

ORDER OF THE ADMINISTRATOR 2008-01

PRODUCER COST OF SERVICE RATE ORDER OF THE ADMINISTRATOR

PETROLEUM AND NATURAL GAS ROYALTY AND FREEHOLD
PRODUCTION TAX REGULATION

I order as follows, Order 2006-01 is rescinded and replaced with this Order effective January 1, 2009.

Method for Establishing a PCOS Rate

The method for establishing a PCOS rate is based on the following procedures:

- (i) For conservation gas or freehold conservation gas produced from an oil well event, a PCOS rate is equal to \$16.00;
- (ii) For non-conservation gas or freehold non-conservation gas produced from a gas well event or an oil well event, other than non-conservation gas or freehold non-conservation gas produced from a gas well event that is part of a coalbed methane project, an annual PCOS rate is determined using the following six steps:

Step 1 – Update the Database for Equipment Items at each Reporting Facility

Accurate calculation of PCOS rates requires knowledge of the equipment items at each reporting facility. Information about new installations are reported by industry on an 'Application for Producer Cost of Service' (BC22) report. Information about equipment that has been changed or retired is obtained from facility operators and through field inspection and audit activity. This information is kept in a database maintained by the Ministry of Small Business and Revenue to be used in the calculation of PCOS rates.

The types of equipment and the relevant attributes that are inventoried in the PCOS database are as follows:

Gathering Lines

Attributes:

1. Pipeline Length (kilometers)
2. Pipeline Diameter (millimeters)
3. Year Installed
4. Plant Terrain (Mountainous, Prairie, Muskeg)

Compressors

Attributes:

1. Type
 - Turbine
 - Gas Engine Reciprocating
 - Electric Motor Reciprocating
 - Gas Engine Screw
 - Electric Motor Screw
2. Horsepower
3. Year installed
4. Sweet or Sour Service

Dehydrators

Attributes:

1. Type
 - Glycol
 - Low Volume Dessicant
 - High Volume Dessicant
 - Calcium Chloride
2. Capacity (mcf/d)
3. Contactor Diameter (Inches)
4. Maximum Allowable Working Pressure (PSIG)
5. Year Installed
6. Sweet or Sour Service for Glycol Dehydrators

Field Processing Units

Attributes:

1. Type
 - Amine
 - Sulpha Treat
 - Iron Sponge
2. Acid gas content of the gas stream (ie. Amine)
3. Capacity (mcf/d)
4. Year Installed
5. lbs/day of sulphur extracted (ie. Iron Sponge, Sulpha Treat)

Lineheaters

Attributes:

1. Type
 - One coil
 - Two coil
2. Capacity (mcf/d)
3. Heat Duty
3. Sweet or Sour Service
4. Year Installed

Wellsite Operating Costs

Attributes:

1. Number of producing wells
2. Sweet or Sour Service

Step 2 – Determine an Opening Capital Balance for Equipment Items at a Reporting Facility

For each reporting facility, an opening capital balance is determined using the following procedures:

- i) **Determine Original Cost for each equipment item. The procedures for determining Original Cost for an equipment item vary depending on the equipment item's installation date.**
 - a) For equipment items installed before 1997, the equipment item will be valued using the 1996 Engineering Cost Curves, relevant equipment item attributes identified in step 1 and the Nelson Farrar inflation index.
 - b) For equipment items installed between 1997 and 2004, the equipment item will be valued using the 1999 Engineering Cost Curves, relevant equipment item attributes and the Nelson Farrar inflation index.
 - c) For equipment installed after 2004, equipment items will be valued using the Engineering Cost Curves applicable to that installation year and the relevant equipment item attributes.

The formulas for determining Original Cost for each equipment item are listed below. Note that the Inflator/Deflator are only used to determine original cost for equipment items with installation dates prior to 2005.

Gathering Lines:

Line Length X Line Diameter X Cost Factor Per Millimeter/Kilometer X Inflator/Deflator

Compressors:

Compressor Horsepower X Cost Factor Per Horsepower X Inflator/Deflator

Dehydrators:

Dehydrator Capacity X Cost Factor per Unit of Capacity X Inflator/Deflator

Note: For glycol dehydrators, dehydrator capacity is in mcf/d and is based on contactor diameter and maximum allowable working pressure. For dessicant dehydrators, dehydrator capacity is based on capacity in mcf/d.

Field Processor Units:

Processor Capacity × Cost Factor per Unit of Capacity × Inflation/Deflator

Note: Processor capacity for amine field processors is based on mcf/d while processor capacity for iron sponge and sulphur field processors is based on lbs of sulphur extracted per day.

Lineheaters:

Lineheater Capacity X Cost Factor per Unit of Capacity X Inflation/Deflator

Note: Lineheater capacity is in mcf/d and is based on heat duty for each lineheater.

The royalty collector may make the following additional adjustments to the calculation of Original Cost to allow for more accurate matching of capital costs to production volumes:

- a) Where there are compressors within producer-owned plants that are performing a field compression and sales compression function, the compressor's original cost calculation must be reduced by a fixed percentage representing the sales compression portion of the compressor. This reduction to the compressor's original cost is required to ensure that producers do not receive a duplicated GCA and PCOS deduction for the same compressor.
- b) Where an equipment item is being shared by multiple British Columbia reporting facilities, the original cost calculation of the equipment item must be allocated to each reporting facility delivering to the equipment item. The original cost allocation must be based on production volumes for each reporting facility or a fixed percentage obtained from the operator of the reporting facility.
- c) Where an equipment item is being used to handle raw gas volumes from British Columbia and another jurisdiction, the original cost calculation for the equipment item must be allocated between British Columbia and the other jurisdiction based upon a fixed percentage obtained from the facility operator.
- d) Where a producer has received an infrastructure credit for part of the capital cost associated with an equipment item, the original cost of the equipment must be reduced by the amount of the infrastructure credit.

ii) Determine an opening capital balance for each equipment item as follows:

a) For 2005 opening capital balance calculations:

- i) for equipment items with an installation year less than or equal to the reporting facility's Previous PCOS Rate Approval Year, calculate the equipment item's opening capital balance using Original Cost and 5% declining balance depreciation methodology. The formula for this calculation is as follows:

$$(\text{Original Cost} \times (.95^{(2005-\text{Installation Year})}))$$

- ii) for equipment items with an installation year greater than the reporting facility's Previous PCOS Rate Approval Year, the equipment item's opening capital balance is equal to Original Cost.

Note: Previous PCOS Rate Approval Year is equal to the calendar year that the reporting facility's latest plant based PCOS rate was issued.

b) For opening capital balance calculations for calculation years subsequent to 2005:

- i) equipment items with an installation year greater than 2004, calculate the equipment item's opening capital balance using Original Cost and 20 year straight line depreciation methodology. The formula for this calculation is as follows:

$$\text{Original Cost} - (\text{Original Cost} / 20) \times A$$

Where:

A is equal to the lesser of 20 and the number obtained by deducting the year the equipment was installed from the calculation year.

- ii) equipment items with an installation year less than 2005, calculate the equipment item's January 1, 2005 opening capital balance using the methodology under Step 2 (ii) (a) above and then apply 20 year straight line depreciation for each year after 2004. The formula for this calculation is as follows:

$$\text{OCB} - (\text{OCB} / 20) \times A$$

Where:

OCB is equal to the January 1, 2005 Opening Capital Balance calculated under Step 2 (ii) (a) above, and

A is equal to the lesser of 20 and the number obtained by deducting 2004 from the calculation year.

Step 3 – Determine Operating Costs for Equipment Items and Wells at Each Reporting Facility

For each reporting facility, determine the amount of annual operating costs for each equipment item and well assigned to the reporting facility using the following procedures:

- a) For each equipment item, determine the operating cost percentage using the following formulas:

Gathering Lines:

$$\text{Operating Cost \%} = 2.33 + (4.00 \times 4010.29) / (4010.29 + \text{Length in Meters})$$

Compressors:

Operating Cost % = $7.44 + (5.58 \times 450.27) / (450.27 + \text{HP})$, where HP is the horsepower of the compressor.

Dehydrators:

- i) **Glycol Dehydrators:** Operating Cost % = $7.12 + (9.41 \times 5.14) / (5.14 + \text{Capacity})$, where Capacity is equal to the capacity in MMSCF/D of the dehydrator.
- ii) **Dessicant Dehydrators:** Operating Cost % = $11.25 + (8.07 \times 5.14) / (5.14 + \text{Capacity})$, where Capacity is equal to the capacity in MMSCF/D of the dehydrator.
- iii) **Calcium Chloride Dehydrators:** Operating Cost % = $109.04 + (-.01 \times \text{Capacity} + 4.45 \times 10^{-7} \times \text{Capacity}^2 / 1000)$

Lineheaters:

Operating Cost % = $6.25 + (18.82 \times 5.14) / (5.14 + \text{M_CAP_H})$ Where M_CAP_H is equal to the capacity in MMSCF/D of the lineheater.

Field Processing Units:

- i) **Amine Units:** Operating Cost % = $11.25 + (8.07 \times 5.14) / (5.14 + \text{M_CAP})$, where M_CAP is the capacity in MMSCF/D of the field processing unit.
 - ii) **Sulpha Treat or Iron Sponge Units:** Operating cost % = $84.25 \times \text{lbs/day} / (7.08 + \text{lbs/day}) + (.44 \times \text{lbs/day})$
- b) For each equipment item, calculate an operating cost amount by multiplying the operating cost percentage by the current value of the equipment item for the calculation year. Note that the current value of an equipment item is the value determined using the most recent capital cost curve.

- c) Well site operating costs are calculated for each producing well as a fixed amount per producing well at each reporting facility. The operating cost amounts per well depend on the average H₂S content of the gas being processed at a reporting facility.

H₂S % < 1%, operating costs = \$ 9,069.84 per well

H₂S % > = 1%, operating costs = \$13,454.34 per well

- d) For each reporting facility, sum the well site operating costs and the operating costs for each equipment item to determine the reporting facility's total operating costs.

Step 4 – Calculate Depreciation and Return on Rate Base for each Reporting Facility

To calculate depreciation and return on rate base for a reporting facility, sum the opening capital balances for all equipment types and then apply the following formulas:

Depreciation = Opening Capital Balance / 20, (i.e. 20 Year Straight Line Depreciation)

Return on Rate Base = .15 x ((Opening Capital + Closing Capital)/2) + Working Capital Allowance)

Where,

- i) Opening Capital is the sum of all opening capital balances for all equipment items associated with a reporting facility,
- ii) Closing Capital is equal to Opening Capital less Depreciation calculated above, and
- iii) Working Capital Allowance is equal to Operating Costs as per Step 3 above divided by six.

Step 5 – Determine the Volumetric Throughput for Each Reporting Facility

For the 2005 calculation year, the calculation of the volumetric throughput for each reporting facility is based on an estimate of the raw gas volume throughput for the reporting facility for the year. This estimate will be based on either the previous year's actual BCS2 production volumes or BC22 PCOS Application estimates.

For calculation years subsequent to 2005, the calculation of the volumetric throughput for each reporting facility for a year will be equal to the sum of:

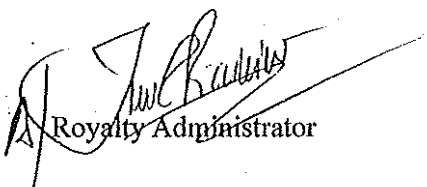
- i) an estimate of the raw gas volume throughput for the reporting facility for the year. This estimate will be based on either the previous year's actual BCS2 production volumes or BC22 PCOS Application estimates obtained from facility operators, and

- ii) an adjustment to actual for the previous year. The adjustment to actual will be equal to the reporting facility's actual raw gas production volumes for the year prior to the calculation year less the reporting facility's estimated raw gas production volume used in the previous year's PCOS rate calculation. Where the adjustment to actual materially impacts the volumetric throughput calculation for the calculation year, the adjustment to actual will be revised to nil and the previous year's PCOS rate(s) will be recalculated based on the actual production volumes for the reporting facility.

Step 6 – Calculate a PCOS Rate for each Reporting Facility

Calculate a PCOS rate per thousand cubic meters of raw gas for the calendar year for each reporting facility. This is done by adding depreciation, operating costs and return on rate base amounts for the reporting facility and then dividing by the adjusted raw gas volume calculated under Step 5 above.

Original signed by
Gordon Goodman



Royalty Administrator

Dated at Victoria, British Columbia

this 6th day of February, 2009