SEASONAL COST OF GAS ADJUSTMENT CLAUSE

Section

1.0   PURPOSE

The Seasonal Cost of Gas Adjustment Clause ("CGAC") establishes the procedures that allow the Company, subject to the jurisdiction of the Massachusetts Department of Public Utilities ("M.D.P.U."), to adjust on a semi-annual basis, the Company's rates for firm gas sales, in order to recover the cost of gas supplies, along with any taxes applicable to those supplies, pipeline and storage capacity, the costs of local production and storage, other gas supply expenses incurred to procure and transport gas supplies, the costs of purchased gas working capital, and certain bad debt expenses to reflect the seasonal variation of gas costs. Further, the CGAC provides for the credit from all supplier refunds, from margins associated with capacity release, from off-system sales and from non-core gas sales.

2.0   APPLICABILITY

This CGAC is applicable to all core gas sales made by the Company, unless otherwise designated. As provided in Section 11.0, the application of this CGAC may, for good cause shown, be modified by the M.D.P.U.

3.0   COST OF GAS ALLOWABLE FOR CGAC

All costs of firm gas including, but not limited to, commodity costs, taxes on commodity, demand charges, local production and storage costs, other gas supply expenses incurred to procure and transport supplies, bad debt expense percent from the latest test year, transportation fees and costs associated with buyouts of existing contracts, and purchased gas working capital costs may be included in the CGAC. Any costs recovered through the application of this CGAC shall be identified and explained in the Company's semi-annual filings as outlined in Section 9.0. Non-core gas costs and the gas costs that are reflected in the Company's transportation rates are not recoverable through this CGAC.

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

4.0   EFFECTIVE DATE OF GAS ADJUSTMENT FACTOR

The date on which the seasonal Gas Adjustment Factors ("GAFs") become effective will be the first day of each season as designated by the Company. Unless otherwise notified by the M.D.P.U., the Company shall submit GAF filings as outlined in Section 9.0 at least 45 days before they are to take effect.

5.0   DEFINITIONS

The following terms shall be as defined in this Section, unless the context requires otherwise:

Peak Season:	The consecutive months November to April, inclusive.
Off-peak Season:	The consecutive months May to October, inclusive.
Therm:	An amount of gas having a thermal content of 100,000 Btus.
Peak Volume:	Forecasted Peak Season core gas sales volumes in Therms.
Off-peak Volume:	Forecasted Off-Peak Season core gas sales volumes in Therms.
Total Volume:	Forecasted core gas sales volumes in Therms for the combined Peak Season and Off-Peak Season, unless otherwise approved by the M.D.P.U..
Peak Commodity:	The gas supplies procured by the Company to serve the core load in the Peak Season.
Off-peak Commodity:	The gas supplies procured by the Company to serve the core load in the Off-Peak Season.
Annual Demand	The upstream transportation capacity procured by the Company to serve the core load on an annual basis.
Storage Demand:	The upstream storage capacity procured by the Company to serve the core load in the Peak Season.
Local Production and Storage Costs:	The costs of providing storage service from Company-owned or affiliated storage facilities less costs included in the Company's transportation rates used to ensure distribution system integrity, as approved by the M.D.P.U. from time to time.

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

Inventory Finance Charges:	The annual cost of financing gas inventories through a trust or other financing vehicle as billed in each Peak Season based upon prior Off-Peak Season charges.
Heel LNG	The revenue requirement associated with the portion of LNG inventory required to maintain the cryogenic temperature for storage as approved by the M.D.P.U.
Supplier Refund:	The per-unit supplier refunds associated with refund program credits derived from Account 242.640 as described in Section 7.0.
Number of Days Lag:	The period of time between the purchased gas expense and revenue lags, as approved by the M.D.P.U. from time to time, to be used in the calculation of the working capital requirements.
Working Capital Requirement:	The allowable working capital derived from the sendout of the gas supplies.
Working Capital Allowance:	The allowable working capital cost per unit collection rate derived from the Working Capital Requirement.
Peak Working Capital Reconciling Adjustment:	The balance in Account 175.400 as outlined in Section 8.3.
Off-peak Working Capital Reconciling Adjustment:	The balance in Account 175.500 as outlined in Section 8.3.
Effective Tax Rate:	The combined effective state and federal income tax rates.
Cost of Debt:	The debt component of the rate of return as approved by the M.D.P.U. in the Company's most recent base rate case.
Cost of Equity:	The equity component of the rate of return as approved by the M.D.P.U. in the Company's most recent base rate case.
Cost of Capital:	The sum of the Cost of Debt and the Cost of Equity.

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

Tax Adjusted Cost of Capital:	The sum of (1) the Cost of Debt and (2) the Cost of Equity divided by one minus the Effective Tax Rate.
Peak Reconciling Adjustment:	The balance in Account 175.200, inclusive of the associated Account 175.020 interest, as outlined in Section 8.3.
Off-peak Reconciliation Adjustment:	The balance in Account 175.100, inclusive of the associated Account 175.010 interest, as outlined in Section 8.3.
Bad Debt:	The uncollectible expense attributed to the Company's gas costs.
Bad Debt Factor:	The allowable cost per-unit collection rate derived from the Bad Debt Expense.
Peak Bad Debt Reconciliation Adjustment:	The balance in Account 175.680, inclusive of the associated Account 175.680, interest, as outlined in Section 8.2.
Off-peak Bad Debt Reconciliation Adjustment:	The balance in Account 175.660, inclusive of the associated Account 175.660, interest, as outlined in Section 8.2.
Bad Debt Working Capital Requirement:	The allowable working capital derived from the Bad Debt Expense.
Bad Debt Working Capital Allowance:	The allowable working capital cost per unit collection rate derived from the Bad Debt Working Capital Requirement.
Peak Bad Debt Working Capital Reconciling Adjustment:	The sum of the balance in Account 175.690 as outlined in Section 8.3.
Off-peak Bad Debt Working Capital Reconciling Adjustment:	The sum of the balance in Account 175.670 as outlined in Section 8.3

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

Gas Acquisition Expense:	The costs incurred by the Company in its most recent test year to procure and transport gas supplies to the Company's city gate included in the test year of the Company's most recent base rate case as approved by the M.D.P.U..
Economic Benefit:	The difference between the revenue and the marginal cost determined to serve non-core Customers.
Threshold Level:	A level based on an historical twelve-month period ending April 30th of each year.
Non-Firm Margin:	The Economic Benefit from non-core transactions, as well as any margins earned on services rendered to Customers under contracts or service agreements in effect during the test year of the Company's most recent base rate case. Types of non-core transactions shall include, but not be limited to, capacity release, downstream capacity services to non-core Customers, non-core sales, and off-system sales. For transactions executed on or before February 19, 2013, if the total credit for each type of non-core transaction exceeds the Threshold Level, then seventy-five (75) percent of the credits earned in excess of the Threshold Level will be credited to the core gas sales Customers as established in D.P.U. 93-141-A. For transactions executed or renewed after February 19, 2013, ninety (90) percent of the total credits for all non-core transactions will be credited to the core gas sales Customers as established in D.P.U. 10-62.
Proportional Responsibility (PR) Allocator	The percentage allocator for the portion of annual capacity charges assigned to the seasons calculated in each CGA filing as approved in the Company's most recent base rate proceeding.
Peak Season GAF:	The per-unit charge, in $/Therm, as determined by the formula set forth in Section 6.0 herein. The Peak GAF shall be calculated to the nearest hundredth of a cent per unit.
Off-peak Season GAF:	The per-unit charge, in $/Therm, as determined by the formula set forth in Section 6.0 herein. The Off-Peak GAF shall be calculated to the nearest hundredth of a cent per unit.

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

6.0   GAS ADJUSTMENT FACTOR FORMULA

The GAFs shall be computed on a semi-annual basis using forecasts of seasonal gas costs, carrying charges, sendout volumes and sales volumes. Forecasts will be based on either historical data or Company projections and will be weather-normalized. All projections will be documented in full with each filing.

The calculation of each seasonal GAF utilizes information periodically established by the M.D.P.U. The table below lists approved cost factors as approved by the M.D.P.U.:

Heel LNG	$185,089
Bad Debt Expense Percentage	1.5029%
Gas Acquisition Expense	$1,480,737

6.1   Peak GAF Formula

The Peak GAF shall be calculated at the beginning of the Peak Season according to the following formula:

$$GAFp = DCp + CCp - NFMp + RAp + GWCp + BDCp + BDWCp + HLNGp + ACp - (R1+R2)p$$

where:

GAFp	Peak Season GAF
DCp	Demand Cost factor for the Peak Season
CCp	Commodity Cost factor for the Peak Season
RAp	Peak Season reconciliation factor based on adjustments set forth in Section 8.0
NFMp	Non-Firm margin factor for the Peak Season
GWCp	Gas Working Capital factor for the Peak Season
BDCp	Bad Debt Cost factor for the Peak Season
BDWCp	Bad Debt Working Capital factor for the Peak Season
HLNGp	Heel LNG factor for the Peak Season
ACp	Gas Acquisition Cost factor for the Peak Season
R1, R2	Per Unit Supplier Refunds per Section 7.0

Peak Demand Cost Factor (DCp) formula:

$$DCp = \frac{ADC * PRp + SDC + LPD}{VOLp}$$

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

where:

ADC	Annual Demand Costs
SDC	Storage Demand Costs
LPD	Local Production and Storage Costs
PRp	Peak Season PR Allocator
VOLp	Peak Season forecast sales volumes

Peak Commodity Cost Factor (CCp) formula:

$$CCp = \frac{Cp + I}{VOLp}$$

where:

Cp	Peak Commodity Costs
I	Inventory Finance Charges
VOLp	Peak Season forecast sales volumes

Peak Non-Firm Margin Factor (NFMp) formula:

$$NFMp = \frac{NFM * PRp}{VOLp}$$

where:

NFM	Non-Firm Margin
PRp	Peak Season PR Allocator
VOLp	Peak Season forecast sales volumes

Gas Working Capital Factor (GWCRp) formula:

$$GWCp = \frac{GWCRp * (CD + (CE/(1-TR))) + WCRecp}{VOLp}$$

$$GWCRp = (CCp + DCp - NFMp) * (DL/365)$$

where

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

GWCRp   Peak Season allocated gas working capital requirement
CD   Cost of Debt
CE   Cost of Equity
TR   Combined tax rate
WCRecp   Peak Season gas working capital reconciliation
VOLp   Peak Season forecast sales volumes
CCp   Commodity Cost factor for the Peak Season
DCp   Demand Cost factor for the Peak Season
NFMp   Non-Firm Margin factor for the Peak Season
DL   Days Lag

Bad Debt Cost Factor (BDCp) formula:

$$BDCp = \frac{(BD * PRp) + BDRecp}{VOLp}$$

where:

BD   Forecast Bad Debt expense derived by multiplying the forecast annual gas costs
                    by the Bad Debt Expense Percentage
BDREcp   Peak Bad Debt reconciling adjustment
VOLp   Peak Season forecast sales volumes
PRp   Peak Season PR Allocator

Bad Debt Working Capital Factor (BDWCp) formula:

$$BDWCp = \frac{(BDWCR * (CD + CE/(1-TR))) * PRp + BDWCrecp}{VOLp}$$

$$BDWCR = BD * (DL/365)$$

where:

BDWCR   Bad Debt working capital requirement
BD   Forecast Bad Debt expense derived by multiplying the forecast annual gas costs
                    by the Bad Debt Expense Percentage
CD   Cost of Debt
CE   Cost of Equity

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

TR	Combined tax rate
BDWCrecp	Peak Bad Debt working capital reconciliation
VOLp	Peak Season forecast sales volumes
DL	Days Lag
PRp	Peak Season PR Allocator

Heel LNG Factor (HLNGp) formula:

$$HLNGp = \frac{HLNG * 0.5}{VOLp}$$

where:

HLNG	Heel LNG
VOLp	Peak Season forecast sales volumes

Gas Acquisition Cost Factor (ACp) formula:

$$ACp = \frac{GAE * 0.5}{VOLp}$$

where:

GAE	Gas Acquisition Expense
VOLp	Peak Season forecast sales volumes

6.2   Off-Peak GAF Formula

The Off-Peak GAF shall be calculated for the Off-Peak Season according to the following formula:

GAFop = DCop + CCop – NFMop + RAop + GWCop + BDCop + BDWCop + HLNGop + ACop – (R1+R2)op

where:

GAFop	Off-Peak Season GAF
DCop	Demand Cost factor for the Off-Peak Season
CCop	Commodity Cost factor for the Off-Peak Season
RAop	Off-Peak Season reconciliation factor based on adjustments set forth in Section 8.0

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

NFMop	Non-Firm margin factor for the Off-Peak Season
GWCop	Gas Working Capital factor for the Off-Peak Season
BDCop	Bad Debt Cost factor for the Off-Peak Season
BDWCop	Bad Debt Working Capital factor for the Off-Peak Season
HLNGop	Heel LNG factor for the Off-Peak Season
ACop	Gas Acquisition Cost factor for the Off-Peak Season
R1, R2	Per Unit Supplier Refunds per Section 7.0

Off-Peak Demand Cost Factor (DCop) formula:

$$DCop = \frac{ADC * PRop + SDC + LPD}{VOLop}$$

where:

ADC	Annual Demand Costs
SDC	Storage Demand Costs
LPD	Local Production and Storage Costs
PRop	Off Peak Season PR Allocator
VOLop	Off Peak Season forecast sales volumes

Off-Peak Commodity Cost Factor (CCp) formula:

$$CCop = \frac{Cop}{VOLp}$$

where:

Cop	Off-Peak Commodity Costs
VOLop	Off-Peak Season forecast sales volumes

Off-Peak Non-Firm Margin Factor (NFMop) formula:

$$NFMop = \frac{NFM * PRop}{VOLop}$$

where:

NFM	Non-Firm Margin

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

    PRop   Off-Peak Season PR Allocator
    VOLop   Off-Peak Season forecast sales volumes

<u>Gas Working Capital Factor (GWCRop) formula</u>:

$$GWCop = \frac{GWCRop * (CD + (CE/(1-TR))) + WCRecop}{VOLop}$$

$$GWCRop = (CCop + DCop - NFMop) * (DL/365)$$

where

    GWCRop   Off-Peak Season allocated gas working capital requirement
    CD   Cost of Debt
    CE   Cost of Equity
    TR   Combined tax rate
    WCRecop   Off-Peak Season gas working capital reconciliation
    VOLop   Off-Peak Season forecast sales volumes
    CCop   Commodity Cost factor for the Off-Peak Season
    DCop   Demand Cost factor for the Off-Peak Season
    NFMop   Non-Firm Margin factor for the Off-Peak Season
    DL   Days Lag

<u>Bad Debt Cost Factor (BDCop) formula</u>:

$$BDCop = \frac{(BD * PRop) + BDRecop}{VOLop}$$

where:

    BD   Forecast Bad Debt expense derived by multiplying the forecast annual gas costs by the Bad Debt Expense Percentage
    BDRecop   Off-Peak Bad Debt reconciling adjustment
    VOLop   Off-Peak Season forecast sales volumes
    PRop   Off-Peak Season PR Allocator

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

Bad Debt Working Capital Factor (BDWCop) formula:

$$BDWCop = \frac{(BDWCR * (CD + CE/(1-TR))) * PRop + BDWCrecop}{VOLop}$$

$$BDWCR = BD * (DL/365)$$
where:

BDWCR	Bad Debt working capital requirement
BD	Forecast Bad Debt expense derived by multiplying the forecast annual gas costs by the Bad Debt Expense Percentage
CD	Cost of Debt
CE	Cost of Equity
TR	Combined tax rate
BDWCrecop	Off-Peak Bad Debt working capital reconciliation
VOLop	Off-Peak Season forecast sales volumes
DL	Days Lag
PRop	Off-Peak Season PR Allocator

Heel LNG Factor (HLNGop) formula:

$$HLNGop = \frac{HLNG * 0.5}{VOLop}$$

where:

HLNG	Heel LNG
CE	Cost of Debt
CE	Cost of Equity
TR	Combined tax rate
VOLop	Off-Peak Season forecast sales volumes
PRop	Off-Peak Season PR Allocator

Gas Acquisition Cost Factor (ACop) formula:

$$ACop = \frac{GAEop * 0.5}{VOLop}$$

where:

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

GAE   Gas Acquisition Expense for the Off-Peak Season
VOLop   Off-Peak Season forecast sales volumes

7.0   GAS SUPPLIERS' REFUNDS

Refunds from suppliers of gas and feedstocks shall be credited to Account 242.640, "Undistributed Gas Suppliers' Refunds." Transfers from this account will reflect as a credit in the semi-annual calculation of the Peak GAF and Off-Peak GAF to be calculated as follows:

Refund programs shall be initiated with each semi-annual GAF filing and shall remain in effect for a period of one year. The total dollars to be placed into a given refund program shall be the net of over/under-returns from expired programs plus monies received from suppliers since the previous program was initiated. Monies to be refunded through each program shall be distributed through the use of per-unit refund factors that will return, over the one-year period, the principal amount of the refund plus interest as calculated using the Bank of America prime lending rate. The Company shall track and report on all Account 242.640 activities as specified in Section 9.0.

8.0   RECONCILIATION ADJUSTMENTS

8.1   Gas Costs

(a)   Gas costs allowable per Peak Season GAF Formula:

i.   The Peak Season Commodity Cost;
ii.   The allocated Peak Demand Cost;
iii.   The Storage Demand Costs;
iv.   The Local Production and Storage Cost;
v.   The Peak Season Account 175.020 interest charges;
vi.   The allocated Non-Firm Margin; and
vii.   The allocated Gas Acquisition Expense.

(b)   Account 175.200 shall contain the accumulated difference between the gas costs allowable per the Peak Season formula and the revenue collected through the operation of this rate schedule including adjustments for Peak Season Demand Factor Revenues and Peak Season Energy Factor Credits. Interest shall be calculated on the average monthly balance of this account using the Bank of America prime lending rate as charged to Account 175.020.

(c)   The Peak Season Reconciliation Adjustment shall be taken as the Account 175.200 balance as of October 31st of each year.

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SEASONAL COST OF GAS ADJUSTMENT CLAUSE

(d)   Gas costs allowable per Off-Peak Season GAF Formula:

   i.   The Off-Peak Season Commodity Cost;
   ii.   The allocated Off-Peak Demand Cost;
   iii. The Off-Peak Season Account 175.010 interest charges;
   iv.   The allocated Non-Firm Margin; and
   v.   The allocated Gas Acquisition Expense.

(e)   Account 175.100 shall contain the accumulated difference between the gas costs allowable per the Off-Peak Season formula and the revenue collected through the operation of this rate schedule. Interest shall be calculated on the average monthly balance of this account using the Bank of America prime lending rate as charged to Account 175.010.

(f)   The Off-Peak Reconciliation Adjustment shall be taken as the Account 175.100 balance as of April 30th of each year.

8.2   Bad Debt Costs

a)   Bad debt costs per Peak Season GAF Formula:

   i.   Costs associated with uncollected gas costs, including any applicable taxes, incurred by the Company to serve core load;
   ii.   Interest charges; and
   iii. The Peak Season Bad Debt Reconciliation Adjustment shall be taken as the Account 175.680 balance as of October 31st of each year.

(b)   Bad debt costs per Off-Peak Season GAF Formula:

   i.   Costs associated with uncollected gas costs, including any applicable taxes, incurred by the Company to serve core load;
   ii.   Interest charges; and
   iii. The Off-Peak Season Bad Debt Reconciliation Adjustment shall be taken as the Account 175.660 balance as of April 30th of each year.

(c)   Account 175.680 and Account 175.660 shall contain the accumulated difference between the bad debt costs allowable per the Peak Season and Off-Peak Season formulae, respectively, and the revenue collected through the operation of this rate schedule. Interest shall be calculated on the average monthly balance of these accounts using The Bank of America prime lending rate and shall then be added to each end-of-month balance.

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

8.3   Working Capital Costs

(a)   Working capital gas costs allowable per Peak Season GAF Formula:

i. The Peak Season Commodity Cost;
ii.   The allocated Peak Season Demand Charge; and
iii. The allocated Peak Season Non-Firm Gas Cost.

(b)   Account 175.500 shall contain the accumulated difference between the Peak Season Gas Working Capital Allowance and the revenue toward Peak Season Gas Working Capital Allowance.

(c)   The Peak Season Gas Working Capital Reconciliation Adjustment shall be taken as the Account 175.500 balance as of October 31st of each year.

(d)   Working capital gas costs allowable per Off-Peak GAF Formula:

i.   The Off-Peak Season Commodity Costs;
ii.   The allocated Off-Peak Season Demand Costs; and
iii. The allocated Off-Peak Season Non-Firm Gas Cost.

(e)   Account 175.400 shall contain the accumulated difference between the Off-Peak Season Gas Working Capital Allowance and the revenue toward the Off-Peak Season Working Capital Allowance.

(f)   The Off-Peak Season Gas Working Capital Reconciliation Adjustment shall be taken as the Account 175.400 balance as of April 30th of each year.

(g)   Working capital bad debt costs allowable per Peak Season GAF formula:

i.   Peak Season Charges associated with bad debt incurred by the Company to serve core load; and
ii.   Bad debt carrying charges.

(h)   Account 175.690 shall contain the accumulated difference between the Peak Season Bad Debt Working Capital Allowance and the revenue toward the Peak Season Bad Debt Working Capital Allowance.

(i)   The Peak Season Bad Debt Working Capital Reconciliation Adjustment shall be taken as the Account 175.690 balance as of October 31st of each year.

SEASONAL COST OF GAS ADJUSTMENT CLAUSE

(j)   Working capital bad debt expenses allowable per Off-Peak Season GAF formula:

         i.   Off-Peak Season Charges associated with bad debt incurred by the Company to serve core load; and
       ii.   Bad debt carrying charges.

(k)   Account 175.670 shall contain the accumulated difference between the Off-Peak Season Bad Debt Working Capital Allowance and the revenue toward the Off-Peak Season Bad Debt Working Capital Allowance.

(l)   The Off-Peak Season Bad Debt Working Capital Reconciliation Adjustment shall be taken as the Account 175.670 balance as of April 30th of each year.

9.0   INFORMATION REQUIRED TO BE FILED WITH THE M.D.P.U.

The Company will file a monthly report, which shall be submitted to the M.D.P.U. on the twentieth of each month, and a semi-annual GAF filing, which shall be submitted to the M.D.P.U. at least 45 days before the date on which a new GAF is to be effective.

Additionally, the Company shall file with the M.D.P.U. a complete list by (sub)account of all gas costs claimed as recoverable through the CGAC over the previous year, as included in the seasonal reconciliation. This information shall be submitted with each Peak and Off-Peak Season GAF filing, along with complete documentation of the reconciliation adjustment calculations.

10.0   GAS SUPPLY SERVICE CREDITS

Any revenue billed by the Company for gas supply services other than Default Service shall be credited to the total allowable gas costs prior to the calculation of the GAFs.

11.0   OTHER RULES

The M.D.P.U. may, where appropriate, on petition or on its own motion, grant an exception from the provisions of 220 CMR 6.00 and this rate schedule, upon such terms that it may determine to be in the public interest.

At any time, the M.D.P.U. may require the Company to file, or the Company may file with the M.D.P.U., an amended GAF. Said filing must be submitted seven (7) business days before the proposed effective date of the amended GAF.

The operation of this rate schedule is subject to all powers of suspension and investigation vested in the M.D.P.U. by Chapter 164 of the General Laws of the Commonwealth of Massachusetts.