDA Host
CI-16	DAU
CI-21	ORDA Power Management
CI-30	MSCF Equipment
CI-55	SPG Equipment Cabinet
CI-56	ROCETEER Equipment

CPCI Number	CPCI Title
CPCI-01	RDASC
CPCI-02	Signal Processor
CPCI-03	RPG
CPCI-06	RDASTS
CPCI-09	OPUP Applications
CPCI-10	OS (Concurrent)/ROC Only
CPCI-11	RPG Solaris Operating System
CPCI-12	RPG Linux OS
CPCI-13	OPUP Linux OS
CPCI-14	RRRAT
CPCI-15	
CPCI-17	Pedestal Firmware
CPCI-19	RDA Control Program
CPCI-20	AME for Dual Polarization
CPCI-22	SDS/CM
CPCI-23	RPG Software Support Tools
CPCI-26	Adaptable and Geographic Data
CPCI-27	Sigmet Utilities
CPCI-28	Performance Analysis
CPCI-29	ORDA Linux Operating System
CPCI-32	Ancillary Systems
CPCI-34	ROCETEER
CPCI-38	ORDA Software Support Tools
CPCI-48	OPUP Software Support Tools
CPCI-49	OPUP Solaris Operating System
CPCI-84	OSSM
CPCI-86	SPG

Technical Manual Number	Technical Manual Title
EHB 6-500	System
EHB 6-501	IPB
EHB 6-502	WUC
EHB 6-503	PMI
EHB 6-503-1	PUP Workcards
EHB 6-503-2	RDA, RPG, RPIE, WBC Workcards
EHB 6-503-9	Depot PMI Cards (RPIE Equipment)
EHB 6-504	System Security Manual
EHB 6-511	Transmitter
EHB 6-512	Single Dehydrator
EHB 6-512-1	Dual Dehydrator
EHB 6-515	Maintenance Instructions ORDA Group
EHB 6-515-1	Users Guide ORDA
EHB 6-517	Maintenance Instructions Pedestal System
EHB 6-520	Maintenance Instructions RPG Refresh
EHB 6-521	RPG Refresh Operators Manual
EHB 6-527	Phaser 750 Color Printer User Guide
EHB 6-536	Operations Instructions - OPUP
EHB 6-537	Maintenance Instructions OPUP Large/Medium/Small
EHB 6-539	Operator Handbook OPUP
EHB 6-540	Maintenance Instructions WBC Group with ORDA
EHB 6-550	NWS & DOD RPIE Maintenance
EHB 6-551-1	Bard AC (60-WA-B09CF16, WA601-B09XXXXXJ, W
EHB 6-551-3	Chemtron Fire Systems – Micro Junior Control Panel
EHB 6-551-4	Chemtron Fire Systems – Micro 1-EV Control Panel
EHB 6-551-5	Onan Generator – Cummins Engine Operation and Maintenance
EHB 6-551-6	Cutler-Hammer Safe Install, Operate and Maint of Panel Boards 600V or Less
EHB 6-551-7	Drexelbrook Installation and Operation Fuel Level Sensor
EHB 6-551-8	Essco Model S38-90 Radome
EHB 6-551-9	Onan Generator Operators Manual – Model DGDA Generator Set
EHB 6-551-10	Onan Generator Installation Manual – Model DGDA Generator Set
EHB 6-551-11	Onan Generator Operator’s Manual – OTIII Transfer Switch
EHB 6-551-12	Onan Generator Installation Manual – OTIII Transfer Switch

EHB 6-551-13	Onan Generator Service Manual – OTIII Transfer Switch
EHB 6-551-14	Davit Hoist Owner's Manual
EHB 6-552	Kohler Generator
EHB 6-553	FAA RPIE Maintenance Manual
EHB 6-554-3	Electric Toilet Unit, Installation/Maintenance Manual, Model WB
EHB 6-554-4	Unit Heater, Installation & Maintenance Instructions Type CWH 2000
EHB 6-554-5	Powerware 9315-50 Transition Power System Service Manual
EHB 6-554-6	Marvair Compac I & II Product Manual – Compact I Model
	Operator Handbook Adaptable Parameters Volume IV ORDA
	Adaptable Parameters Handbook Volume I RPG Refresh
	Adaptable Parameters Handbook Volume IV ORPG

Appendix D – ECP Checklist & TBWG Questionnaire

ECP Project Checklist:

a. Hold a team meeting*****
    ______ Discuss the problem
b. Engineering Investigation
    ______ Investigate product and system (A,B & C) specifications; work with CM (Specifications) to update or develop new specs if needed
    ______ Investigate solutions/manufacturers
    ______ Include CM (Drafting) team member early in design discussions
c. Procure Test Assets
    ______ Work with RMT team member to purchase test assets
d. Testing
    ______ Produce test plan
    ______ Make presentation to TBWG for approval to install on ROC testbed
    ______ OPS team member assists in installation, if needed
    ______ Produce test report
e. Asset Selection & Deployment Strategy
    ______ Hold a team meeting to discuss test results & component selection
    ______ Determine kit proof location(s)*******
    ______ Develop retrofit/implementation strategy (during same or subsequent team meeting)
    ______ Determine disposal plan
f. Update Baseline Documents
    ______ Work with CM (Drafting) team member to determine drawing change requirements (ECOs)
        ______ Redline drawings
    ______ Work with SDT team member to produce modification documents (Mod Note, EEM, TCTO, Software Note)
    ______ Work with SDT team member to determine technical manual changes
        ______ Produce PCRs, ACOs
    ______ Work with SW ENG team member to produce & submit SW CCRs********
    ______ Work with OPS team member(s) regarding operations and telco issues
g. Procure & Stock Kit Components
    ______ Work with RMT team member to procure & stock kit components
h. Perform Kit Proof/Site Audit
    ______ Contact site(s) to schedule kit proof
    ______ Work with RMT team member to ship kit to site(s)
    ______ Work with OPS team member regarding kit installation support
    ______ Work with CM (Drafting) team member to audit site hardware
    ______ Adjust drawings, documents, & possibly kit components based on outcome of kit proof/site audit

i. Deployment
   _____ Hold a team meeting to discuss kit proof/site audit and poll team members to determine if project is ready to deploy
   _____ Work with RMT to ship kits per deployment strategy

j. Populate ECP
   _____ Provide ECP Facilitator costing (hard costs of procurements, travel, printing, etc.), kit components, scheduling, documentation, & deployment information needed to populate the ECP*********

k. ECP Review
   _____ Submit the ECP for review by clicking the Next Status button.

l. Report Completion of Deliverables
   _____ Report completion of deliverables to the CM Analyst
   _____ Upon completion of deployment and deliverables, the ECP will be reported "complete" to the TRC and removed from Active Projects List.

*** Hold a team meeting at major milestones, e.g., end of testing; changes in agreed upon equipment; changes in deployment strategy, etc.**

**** If testing is to be performed on an operational site, a SYS CCR must be submitted and approved by the CCB <u>PRIOR</u> to installation.**

***** If the ECP is a Test ECP or an investigative ECP, present findings and team recommendation to the TRC.**

****** The TRC and/or SREC will determine in which build release the software changes will be implemented.**

******* CM recommends using the services of the ECP Facilitator; however, the project lead may populate the ECP and attachments if he/she so chooses.**

Test Bed Change Request Questionnaire

Complete the following questionnaire and forward to the Test Bed Administrator

Purpose:	
Why is modification needed? Routine or Emergency?	
Document and/or reference number (ECP number)?	
Who are the intended users of the mod?	
Description:	
Describe the modification. (Include equipment affected, existing equipment replaced, how it is attached to system, and how mod is expected/ intended to work.	
Schedule:	
Time period of actual testing to include installation and removal of equipment.	
If evaluating stability of mod, who will monitor and at what time?	
Will configuration changes affect stability of radar and will all configurations be tested?	
Safety:	
Any safety issues related to this modification?	
Two-person/Safety Observer needed for this procedure?	
Equipment:	
Equipment to be modified?	

How will the modification be identified?	
Are all modifications being done in existing cabinets, or where will mod be placed?	
Personnel:	
Primary POC(s) and contact information	
Primary ET from Electronic Maintenance Team	
Has a peer review of procedure been conducted?	
Non-ROC personnel involved	
ROC and Field Impacts:	
How will this change affect Test Bed operations?	
How will change affect HOTLINE support?	

Branch Chief/Team Leader Concurrence ___________________________

Appendix E – Attachment A

ECP ATTACHMENT A

Additional Information

☐ Not Applicable – All information concerning this ECP is contained on the ECP form.

Cover Page, Description of Change – Enter additional information.

Cover Page, Reason For Change – Enter additional information.

Detail Tab, Associated CCRs/ECOs/PCRs – Enter additional information.

ECP Page 3, Effects on Configuration – Enter additional information.

ECP Page 3, Trade-Offs/Alt Solution – Enter additional information.

ECP Page 3, Other Considerations – Enter additional information.

Appendix F - ECP ATTACHMENT C

ECP ATTACHMENT C

Project Cost Estimates

Costing for ECP

Hard Costs

COSTS	Non-Recurring	Recurring			Total	
		Unit	Quantity	Total (recurring)		
A. Equipment, Travel, Printing, Shipping						
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
Subtotal	**$0.00**			**$0.00**	**$0.00**	
B. OTHER COSTS						
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
				$0.00	$0.00	
Subtotal	**$0.00**			**$0.00**	**$0.00**	
ESTIMATED TOTAL COSTS	**$0.00**			**$0.00**	**$0.00**	

C. SAVINGS	Non-Recurring	Unit	Quantity	total (recurring)		SAVINGS
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
Subtotal	$0.00			$0.00		$0.00
ESTIMATED TOTAL SAVINGS	$0.00			$0.00		$0.00
ESTIMATED TOTAL COSTS/SAVINGS					Costs $0.00	Savings $0.00

Soft Costs (ROC Staff Hours)

Team Members	Hours		Total
			0
			0
			0
			0
			0
			0
			0
			0
			0
			0
Estimated Total ROC Staff Hours			0

Appendix G - ECP ATTACHMENT M

ECP ATTACHMENT M

WSR-88D Modification/Retrofit Plan

Block 1 - Date Prepared:

Block 2 - ECP Number: *(Same as Agile Cover page)*

Block 3 - Title of Change: *(Same as Agile Cover page)*

Block 4 - Part Numbers/Drawings Impacted: *note: Agile Affected Items Tab does not show “From” CAGE and P/N*

From CAGE	From P/N	Item Name	To P/N	To CAGE

Block 5 - Software Requirements:

Block 6 - Related Retrofit Requirements:

Retrofit No./Dependency (indicate before or after)	ECP No.	Date Approved

Block 7 - Implementation Recommended:
(Check one)
Contractor
Government

Block 8 - Summary of Retrofit Approach:

Block 9 - Manhours per Unit to Install Retrofit Kit:

Site Level / Depot Level (indicate one or the other)	_____ hours
Manhours to Conduct System Tests After Retrofit:	_____ hours
Total Retrofit Time:	_____ hours
Total Out of Service Time	_____ hours

Block 10 - Existing Material Disposition Requirements:

Block 11 - Support Equipment Recommendation Data (SERD) Requirements:

Block 12 - National Stock Number Assignment Required:

Item Name	**NSN/ASN**	**P/N**	**NSI #**

Block 13 - Stock Item Changes Required:

Item Name	**NSN/ASN**	**P/N**	**Action**	**SIC #**

Block 14 - Kit Identification Number:

Quantity Required:
Kit Cost:
Consists of:

Qty	**Item name**	**P/N**	**NSN**	**ASN**

Block 15 - ECP Item Purchase Requirements:

NSN: ASN: P/N:	Item Name	1st Article Qty: Production Qty: Spares Qty: Total Qty:	Unit Cost: Total Cost:

Block 16 - Modification Test and Evaluation Status:

First Article Receipt Date:	Part Number	T&E Completion Date:	Evaluation Results:

Block 17 - Retrofit Effectivity Summary:

Kits Required	DOD -	DOT -	DOC -	Total
On Site (ISSL)				
NRC				
NLSC Spares				
TOTAL				

Block 18 - Retrofit Effectivity List By Agency:

DOC Sites: *(Sort by NWS Region, then NEXRAD Site Name)*

NEXRAD Site Name	City, State	Equipment	SID	Org Code

DOD Sites:

NEXRAD Site Name	City, State	Equipment	SID	Org Code

DOT Redundant Sites:

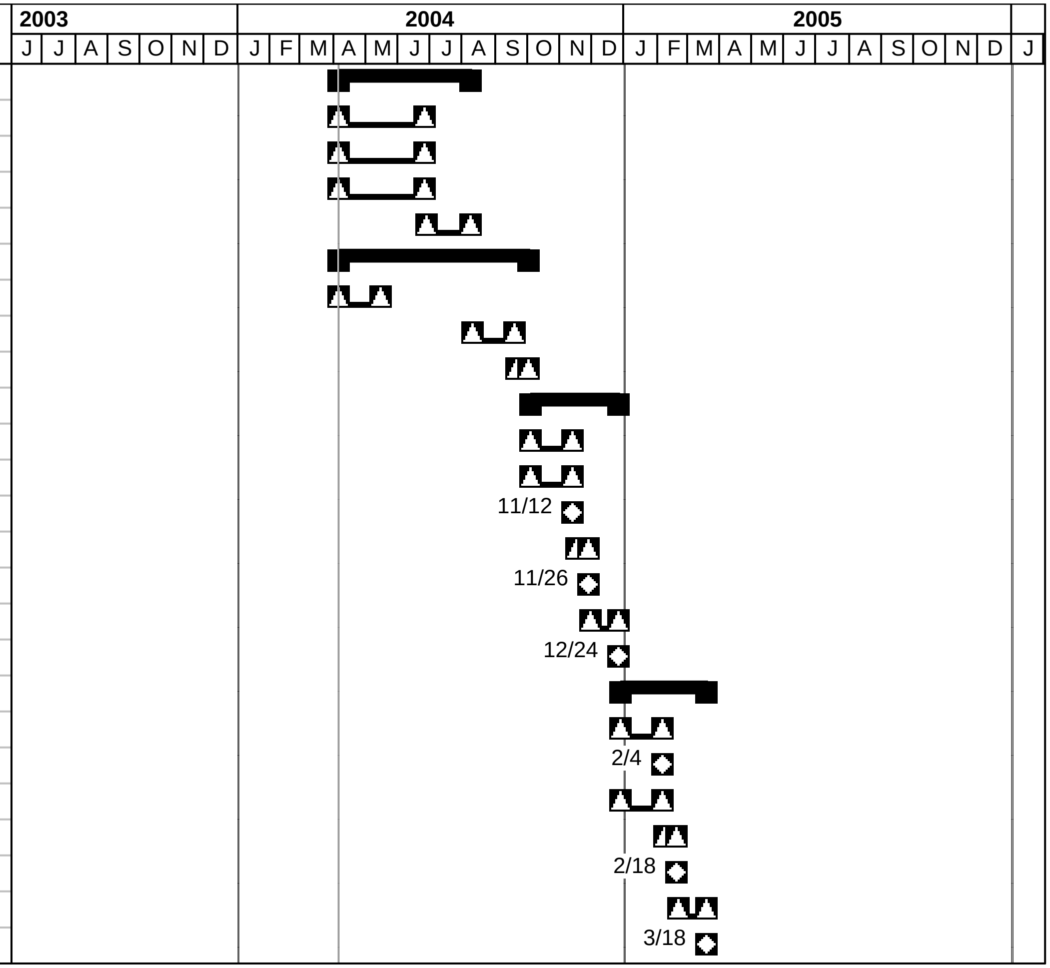
NEXRAD Site Name	City, State	Equipment	SID	Org Code

Appendix H - ECP ATTACHMENT S

ECP ATTACHMENT S

Project Schedule

ID	Task Name
1	**Engineering Investigation**
2	Develop Design Alterations
3	Develop Prototype Solutions
4	Develop Parts List
5	Acquire Test Assets
6	**Testing**
7	Produce test Plan
8	Perform Test
9	Produce test report
10	**Develop Preliminary ECP**
11	Documentation/Procedure Markups
12	Engineering Redline Drawings
13	PDR
14	PECP Review: OSF
15	TRC Decision For Continuation
16	PECP Review: Agencies
17	PECP Approval
18	**Develop Formal ECP**
19	Documentation/Procedure Markups
20	CDR
21	Engineering Redline Drawings
22	Formal ECP Review: OSF
23	TRC Decision For Continuation
24	FECP Review: Agencies
25	FECP Approval



ID	Task Name	2003–2005
26	**Implementation**	
27	Data Code Assignment	
28	Submit Engineering Drawings	4/5
29	Update Drawings	
30	Submit Purchase Order	
31	Order Initial Spares	
32	PR/Contract Process	
33	Contract Award	6/11
34	First Article Received	
35	First Article Evaluation	
36	First Article Approval	8/27
37	Submit DCN	
38	Catalog Parts	
39	Submit NSI For Kit	
40	Establish CLS Due In Kit	
41	Ship Production Parts To NLSC	
42	Official Notification For Kit Assembly	12/17
43	Assemble Kits	
44	Ship Kit Proof Assets	
45	Set up Kit Proof	
46	Kit Proof	9/3
47	Submit TM Changes	
48	Incorporate/Verify TM Changes	
49	Publish TM Changes	
50	Submit Installation Procedures	
51	Develop Mod Document	
52	Publish Mod Document	

ID	Task Name	2003: J J A S O N D / 2004: J F M A M J J A S O N D / 2005: J F M A M J J A S O N D / J
53	**Deployment**	
54	Deploy to DOC	
55	Deploy to DOD	
56	Deploy to DOT	
57	**Complete**	1/7

Appendix I - ECP Workflow – ECPs Under 100K