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ATCO-NGTL-001

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**Issue:**

Revenue Requirement

**Reference:**

Sub-Section 2.4, Page 1 of 1, Lines 7-9, Schedule 2.4

**Preamble:**

ATCO Pipelines requires clarification of 2004 Depreciation and Amortization Expenses.

**Request:**

Please confirm the 2004 depreciation and amortization expense in Schedule 2.4 is based on the 2004 plant in service.

**Response:**

Confirmed.

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ATCO-NGTL-002

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**Issue:**

Revenue Requirement

**Reference:**

Section 2.1, Schedule 2.1.1

**Preamble:**

ATCO Pipelines requires further information on the cost of delivery and receipt metering.

**Request:**

Please provide the 2004 Revenue Requirement (in the same format as Schedule 2.1.1) and throughput for:

- (a) Intra-Alberta delivery metering
- (b) ex-Alberta delivery metering
- (c) receipt metering

**Response:**

NGTL is an integrated system and determines its revenue requirement on this basis. As a result the information in Schedule 2.1.1 is not available by these categories. Receipt and delivery throughput information is provided in the Application, Section 5, in Tables 5.3-2 and 5.3-3 respectively.

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**ATCO-NGTL-003**

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**Issue:**

Revenue Requirement

**Reference:**

Section 2.1, Schedule 2.1.1  
Section 8.5, Page 1 of 5

**Preamble:**

ATCO Pipelines requires further information on the Revenue Requirement for the proposed facilities and arrangements to serve the demand in the Fort McMurray area.

**Request:**

Please provide the 2004 Revenue Requirement in the same format as Schedule 2.1.1 for each of the NGTL facilities and arrangements listed below to serve the demand in the Fort McMurray area. The proposed facilities and arrangements include the following (list not intended to be exhaustive, please add other relevant facilities/arrangements):

- current Simmons TBO arrangement
- proposed Simmons purchase (including transition costs)
- current Ventures TBO arrangement
- proposed Ventures TBO arrangement
- proposed NCC (Peerless Section) Phase 1
- proposed Woodenhouse Compressor Station Unit #1
- proposed North Lateral Compressor Yard Modification

**Response:**

NGTL is an integrated system and determines its revenue requirement on this basis. As a result the information in Schedule 2.1.1 is not available by these categories. The costs of the current and proposed TBO arrangements are provided in the Application in Schedule 2.7.

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**ATCO-NGTL-004(a)**

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**Issue:**

Revenue Requirement

**Reference:**

Section 2.1, Schedule 2.1.1  
Section 8.2, Figure 8.2-1  
Section 8.3

**Preamble:**

ATCO Pipelines requires further information on the Revenue Requirement for the proposed facilities and arrangements to serve the demand in the Fort McMurray area.

**Request:**

Please provide the 2004 Revenue Requirement in the same format as Schedule 2.1.1 for the Liege Header and for each of the facilities that deliver gas into the Liege Header (inclusive of compressors) as identified in lines 2-9, page 3 of 4 of Subsection 8.3.

**Response:**

NGTL is an integrated system and determines its revenue requirement on this basis. As a result, the information in Schedule 2.1.1 is not available by these categories.

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ATCO-NGTL-004(b)

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**Issue:**

Revenue Requirement

**Reference:**

Section 2.1, Schedule 2.1.1  
Section 8.2, Figure 8.2-1  
Section 8.3

**Preamble:**

ATCO Pipelines requires further information on the Revenue Requirement for the proposed facilities and arrangements to serve the demand in the Fort McMurray area.

**Request:**

Please provide the 2004 Revenue Requirement in the same format as Schedule 2.2.1 for any other facilities used primarily to deliver gas to the Fort McMurray area.

**Response:**

Please refer to the response to ATCO-NGTL-004(a).

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ATCO-NGTL-005

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**Issue:**

Transportation By Others

**Reference:**

Application, Sub-Section 2.7 – Transportation By Others

**Preamble:**

In Subsection 2.7.3, NGTL indicates that "Any TBO arrangements entered into with NGTL affiliates will be obtained as if the affiliate was an arm's-length party in accordance with the terms and conditions outlined in NGTL's Code of Conduct (see Section 9)."

**Request:**

Please confirm that NGTL's applied-for TBO arrangement with Ventures Oil Sands Pipeline was obtained in compliance with the Code of Conduct filed in Section 9 of the Application. If not, please state all deviations.

**Response:**

Yes, except the Ventures TBO Agreement does not contain a representation by NGTL and Ventures that the agreement complies with the Code as is required per the definition of a Services Agreement.

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ATCO-NGTL-006

[REVISED February 2004](#)

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**Issue:**

Rate Base

**Reference:**

Sub-Section 3.4, Page 1 of 6, Line 18, Schedule 3.4

**Preamble:**

ATCO Pipelines wishes to better understand the Maintenance Capital Expenditures for 2003 and 2004.

**Request:**

Please provide a breakdown of the projects that make up the Maintenance Capital expenditures for 2003 and 2004. Identify all projects \$500,000 or greater in cost including a description, location and scope of work.

**Response:**

[Please refer to As per the February 2004 Update, Attachment ATCO-NGTL-006 has been revised.](#)

**2003 Maintenance Capital Projects**  
 (\$Thousands)

| <u>Project #</u> | <u>Short Description</u>                              | <u>Location</u>  | <u>Scope of Work</u>   | <b>Total<br/>2003</b>                |
|------------------|---|--|--|--------------------------------------|
| 2039481          | Peace River M/L Corrosion Repairs                     | Peace River Mainline   | 68 Risk Based Corrosion Repairs (installation of permanent sleeves). | <del>953</del> \$972                 |
| <u>2045523</u>   | <u>Deep Valley Creek Horizontal Directional Drill</u> | <u>NPS 8 Simonette Lateral crossing of the Deep Valley Creek @ NE 1/4-9-63-25-W5</u> | <u>Remediate exposed pipeline.</u>                                   | <u>\$939</u>                         |
| <u>2047421</u>   | <u>North Lateral Pipeline Repairs</u>                 | <u>NPS 24 North Lateral</u>  | <u>Capital pipe repairs resulted from routine MFL inspection.</u>    | <u>\$889</u>                         |
|                  | Maintenance Capital Projects less than \$500K         |  |  | <u>10,709</u> \$9,395                |
|                  |   |  |  | <u><u><u>11,662</u></u></u> \$12,195 |



**2004 Maintenance Capital Projects**  
(\$Thousands)

| <u>Project #</u> | <u>Project Description</u>                               | <u>Location</u>                         | <u>Scope of Work</u>   | <b>2004 Total</b>                                  |
|------------------|--|---|--|--|
| tbd              | 2004 Statistical Break/Fix Budget                        | tbd                                     | Budget pool for critical equipment failures requiring immediate repair or replacement.   | \$3,495  |
| <u>tbd</u>       | <u>Western Alberta System Extension Pipeline Repairs</u> | <u>Western Alberta System Extension</u> | <u>Installation of repair sleeves identified during recent in-line inspection.</u>   | <u>\$1,162</u>                                     |
| tbd              | Fall Protection Program Implementation - Wildrose Region | tbd                                     | Implement recommendations based on consultants assessment, to significantly reduce the risk of a fall hazard at compressor facilities. | \$853  |
| <u>tbd</u>       | <u>Cathodic Protection</u>                               | <u>tbd</u>                              | <u>Maintenance of pipeline cathodic protection in accordance with CSA and CGA Standards.</u>   | <u>\$777</u>                                       |
| tbd              | 10 Peace River Mainline Digs - Capital                   | Peace River Mainline                    | Corrosion repairs using sleeves on existing pipe.  | \$670  |
| tbd              | Maintenance Capital Projects less than \$500k            |   |  | <del>5,173</del> <u>\$6,076</u>                    |
|                  |  |   |  | <b><u><u>10,191</u></u></b> <b><u>\$13,033</u></b> |

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ATCO-NGTL-007(a)

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**Issue:**

Rate Base

**Reference:**

Sub-Section 3.4, Page 2 of 6, Lines 3-14

**Preamble:**

ATCO Pipelines requires clarification on the driver behind the proposed capacity capital expenditures for 2004.

**Request:**

For each of the major projects identified, indicate whether the capital expenditure is required for delivery, receipt or storage transportation service. If the project is required for more than one, provide an approximate percentage split.

**Response:**

NGTL is an integrated system. As explained in Section 2 of its Annual Plan, NGTL designs its mainline facilities to meet aggregate system requirements for both receipts and deliveries. Therefore NGTL is not able to split requirements between receipt and delivery services.

**Project**

**Expenditure  
Required For**

Simmons Purchase  
NCC (Peerless Lake Section) Phase 1  
Chancellor Extension  
NCC (Godin Lake Section)  
NCC (Peerless Lake Section) Phase 2 Pre-spending  
Woodenhouse C/S  
Bens Lake D C/S Reversal

Receipt/Delivery  
Receipt/Delivery  
Storage  
Technology Development  
Receipt/Delivery  
Receipt/Delivery  
Receipt/Delivery

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ATCO-NGTL-007(b)

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**Issue:**

Rate Base

**Reference:**

Sub-Section 3.4, Page 2 of 6, Lines 3-14

**Preamble:**

ATCO Pipelines requires clarification on the driver behind the proposed capacity capital expenditures for 2004.

**Request:**

For the meter station projects identified on Line 14, identify the dollar value for delivery stations, the number of delivery stations, the dollar value for receipt stations, and the number of receipt stations.

**Response:**

The meter station cost referenced here (\$8.4 million) is a statistical number used for budgeting purposes. This estimate is based on recent historical system metering installations as well as a forecast of industry activity for 2004. The number of stations or the costs for receipt, delivery, and storage projects is not available at this time. Historically the majority of new metering has been for receipt.

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ATCO-NGTL-007(c)

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**Issue:**

Rate Base

**Reference:**

Sub-Section 3.4, Page 2 of 6, Lines 3-14

**Preamble:**

ATCO Pipelines requires clarification on the driver behind the proposed capacity capital expenditures for 2004.

**Request:**

Please provide actual capital expenditures for each of the last five years (1998 to 2002) related to Intra-Alberta delivery of gas. Please provide detail on any projects exceeding \$250,000.

**Response:**

The following illustrates total capital expenditures directly related to Intra-Alberta delivery of gas. Only projects over \$250,000 are individually identified.

|       |  |       |
|-------|--|-------|
| 1998: | Usona Sales M/S                                      | 0.711 |
|       | Total  | 1.396 |
| 1999: | Rod Lake M/S   | 0.351 |
|       | Mildred Lake Sales M/S                               | 1.353 |
|       | Mildred Lake #2 Sales M/S                            | 0.531 |
|       | Joffre Sales, Joffre Sales #2, Joffre Sales #3 M/S's | 2.565 |
|       | Total  | 4.506 |
| 2000: | Total  | 0.160 |

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**ATCO-NGTL-007(c)**

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|       |                                  |       |
|-------|----------------------------------|-------|
| 2001: | Leming Lake Outage Valve Install | 0.425 |
|       | Leming Lake Sales M/S            | 1.361 |
|       | Chipewyan River Sales M/S        | 0.849 |
|       | Sunday Creek South Sales M/S     | 0.346 |
|       | Huggard Creek Sales M/S          | 0.573 |
|       | Total                            | 2.908 |
| 2002: | Vegreville Sales M/S             | 0.307 |
|       | Total                            | 1.538 |

**Note:**

All costs above are in \$ millions.

Some projects have expenditures in multiple years. The costs shown here for individual projects indicate the total cost of that project, regardless of what year(s) the capital was spent. The total capital expenditures for the years 1998 – 2002 illustrate capital costs that were incurred in those years only.

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 ATCO-NGTL-008(a)
 

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REVISED February 2004


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**Issue:**

Rate Base

**Reference:**

Sub-Section 3.8, Page 1 of 1

**Preamble:**

ATCO Pipelines requires clarification on actual line pack, compressor fuel and unaccounted for gas.

**Request:**

Starting from the most recent month for which data is available, please provide the actual average line pack levels for each month for a 12 month period. Please present the information in tabular format and include the corresponding target line pack numbers for each month.

**Response:**

As per the February 2004 Update, the monthly actual average linepack and target linepack levels for the Alberta System for the period November 2002 to October 2003 are provided below.

|                    | Actual Linepack<br>(GJ) | Target Linepack<br>(GJ)             |
|--------------------|-------------------------|-------------------------------------|
| Opening            | 13,929,155              | 14,136,500                          |
| November 30, 2002  | 13,929,349              | 14,136,500                          |
| December 31, 2002  | 14,522,870              | 14,371,500                          |
| January 31, 2003   | 14,356,552              | <u>14,570,500</u> <u>14,566,500</u> |
| February 28, 2003  | 14,331,297              | <u>14,570,500</u> <u>14,566,500</u> |
| March 31, 2003     | 13,648,793              | <u>14,570,500</u> <u>14,566,500</u> |
| April 30, 2003     | 14,334,625              | <u>14,570,500</u> <u>14,566,500</u> |
| May 31, 2003       | 14,017,870              | <u>14,570,500</u> <u>14,566,500</u> |
| June 30, 2003      | 13,758,315              | <u>14,180,500</u> <u>14,176,500</u> |
| July 31, 2003      | 13,186,957              | <u>14,180,500</u> <u>14,176,500</u> |
| August 31, 2003    | 13,838,687              | <u>14,180,500</u> <u>14,176,500</u> |
| September 30, 2003 | 14,008,607              | <u>14,180,500</u> <u>14,176,500</u> |
| October 31, 2003   | 13,443,442              | <u>14,180,500</u> <u>14,176,500</u> |

**ATCO-NGTL-008(b)**

**Issue:**

Rate Base

**Reference:**

Sub-Section 3.8, Page 1 of 1

**Preamble:**

ATCO Pipelines requires clarification on actual line pack, compressor fuel and unaccounted for gas.

**Request:**

Please provide actual compressor fuel quantities by month for the same 12 month period as (a).

**Response:**

The monthly Usage (heating fuel, compressor fuel and losses) and monthly Measurement Variance (unaccounted for gas) allocated to NGTL's customers for the period November 2002 to October 2003 are:

| <b>Gas Month</b> | <b>Usage (GJ)</b> | <b>Measurement Variance (GJ)</b> |
|------------------|-------------------|----------------------------------|
| Nov-02           | 3,367,766         | (391,937)                        |
| Dec-02           | 3,341,647         | (287,192)                        |
| Jan-03           | 3,196,353         | (836,197)                        |
| Feb-03           | 3,167,693         | (502,036)                        |
| Mar-03           | 3,214,297         | (1,133,746)                      |
| Apr-03           | 3,022,069         | (170,659)                        |
| May-03           | 3,116,485         | (355,215)                        |
| Jun-03           | 3,447,714         | (430,672)                        |
| Jul-03           | 3,264,873         | (57,424)                         |
| Aug-03           | 2,981,448         | (133,098)                        |
| Sep-03           | 3,116,847         | (506,045)                        |
| Oct-03           | 2,787,351         | 741,368                          |

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ATCO-NGTL-008(c)

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**Issue:**

Rate Base

**Reference:**

Sub-Section 3.8, Page 1 of 1

**Preamble:**

ATCO Pipelines requires clarification on actual line pack, compressor fuel and unaccounted for gas.

**Request:**

Please provide actual unaccounted for gas quantities by month for the same 12 month period as (a).

**Response:**

Please refer to the response to ATCO-NGTL-008(b).



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ATCO-NGTL-009(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines requires additional information on meter stations.

**Request:**

Has NGTL incurred additional costs to size receipt or delivery meter stations to accommodate volumes greater than the signed contract volume? If so, please provide a list of those occurrences, the signed contract volume and the receipt or delivery station sizing.

**Response:**

No, any additional costs to size meter stations to accommodate volumes greater than the contract volume are to the account of the specific customer, not NGTL.

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ATCO-NGTL-009(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines requires additional information on meter stations.

**Request:**

If the contract volume requested at a receipt point is less than the plant current capacity or expected output, what is NGTL's policy in respect to the size of receipt station it will design and install? Please explain.

**Response:**

NGTL would design and install a receipt station sized to accommodate the contract volume if such contract volume was less than the current, upstream plant capacity.

NGTL's December 2002 Annual Plan, Chapter 2, section 2.4 states:

The design of new receipt meter stations is based on the assumption that the highest possible flow through the receipt meter station will be the lesser of the aggregate Receipt Contract Demand under firm transportation Service Agreements for all Customers at the meter station and the capacity of upstream producer facilities.

Based on this policy, NGTL will size the receipt station based on the lesser of requested contract volume and capacity of upstream producer facilities.

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ATCO-NGTL-009(c)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines requires additional information on meter stations.

**Request:**

Under what circumstances and conditions will NGTL allow another party to own and/or operate a custody transfer meter station?

**Response:**

The Facilities Liaison Committee Guidelines for New Facilities Issue F2000-01 state that in general, NGTL will own and operate metering facilities. One exception noted in the guidelines is very small meter stations. This circumstance is typically associated with rural gas service (where measurement facilities and information are provided by a government agency, a municipal corporation, a utility or a rural gas co-operative incorporated under the Rural Utilities Act) and is conditional on the execution of a connecting operator agreement.

Generally NGTL does not accept third party measurement for larger meter stations. If allowed, such third party meter station:

1. must be built in accordance with NGTL's design specifications;
2. typically is operated by NGTL;
3. requires an operating and/or measurement information agreement between NGTL and the third party to address issues such as operation and maintenance, liabilities; and
4. is subject to NGTL's Tariff services (e.g., FT-R, FCS, FT-A, etc.) and conditions (e.g., measurement data, gas quality, etc.).

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**ATCO-NGTL-009(c)**

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In either of the exceptions noted above, NGTL monitors such third party measurement situations to ensure they continue to satisfy the Alberta System's requirements.

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ATCO-NGTL-009(d)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines requires additional information on meter stations.

**Request:**

Under what circumstances will NGTL allow a meter station to be constructed at a location other than adjacent to the receipt point or delivery point? List all such points where this has occurred.

**Response:**

NGTL has 46 locations where a meter station is not at the start or end point of the physical system. This is generally required to optimize design, minimize operation costs or accommodate access restrictions. The list of non-adjacent meter station locations is provided in Attachment ATCO-NGTL-009(d).

| <b>Non-Adjacent Meter Station Locations</b> |                              |
|---|------------------------------|
| <b><u>Meter Station Name</u></b>            | <b><u>Legal Location</u></b> |
| Alderson                                    | NE-29-015-11-W4M             |
| Big Bend                                    | NW-36-066-26-W4M             |
| Big Bend East                               | SW-07-067-26-W4M             |
| Blanchet Lake North                         | SW-13-089-22-W4M             |
| Brazeau East                                | SW-12-046-14-W5M             |
| Bruce North                                 | SW-01-048-15-W4M             |
| Carbon Interconnect                         | SW-16-029-22-W4M             |
| Cessford West                               | SE-08-024-12-W4M             |
| Conklin                                     | SW-07-077-07-W4M             |
| Craigend                                    | NE-25-064-14-W4M             |
| Craigend East                               | NE-25-064-14-W4M             |
| Flat Lake                                   | NW-07-060-19-W4M             |
| Gilby West                                  | SW-05-040-03-W5M             |
| Gold Creek                                  | NW-26-067-05-W6M             |
| Hamilton Lake                               | 08-34-034-06-W4M             |
| Hussar-Chancellor                           | NW-36-024-21-W4M             |
| Huxley                                      | SW-17-034-24-W4M             |
| Judy Creek                                  | NE-25-064-11-W5M             |
| Jumping Pound West                          | SW-18-025-05-W5M             |
| Kaybob                                      | 05-03-064-19-W5M             |
| Kaybob South #3                             | NW-10-039-18-W5M             |
| Killam                                      | SW-05-045-12-W4M             |
| Leming Lake                                 | NW-12-065-04-W4M             |
| Marten Hills                                | NW-18-076-25-W4M             |
| Matzhiwin North East                        | SW-10-023-14-W4M             |
| Medicine Hat                                | SE-27-015-04-W4M             |
| Mildred Lake                                | 08-15-092-10-W4M             |
| Paddle River                                | SW-10-056-11-W5M             |
| Provost West                                | NW-21-036-07-W4M             |
| Provost-Kessler                             | NW-05-039-08-W4M             |
| Retlaw                                      | NW-02-013-19-W4M             |
| Strachan                                    | NW-35-037-09-W5M             |
| Strome-Holmberg                             | NW-14-044-17-W4M             |
| Sturgeon Lake South                         | SE-02-069-22-W5M             |
| Sylvan Lake                                 | SE-16-038-02-W5M             |
| Sylvan Lake West                            | NW-33-037-03-W5M             |
| Tide Lake                                   | NE-10-018-10-W4M             |
| Tide Lake North                             | NW-23-019-10-W4M             |
| Ruth Lake                                   | NW-05-093-12-W4M             |
| Vale East                                   | SW-16-014-01-W4M             |

| <b>Non-Adjacent Meter Station Locations</b> |                              |
|---|------------------------------|
| <b><u>Meter Station Name</u></b>            | <b><u>Legal Location</u></b> |
| Veteran                                     | SE-29-034-08-W4M             |
| Waskahigan                                  | NE-07-064-23-W5M             |
| Waterton Summary                            | SE-20-004-30-W4M             |
| Waterton Loop                               | SE-20-004-30-W4M             |
| Wayne Dalum                                 | 05-17-027-19 W4M             |
| Zama Lake Summary                           | NW-12-116-01-W6M             |

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**ATCO-NGTL-010**

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 6, Lines 11-18

**Preamble:**

ATCO Pipelines requires additional information on pipeline sizing.

**Request:**

- (a) Has NGTL incurred additional costs to size receipt or delivery pipelines to accommodate volumes greater than the signed contract volume?
- (b) If yes to (a), please describe any such occurrences in facilities built since the beginning of 1998.
- (c) If yes to (a), please describe the parameters under which NGTL makes such decisions, including discussion of proven vs. probable vs. possible reserves, gas plant or industrial plant sizing, competition from other pipelines, etc.

**Response:**

- (a) Yes. NGTL does not size expansion and extension facilities solely on the basis of contract volume, but rather a combination of considerations such as area field deliverability, design criteria and contract volume. NGTL's design parameters are outlined in its December 2002 Annual Plan, Chapter 2, provided in Attachment ATCO-NGTL-010(a).
- (b) A listing of such occurrences is provided in Attachment ATCO-NGTL-010(b).
- (c) Please refer to the response to ATCO-NGTL-010(a).



**CHAPTER 2 – FACILITIES DESIGN METHODOLOGY****2.1 Introduction**

This chapter provides an overview of the facility planning processes employed by NGTL in identifying mainline facility requirements and new receipt and delivery meter stations and extension facilities. The overview will provide readers with the background to understand the purpose of and necessity for the facilities requirements for the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year.

The Guidelines for New Facilities, which were supported by the FLC and filed with the Board on July 17, 2000, describe the new facilities that NGTL may construct. A copy of the Guidelines for New Facilities can be accessed on TransCanada PipeLines Limited's Web site at:

[http://www.transcanada.com/Alberta/industry\\_committee/facilities\\_liaison/index.html](http://www.transcanada.com/Alberta/industry_committee/facilities_liaison/index.html).

New Facilities are divided into two categories: a) expansion facilities which would include pipeline loop of the existing system, metering and associated connection piping and system compression; and b) extension facilities, which would include pipelines generally greater than or equal to 12 inches in diameter that are expected to meet the aggregate forecast of two or more facilities (gas plants/industrials).

NGTL uses two distinct facility planning processes described in Section 2.9. One process relates to mainline facilities and is a design, engineering, procurement and construction process, referred to as the firm transportation design process. Through this process, NGTL endeavors to ensure that new requests for firm transportation are met through mainline facility additions placed in-service for the 2003/04 Gas Year starting on November 1, 2003 and the winter season of the 2004/05 Gas Year starting on November 1, 2004.

An important element of the firm transportation design process is the filing of specific facility applications connected with mainline facility requirements. Facilities applications are filed with the Board to coincide with proposed construction schedules, which must account for summer or winter construction constraints and the long period of time required to procure major facility components such as compressors. Facilities applications are usually filed in conjunction with NGTL having firm transportation Service Agreements in place with Customers.

The second process referred to above, relates to the design and construction of new receipt and Alberta delivery facilities and connecting extension facilities. The materials and equipment required for these facilities can typically be procured in less time than the major materials and equipment required for mainline facilities. Receipt and Alberta delivery facilities, intended to meet Customers' firm transportation Service Agreements, are designed as part of the firm transportation design process though they are constructed independently of the construction of mainline facilities. Consequently, these facilities may be in place prior to the completion of mainline facilities. Since the provision of firm transportation through specific receipt or delivery facilities typically depends on completion of the mainline facilities involved in the firm transportation design process, Customers using the specific facility may be offered interruptible transportation pending available firm transportation.

These two planning processes form the basis of NGTL's facilities requirements. An important element of these planning processes is the timely planning of transportation capacity requirements and the evaluation of facilities requirements in response to fluctuations in industry activity and Customer requirements for service. NGTL responds to these fluctuations by reviewing design forecasts on a periodic basis. NGTL is able to closely monitor industry activity, thereby anticipating and responding to Customer requirements for Service, by conducting periodic design reviews throughout each year (refer to Figure 2.9.1). NGTL's most recent design

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review presented in this Annual Plan is based upon the November 2002 design forecast which forms the basis for the facilities requirements in this Annual Plan.

## **2.2 The NGTL System**

The physical characteristics of the NGTL system and the changing flow patterns on the system present significant design challenges. The NGTL system transports gas from many geographically diverse Receipt Points and moves it through pipelines that generally increase in size as they approach the three large Export Delivery Points at Empress, McNeill and Alberta/British Columbia. A map of the NGTL pipeline system is provided in Appendix 7. The 944 Receipt Points and 173 Delivery Points on the system (year end 2001) have a significant impact on the sizing of extension facilities and mainlines necessary to ensure that firm transportation obligations can be met. The concept of intermediate mainlines was introduced as a tool to describe the portion of the system which provides the link between receipt lateral facilities and mainlines. Receipt extension facilities are designed to field deliverability in accordance with the receipt meter station and extension facilities design assumptions (Section 2.4), whereas mainlines are designed in accordance with the downstream capacity assumption (Section 2.6.3). The intermediate mainline acts as a funnel between receipt lateral facilities and mainlines. As the system expands at the extremities, receipt lateral facilities may evolve into intermediate mainline facilities, and facilities currently referred to as intermediate mainline may evolve into mainline facilities.

The NGTL system is designed to meet the peak day requirements of its firm transportation Customers. NGTL's obligation under its firm transportation Service Agreement with each Customer is to:

- receive gas from the Customer at the Customer's Receipt Points; and
- deliver gas to the Customer at the Customer's Delivery Points.

NGTL's facility design must meet two important objectives. One is to provide fair and equitable service to Customers requesting new firm transportation Service Agreements. The other is to prudently size facilities to meet peak day firm transportation delivery requirements. The system design methodology developed to achieve both of these objectives is described in the remainder of this chapter.

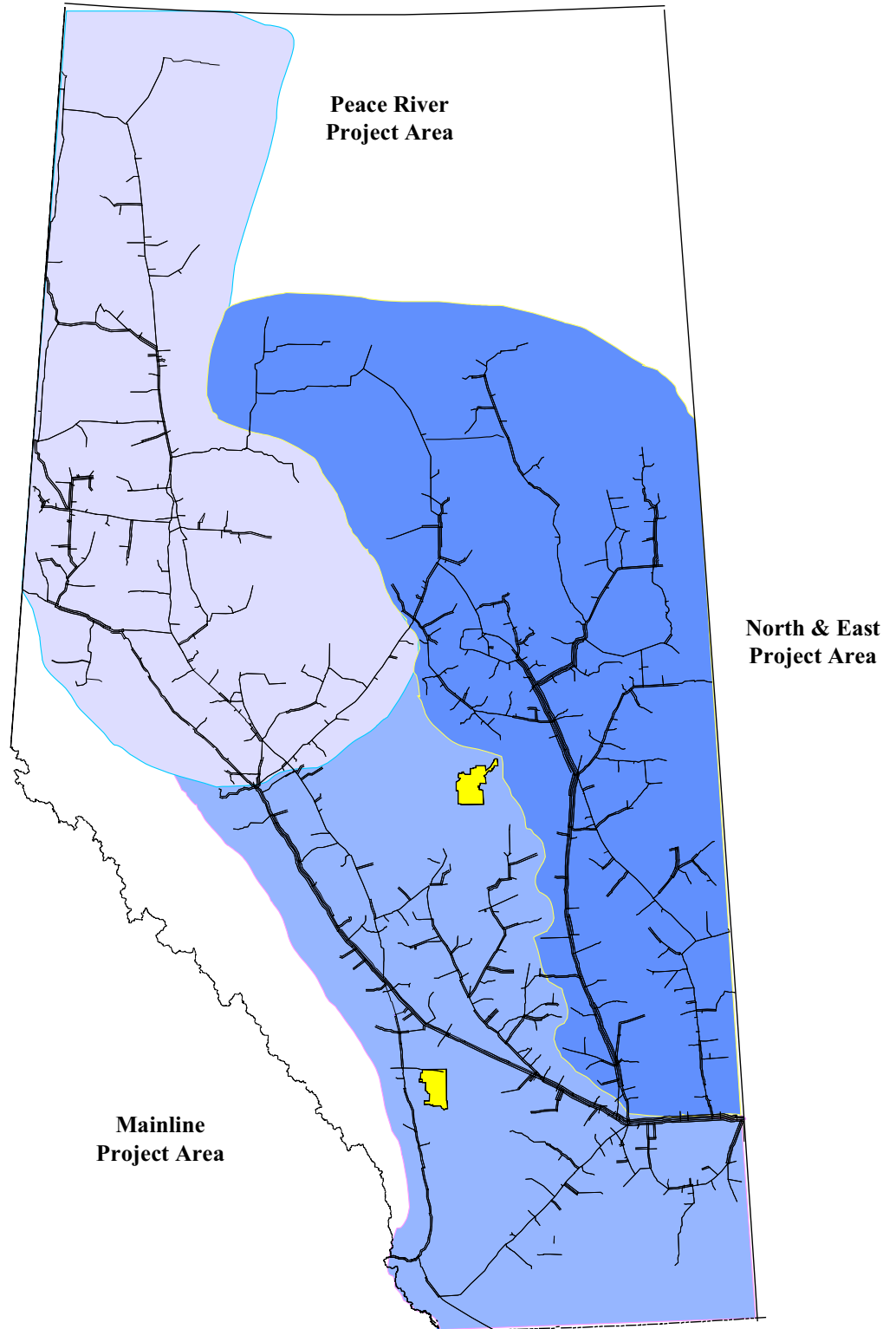
On average, approximately 85 percent of the gas transported on the NGTL system is delivered to Export Delivery Points as described in Section 3.4.2, for removal from the province. The remainder is delivered to the Alberta Delivery Points as described in Section 3.4.3. The location of new Alberta Delivery Points and changing requirements at existing Alberta Delivery Points, particularly in the Upstream Bens Lake Design Area, have a significant impact on the flow of gas in the system and consequently, on system design. As well, the general northward shift of new receipt volume additions to the system continues to be an important factor impacting gas flows and system design for the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year.

Interruptible transportation capacity may exist from time to time on certain parts of the NGTL system when firm transportation Customers are not using their entire capacity entitlement. However, Customers should not rely on interruptible transportation to meet their firm delivery obligations.

### **2.3 NGTL Project and Design Areas**

For design purposes, the NGTL pipeline system is divided into the three project areas shown in Figure 2.3, which are in turn divided into the design areas and design sub areas described in Sections 2.3.1 to 2.3.3. Dividing the pipeline system this way allows NGTL to model the system in a way that best reflects the pattern of flows in each specific area of the system, as described in Section 2.6.

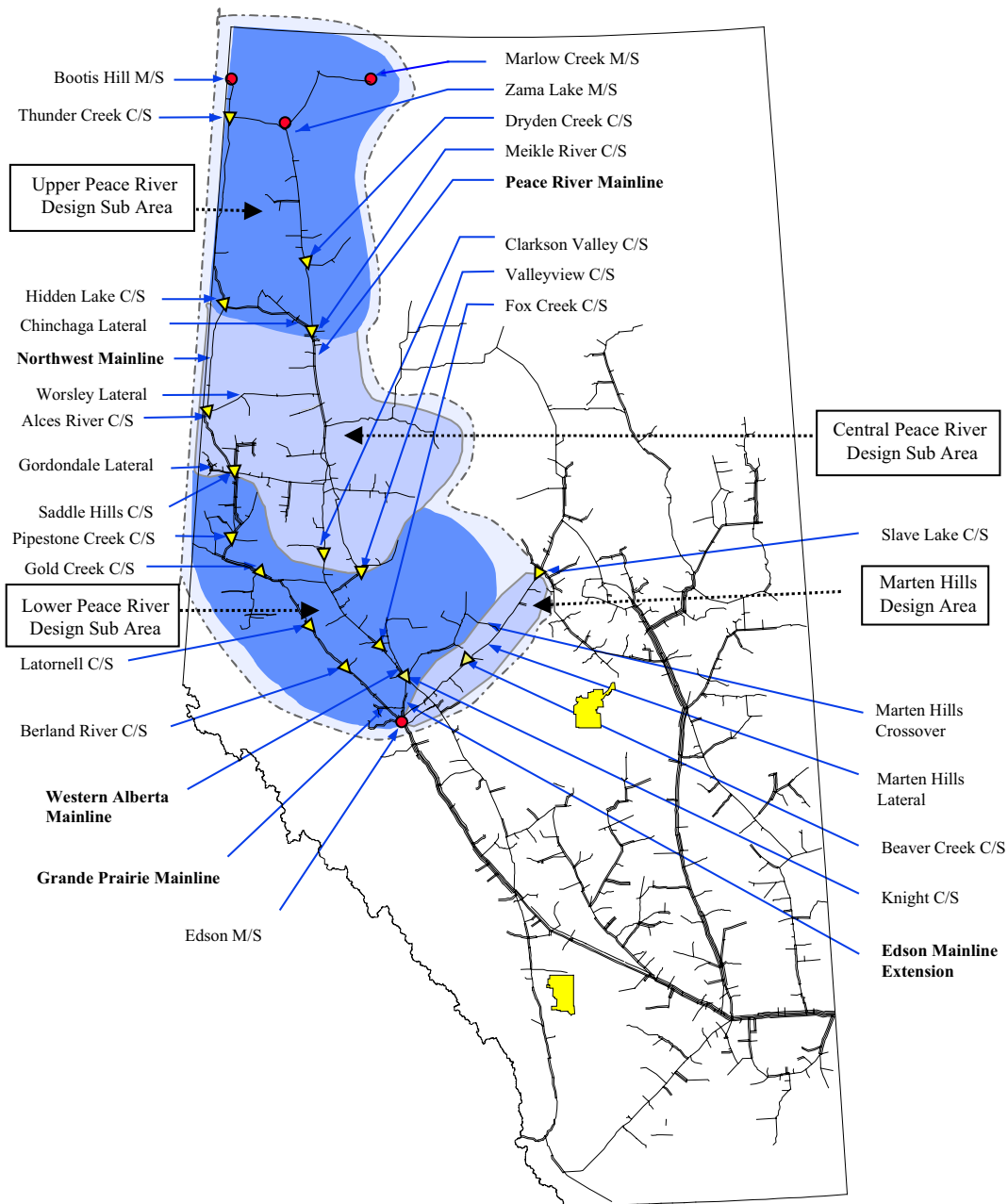
**Figure 2.3  
NGTL Project Areas**



**2.3.1 Peace River Project Area**

The Peace River Project Area comprises the Peace River and Marten Hills Design Areas (Figure 2.3.1).

**Figure 2.3.1  
Peace River Project Area**



**Peace River Design Area**

The Peace River Design Area comprises three design sub areas: the Upper Peace River Design Sub Area; the Central Peace River Design Sub Area; and the Lower Peace River Design Sub Area. The Upper Peace River Design Sub Area comprises the Peace River Mainline from the Zama Lake Meter Station to the Meikle River Compressor Station and the Northwest Mainline from the Bootis Hill Meter Station and the Marlow Creek Meter Station to the Hidden Lake Compressor Station. The Central Peace River Design Sub Area comprises the Western Alberta Mainline from the discharge of the Meikle River Compressor Station to the Clarkson Valley Compressor Station, as well as to the Valleyview Compressor Station on the Peace River Mainline plus the Northwest Mainline from the discharge of the Hidden Lake Compressor Station to the Saddle Hills Compressor Station on the Grande Prairie Mainline. The Lower Peace River Design Sub Area comprises the Grande Prairie Mainline from the discharge of the Saddle Hills Compressor Station to the Edson Meter Station as well as the Western Alberta Mainline from the discharge of the Clarkson Valley Compressor Station plus the Peace River Mainline from the discharge of the Valleyview Compressor Station up to, but not including, the Edson Meter Station.

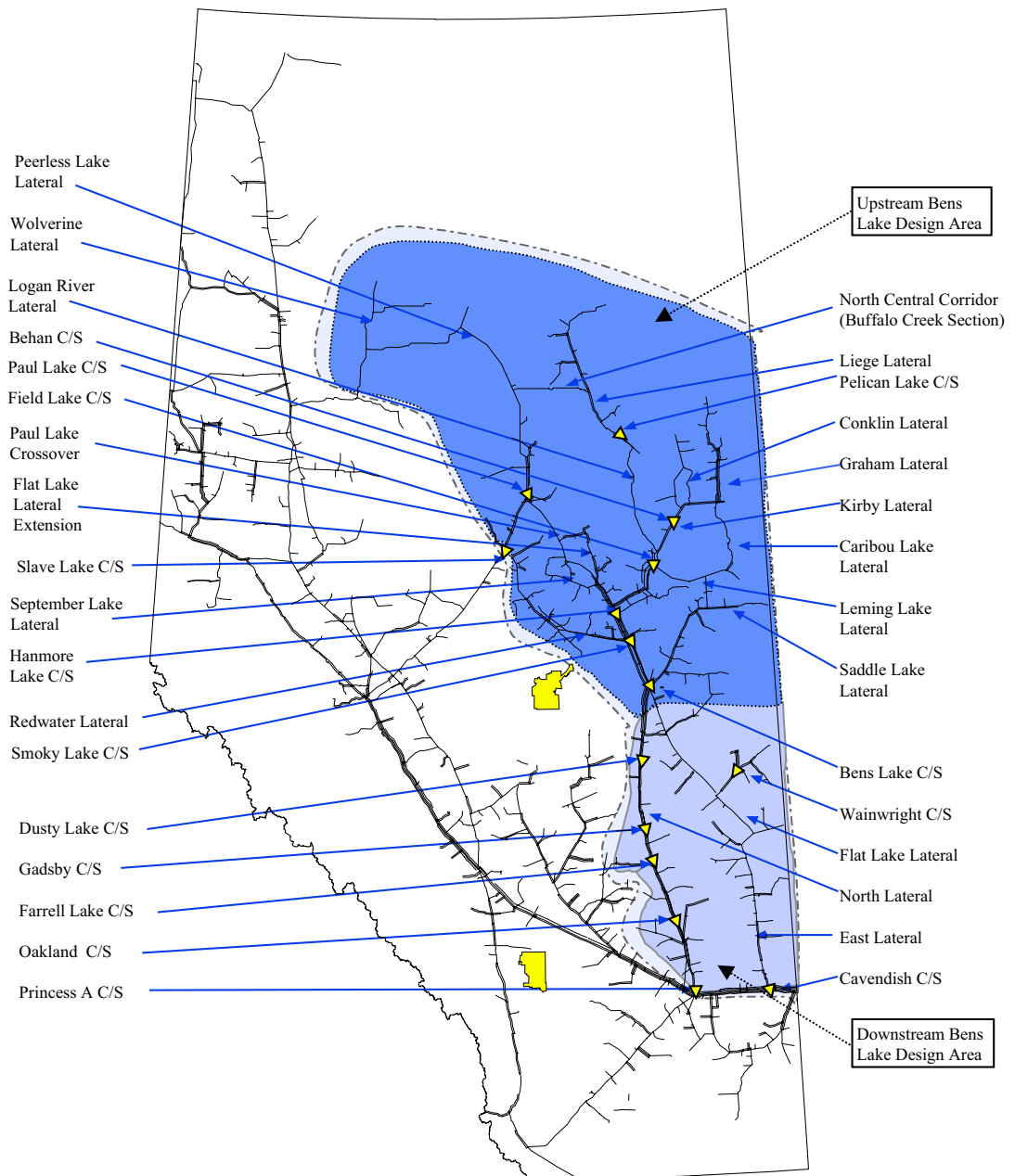
**Marten Hills Design Area**

The Marten Hills Design Area extends from the discharge of the Slave Lake Compressor Station along the Marten Hills Lateral up to, but not including, the Edson Meter Station.

**2.3.2 North and East Project Area**

The North and East Project Area (Figure 2.3.2) comprises the Upstream Bens Lake and Downstream Bens Lake Design Areas.

**Figure 2.3.2  
North and East Project Area**





**Upstream Bens Lake Design Area**

The Upstream Bens Lake Design Area comprises the Liege, Logan River, Kirby, Graham, Conklin, Calling Lake, September Lake, Caribou Lake, Leming Lake, Redwater and Saddle Lake Laterals, as well as the Flat Lake Lateral Extension, the Paul Lake Crossover, the Peerless Lake Lateral, the Wolverine Lateral, the Hoole Lateral and the Marten Hills Lateral upstream of the Slave Lake Compressor Station, all upstream of the discharge of the Bens Lake Compressor Station.

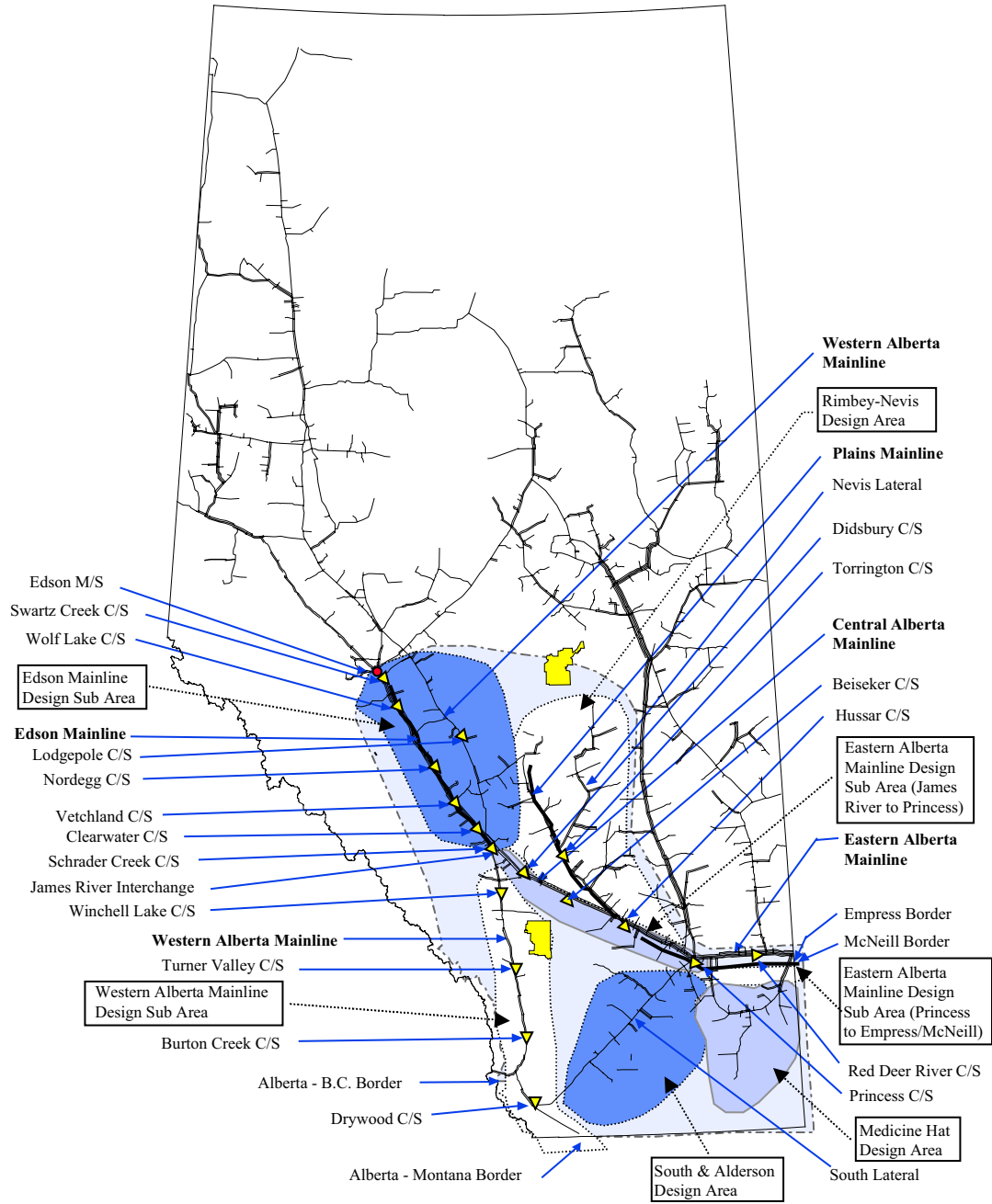
**Downstream Bens Lake Design Area**

The Downstream Bens Lake Design Area comprises the Flat Lake Lateral, the Wainwright Lateral and the North and East Laterals which extend to the Princess "A" and Cavendish Compressor Stations, all downstream of the discharge of the Bens Lake Compressor Station.

**2.3.3 Mainline Project Area**

The Mainline Project Area (Figure 2.3.3) comprises the Mainline Design Area, the Rimbey-Nevis Design Area, the South and Alderson Design Area and the Medicine Hat Design Area.

**Figure 2.3.3  
 Mainline Project Area**



**Mainline Design Area**

The Mainline Design Area comprises four design sub areas: the Edson Mainline Design Sub Area; the Eastern Alberta Mainline Design Sub Area (James River to Princess); the Eastern Alberta Mainline Design Sub Area (Princess to Empress/McNeill); and the Western Alberta Mainline Design Sub Area.

The Edson Mainline Design Sub Area comprises the Edson Mainline from and including the Edson Meter Station to the Clearwater Compressor Station and the Western Alberta Mainline from the Knight Compressor Station to the Schrader Creek Compressor Station. The Eastern Alberta Mainline Design Sub Area (James River to Princess) comprises the Central Alberta Mainline from the Clearwater Compressor Station and the portion of the eastern leg of the Foothills Pipe Lines (Alberta) Ltd. from the Schrader Creek Compressor Station to the Princess Compressor Station. The Eastern Alberta Mainline Design Sub Area (Princess to Empress/McNeill) comprises the Eastern Alberta Mainline and the portion of the eastern leg of the Foothills Pipe Lines (Alberta) Ltd. from the Princess Compressor Station to the Empress and McNeill Export Delivery Points. The Western Alberta Mainline Design Sub Area comprises the Western Alberta Mainline from the Schrader Creek Compressor Station to the Alberta/British Columbia and the Alberta/Montana Export Delivery Points as well as the pipeline sections on the western leg of the Foothills Pipe Lines (Alberta) Ltd. between Schrader Creek Compressor Station and the Alberta/British Columbia Export Delivery Point.

**Rimbey-Nevis Design Area**

The Rimbey-Nevis Design Area comprises the area upstream of the discharge of the Hussar “A” Compressor Station on the Plains Mainline as well as the Plains Mainline and the Nevis Lateral upstream of the Torrington Compressor Station.

**South and Alderson Design Area**

The South and Alderson Design Area comprises two laterals that connect to the Princess Compressor Station. The South Lateral extends from the Waterton area and the Alderson Lateral extends from the Alderson area.

**Medicine Hat Design Area**

The Medicine Hat Design Area comprises the Tide Lake Lateral upstream of the Tide Lake Control Valve and the Medicine Hat Lateral upstream of the Medicine Hat Control Valve.

**2.4 Receipt Meter Station and Extension Facilities Design Assumption**

The design of new receipt meter stations is based on the assumption that the highest possible flow through the receipt meter station will be the lesser of the aggregate Receipt Contract Demand under firm transportation Service Agreements for all Customers at the meter station and the capacity of upstream producer facilities.

Extension facilities for receipts are designed to transport field deliverability (Section 2.9.4.1), taking into consideration Receipt Contract Demand under firm transportation Service Agreements and the extension facilities criteria as described in the Guidelines for New Facilities shown in Table 2.4.1.

**Table 2.4.1  
 Extension Facilities Criteria**

| <b>NGTL Builds<br/>(Owns/Operates)</b>                            |
|---|
| Facilities to serve aggregate forecast as per Annual Plan process |
| Facilities greater than or equal to 12 inches in diameter         |
| Facilities greater than 20 kilometers in length                   |
| Associated connection piping                                      |
| Volumes greater than 100 mmcf/d                                   |

Field deliverability is based on an assessment of reserves, flow capability, future supply development and the capability of gathering and processing facilities at each receipt meter station on the extension facility.

This design assumption recognizes and accommodates the potential for Customers to maximize field deliverability from a small area of the NGTL system. In NGTL's assessment of facility alternatives to accommodate current and future field deliverability, a number of facility configurations are considered which may include future facilities. NGTL's assessment of facility alternatives shall include both NGTL and third party costs to ensure the most orderly, economic and efficient construction of combined facilities. NGTL selects the proposed facilities and the optimal tie-in point on the basis of overall (NGTL and third party) lowest cumulative present value cost of service (CPVCOS).

## **2.5 Alberta Delivery Meter Station and Extension Facilities Design Assumption**

The design of new Alberta delivery meter stations is based on the assumption that maximum day deliveries through such facilities will not exceed the capacity of the facilities downstream of the delivery meter station. The capacity of the downstream facilities is determined through ongoing dialogue with the operators of these facilities.

Delivery extension facilities are designed to transport maximum day delivery taking into consideration the extension facilities criteria as described in the Guidelines for New Facilities as shown in Table 2.4.1. In NGTL's assessment of facility alternatives to accommodate current and future maximum day delivery, a number of facility configurations are considered which may include future facilities. NGTL's assessment of facility alternatives shall include both NGTL and third party costs to ensure the most orderly, economic and efficient construction of combined facilities. NGTL selects the proposed facilities and the optimal tie-in point on the basis of overall (NGTL and third party) lowest CPVCOS.

**2.6 Mainline System Facilities Design Assumptions**

In each periodic design review, the facilities necessary to provide the capacity to meet future firm transportation requirements are identified. To ensure the facilities identified are the most economic, a five year forecast of facilities requirements is considered.

While the design of the NGTL system is affected by many interrelated factors, the following major design assumptions currently underlie the mainline system design:

- equal proration assumption;
- design flow assumption;
- downstream capacity assumption;
- storage assumption; and
- FS productive capability assumption.

These assumptions are briefly described in Sections 2.6.1 to 2.6.5.

**2.6.1 Equal Proration Assumption**

The NGTL system is designed primarily to transport gas from many Receipt Points to a limited number of large-volume Delivery Points (Section 2.2). The pipeline system is designed to meet deliveries based on the general assumption that gas will be drawn on an equally prorated basis from each Receipt Point on the pipeline system. NGTL works with Customers to attempt to ensure that gas is drawn from each Receipt Point so that the system can meet each Customer's firm transportation deliveries. However, if gas is nominated in a manner that differs significantly from the pattern assumed in the system design, shortfalls in deliveries can occur.

Application of the equal proration assumption results in a system design that will meet peak day delivery requirements by drawing on FS productive capability equally from all Receipt Points on the system.

### **2.6.2 Design Flow Assumption**

In identifying facilities to transport gas from a design area, NGTL makes the assumption that the facilities must be capable of transporting the highest expected flow from that area. This is accomplished using the design flow assumption, which considers the following key factors: delivery requirements within the design area; delivery requirements within Alberta but outside the design area; and delivery requirements at the major Export Delivery Points. NGTL periodically reviews this assumption to ensure actual load conditions that are likely to occur under system operations are reflected in the system design.





elsewhere on the system are at their average day delivery values and major Export Delivery Points are at their maximum day delivery values.

The Medicine Hat Design Area and the Upstream Bens Lake Design Area require additional consideration. In the Medicine Hat Design Area, average receipt flows and maximum day delivery are the most appropriate conditions to describe the constraining design. In the Upstream Bens Lake Design Area, maximum day delivery to the Fort McMurray area is the most appropriate condition to describe the constraining design.

NGTL has reviewed Alberta delivery patterns for each design area. The review showed that while individual Alberta Delivery Points will require maximum day delivery as forecast by NGTL, the probability that all Alberta Delivery Points will require maximum day delivery simultaneously is extremely low. To account for this, a factor, called the demand coincidence factor, was applied to decrease the forecast maximum day delivery for the aggregate of all the Alberta Delivery Points within each design area to a value more indicative of the forecast peak day deliveries. Similarly, demand coincidence factors were determined and applied to increase the aggregate minimum day delivery values at Alberta Delivery Points within each design area to be more indicative of the expected minimum day delivery.

### **2.6.3 Downstream Capacity Assumption**

The system design is based on the assumption that the maximum day delivery at the Delivery Points will not exceed the lesser of the capacity of the downstream pipeline or the aggregate of the firm transportation Service Agreements associated with those Delivery Points. Downstream capacity is determined through ongoing dialogue with downstream pipeline operators.

**2.6.4 Storage Assumption**

The Storage Facilities connected to the NGTL system, located at the AECO 'C', Carbon, Crossfield East, Demmitt #2, January Creek and Severn Creek Meter Stations are shown in Figure 2.6.4. A new Storage Facility, located at the proposed Chancellor Meter Station, is estimated to be in service June 2003 and is described in Chapter 6, Tables 6.2.2 and 6.3.1. Maximum receipt capability values for Storage Facilities are presented in Section 3.6.

For the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year it was assumed that:

- For the winter period, system design flows will include receipt volumes from selected Storage Facilities onto the NGTL System at average historical withdrawal levels. The assumption is applicable to the Peace River, Marten Hills, Upstream Bens Lake and Downstream Bens Lake Design Areas and the Edson Mainline Design Sub Area (the "upstream design areas"). However, for the winter period, system design flows will not include receipt volumes from the Storage Facilities for the Eastern Alberta Mainline (James River to Princess), Eastern Alberta Mainline (Princess to Empress/McNeill), Western Alberta Mainline Design Sub Areas, and the Rimbey-Nevis, South and Alderson and Medicine Hat Design Areas.

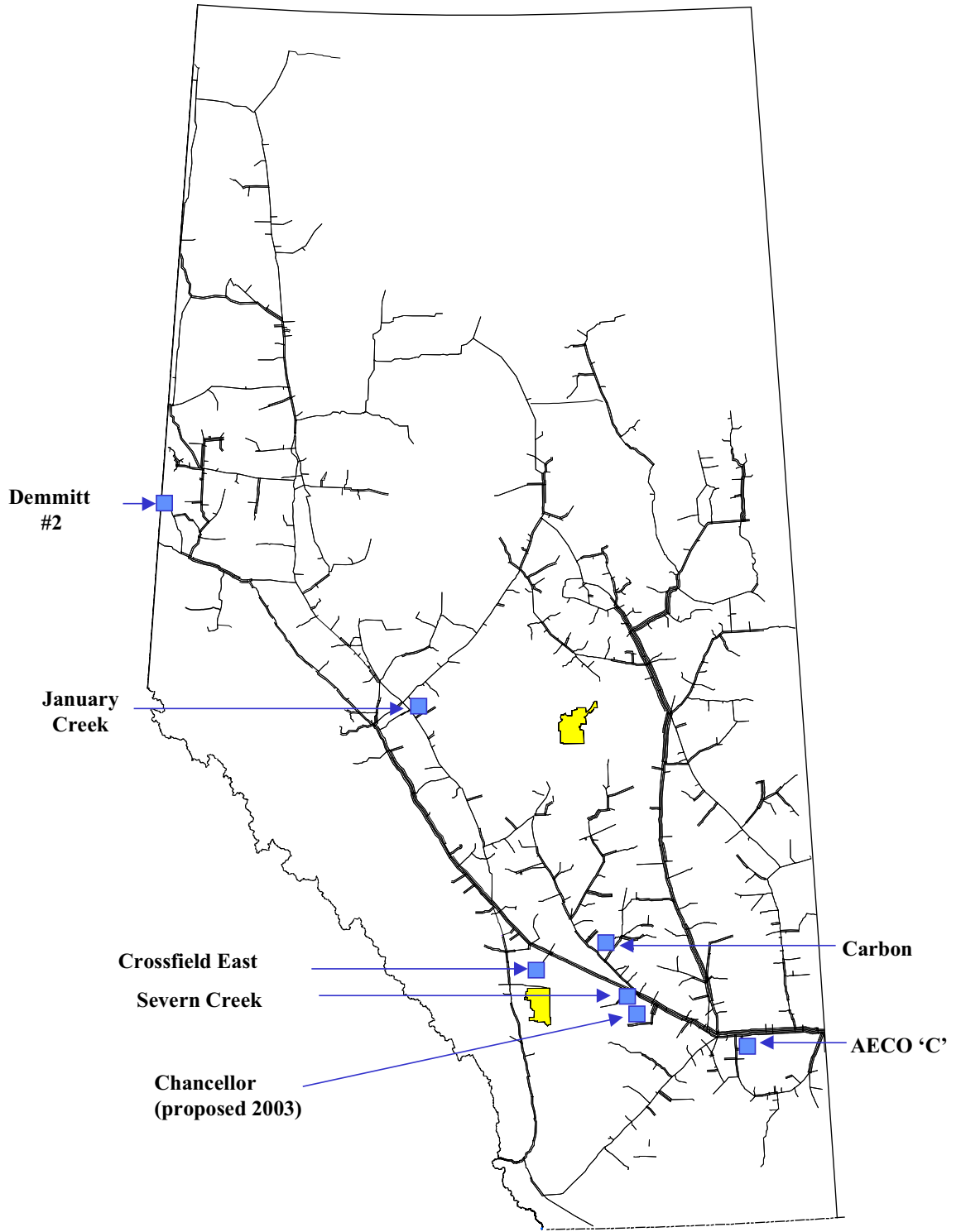
This assumption recognizes the supply contribution from Storage Facilities to meet peak day winter delivery requirements and provide for a better correlation between forecast design flows and historical actual flows for the winter period. The historical withdrawal flows were observed during recent winter periods at the AECO 'C', Carbon, and Crossfield East Meter Stations. The level of storage withdrawal used in the design of the "upstream design areas" for the winters of the 2003/04 and 2004/05 Gas Years remains at  $17.8 \times 10^6 \text{ m}^3/\text{d}$  (630 mmcf/d). The

result of applying the storage assumption is a reduction in the design flow volume in the “upstream design areas”.

Volumes withdrawn from the Storage Facilities will be considered as interruptible flows, but will be incorporated into the flow analysis within all “upstream design areas” where it leads to a reduction in the design flow volume and a potential reduction in facilities requirements.

- For the summer period, system design flows will not include delivery volumes from the NGTL system into Storage Facilities. Consequently, for the purpose of calculating design flows, volumes injected into the Storage Facilities will be considered to be interruptible flows and will therefore not be reflected in the design of mainline facilities.

**Figure 2.6.4  
Locations of Storage Facilities on the NGTL System**

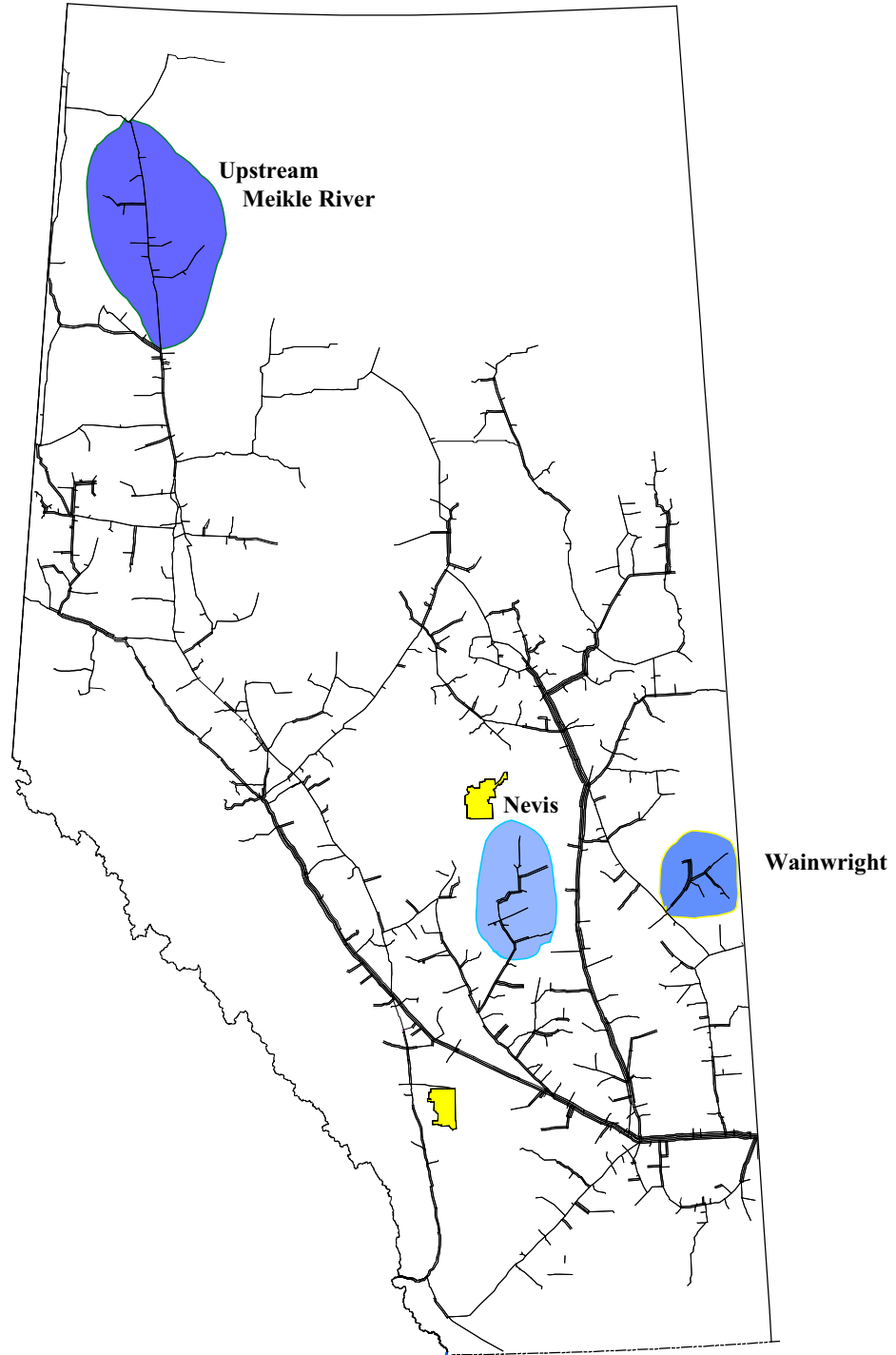


**2.6.5 FS Productive Capability Assumption**

In areas where gas is drawn from a small collection of Receipt Points, there is a greater likelihood that the FS productive capability will be drawn simultaneously from all such Receipt Points than is the case when gas is drawn from an area having a large number of Receipt Points. As a result, the system design for these areas, usually at the extremities of the system and in general encompassing approximately 20 Receipt Points, is based on the assumption that the system must be capable of simultaneously receiving the aggregate FS productive capability from each Receipt Point. However, when the FS productive capability assumption is applied to any collection of Receipt Points, the flows from the other areas upstream of a common point are reduced such that the equal proration assumption (Section 2.6.1) is maintained through that common point. This results in the system upstream of the common point being designed to match the capacity of the system downstream of the common point.

The areas on the system where the FS productive capability assumption has been applied for the 2002 design review are shown in Figure 2.6.5.

**Figure 2.6.5  
FS Productive Capability Areas**



**2.7 Maintaining Required Delivery Levels**

Historically, the design of the NGTL system has been based on the assumption that facilities comprising the system are in-service and operating. However, compression facilities are not 100 percent reliable and are not always available for service. Even with stringent maintenance programs, compression facilities still experience unanticipated and unscheduled down-time, potentially impacting NGTL's ability to maintain required deliveries. Compression facilities generally require two to four weeks of scheduled maintenance per year.

Designing facilities to ensure that Customer delivery expectations and firm transportation requirements are met is an important consideration in the design of the NGTL system.

**2.8 Compressor Modernization Program**

The identification of compressor units that should be removed from service or replaced will continue to be an integral part of the overall system design.

**2.8.1 System Optimization Study**

The System Optimization Study was completed in 2000 to understand the implications on the system utilization of NGTL facilities arising from the start-up of the Alliance Pipeline, declining gas supply volumes and increasing Alberta deliveries in the Upstream Bens Lake Design Area. It was projected that these factors would result in significant off-loading of flow volumes across large portions of the NGTL system.

System optimization has and will continue to be an integral part of the overall system design process to evaluate how the NGTL system can be optimized to reduce operating and maintenance costs, minimize fuel usage and maintain flexibility without adversely affecting throughput. NGTL's interest is to maximize volumes on the system in order to minimize tolls. Accordingly, cost reduction initiatives are not intended to reduce system volumes.

An update of the results of the 2000 System Optimization Study is provided in Section 5.2.

## **2.9 Firm Transportation Design Process**

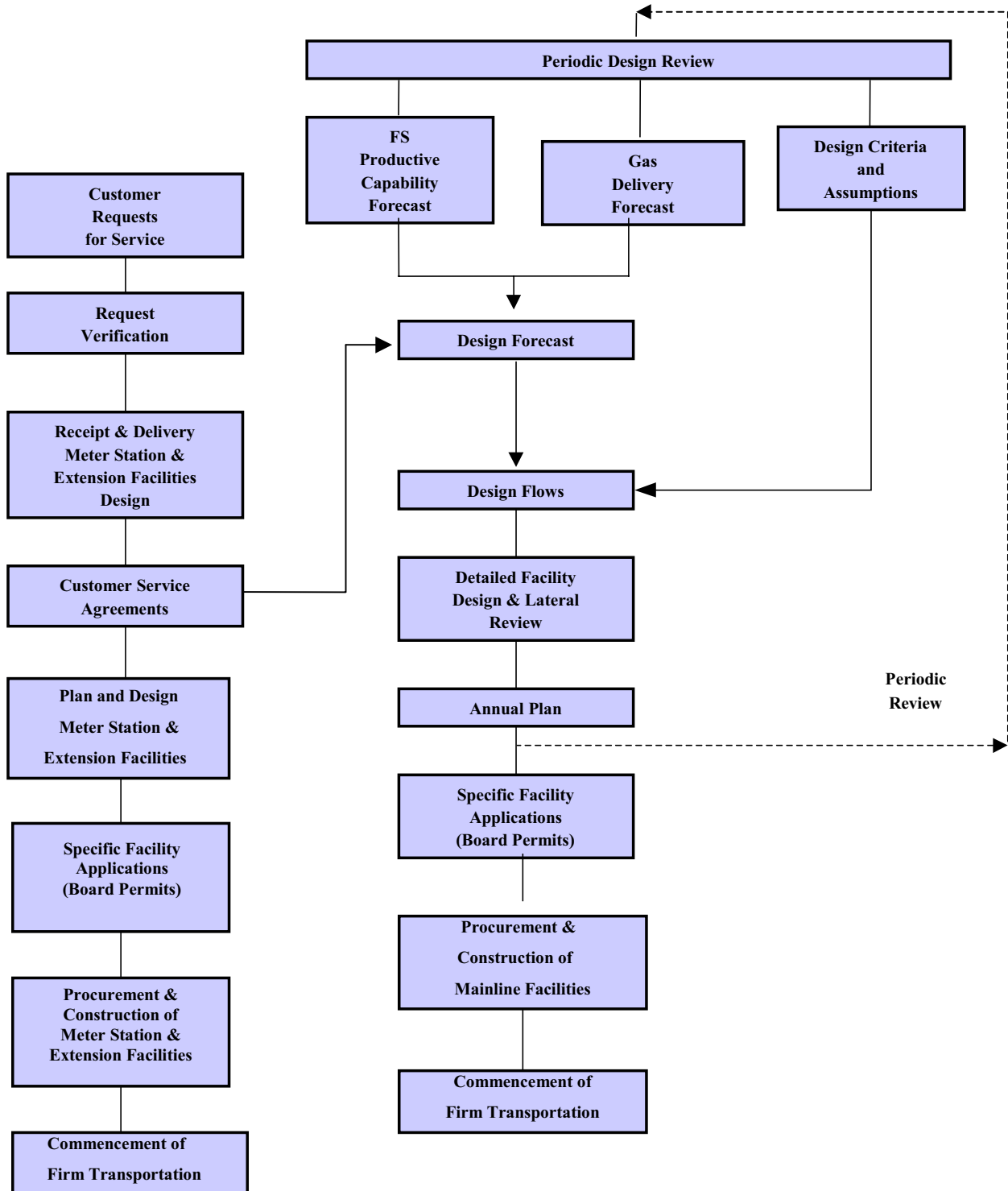
As stated in Section 2.1, NGTL conducts periodic design reviews throughout the year to closely monitor industry activity and respond to Customer requirements for firm transportation on a timely basis.

The following is a brief overview of the significant activities involved in the firm transportation design process for the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year. While Receipt Points, Alberta Delivery Points and extension facilities are designed as part of the firm transportation design process, the construction of these facilities takes place independently of the construction of mainline facilities.

The significant activities of the firm transportation design process are described below and are shown in the time-line included as Figure 2.9.1. Although activities have been grouped in distinct phases, some of the activities occur concurrently.



**Figure 2.9.1  
Firm Transportation Design Process**



**2.9.1 Customer Request Phase**

Requests for firm transportation for the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year were received by NGTL and included in the firm transportation design process for the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year.

Historically, requests for firm transportation exceed those eventually signed. For this reason, NGTL reviews all requests and follows up with those Customers requesting firm transportation.

Requests for firm transportation which are based on insufficient field deliverability, duplications, or over-contracting at a Receipt Point are removed from the firm transportation design process.

Requests for firm transportation are reviewed through this process and categorized as requiring new facilities, requiring expansion of existing facilities, or not requiring either new facilities or expansion of existing facilities. Each category of receipt and delivery facility is treated somewhat differently in the following phases of the design process.

**2.9.2 New Meter Station and Extension Facilities Design**

NGTL proceeds with the design of new meter stations and extension facilities to meet Customers requirements for those requests for Transportation Service that remain after the initial review process and are consistent with the Guidelines for New Facilities.

NGTL, with significant input from Customers and the Board, has established economic criteria that must be met prior to receipt meter stations being constructed.

The criteria are described in Appendix E of NGTL's Gas Transportation Tariff entitled *Criteria for Determining Primary Term*.

In the design of new extension facilities, the receipt or delivery volume and location of each new facility is identified. In the case of receipt facilities, a review is undertaken of the reserves that are identified as supporting each new extension facility to ensure the field deliverability forecast for the area can be accommodated. In the case of delivery facilities, a review is undertaken to establish the peak day demand levels that are identified as supporting each new extension facility to ensure the maximum day delivery for the area can be accommodated. Hydraulic and economic analyses are also conducted, using the design assumptions for new meter station and extension facilities described in Section 2.4 and Section 2.5.

Once the design is completed and construction costs estimated, Project and Expenditure Authorizations for new receipt and delivery meter stations and related Service Agreements are prepared and forwarded to Customers for authorization.

### **2.9.3 Existing Meter Station Design**

Concurrent with the design of new meter stations and extension facilities (Section 2.9.2), NGTL proceeds with the identification of new metering requirements and lateral restrictions associated with incremental firm transportation requests at existing Receipt and Delivery Points. If no new facilities are required, Customers requesting Service are asked to execute firm transportation Service Agreements. Where additional metering is identified as being required, construction costs are estimated, Project and Expenditure Authorizations and related Service Agreements are prepared and then forwarded to Customers for authorization. When a lateral restriction is identified, a review of the area field deliverability is undertaken to determine potential looping requirements. Lateral loops are designed in conjunction with the design of mainline facilities.

**2.9.4 Design Forecast Methodology**

As shown in Figure 2.9.1, the firm transportation design process involves the preparation of a design forecast. The design forecast is a projection of anticipated FS productive capability and gas delivery requirements on NGTL's pipeline system, and plays an essential role in NGTL's determination of future facility requirements and planning capital expenditures.

The design forecast comprises the FS productive capability forecast and the gas delivery forecast. The following sections describe these forecasts and the methods by which they are developed.

**2.9.4.1 FS Productive Capability Forecast**

The FS productive capability forecast is the receipt component of the design forecast, and represents the forecast peak rate at which gas can be received onto the NGTL pipeline system under firm transportation Service Agreements at each Receipt Point. This section describes NGTL's method for determining the FS productive capability forecast. The key forecasting terms are field deliverability, FS productive capability, and Receipt Contract Demand.

Field Deliverability

Field deliverability is the forecast peak rate at which gas can be received onto the pipeline system at each Receipt Point. NGTL forecasts field deliverability through an assessment of reserves, flow capability, future supply development and the capacity of gathering and processing facilities at each Receipt Point. This information is gathered from Board sources, NGTL studies, and through interaction with producers and Customers active in the area. With this information, the field deliverability forecast is developed using NGTL's supply forecasting model.

Section 2.4 describes how field deliverability is used to identify facility requirements, while Section 3.5 presents the forecast of field deliverability.

FS Productive Capability

FS productive capability is the lesser of the field deliverability and the aggregate Receipt Contract Demand under firm transportation Service Agreements held at each Receipt Point.

Section 2.6 describes how FS productive capability is used to identify facility requirements, while Section 3.5 presents the forecast of FS productive capability.

Aggregate Receipt Contract Demand Under Firm Transportation Service Agreements

In order to prepare a forecast of FS productive capability, a method of forecasting the aggregate Receipt Contract Demand under firm transportation Service Agreements is required.

The aggregate Receipt Contract Demand under firm transportation Service Agreements for the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year consists of the sum of Receipt Contract Demand under:

- firm transportation Service Agreements with terms extending beyond the design period;
- firm transportation Service Agreements terminating before the end of the design period; and
- new requests for firm transportation to be authorized for commencement of Service before the end of the design period.

To prepare a forecast of FS productive capability, NGTL forecasts the volume associated with firm transportation Service Agreements terminating before the end of

the design period that will be renewed and the volume associated with new requests for firm transportation to be authorized for commencement of Service before the end of the design period (second and third items listed above).

To forecast the volume associated with new requests for firm transportation Service Agreements that will be authorized and will commence Service before the end of the design period, NGTL makes assumptions on the volumes associated with new requests for Service based upon historical data, contract utilization and supply potential.

#### **2.9.4.2 Gas Delivery Forecast**

The gas delivery forecast is the second component of the design forecast. Delivery forecasts for each Alberta Delivery Point and each Export Delivery Point are developed. Each forecast includes average annual delivery as well as average, maximum and minimum delivery for both the winter and summer seasons. These seasonal conditions are used in the firm transportation design process to meet firm transportation delivery requirements over a broad range of operating conditions. The gas delivery forecast is reported in detail in Section 3.4.

The development of gas delivery forecast draws upon historical data and a wide variety of information sources, including general economic indicators and growth trends. These gas forecasts are augmented by analysis of each regional domestic and U.S. end use market and other natural gas market fundamentals.

A consideration in developing the maximum day gas delivery forecast for Export Delivery Points is the forecast of new firm transportation Service Agreements. Firm transportation Service Agreements (new Service Agreements or renewals of expiring Service Agreements) are assumed to be authorized at each major Export Delivery Point (Empress, McNeill and Alberta/British Columbia) to a level based on the

average annual delivery forecast. The average annual delivery forecast is developed through consideration of Customer requests for firm transportation and from NGTL's market analysis. NGTL's market analysis considers market growth, the competitiveness of Alberta gas within the various markets and a general assessment of the North American gas supply and demand outlook (Section 3.2).

The key component to the development of the Alberta delivery forecast is the assessment of economic development by market sectors within the province. The potential for additional electrical, industrial and petrochemical plants, oil sands, heavy oil exploitation, miscible flood projects, new natural gas liquids extraction facilities and residential/commercial space heating is evaluated. Each year, NGTL also surveys approximately forty Alberta based consumers who receive gas from NGTL within the province regarding their forecast of gas requirements for the next several years.

### **2.9.5 Mainline Design Phase**

The detailed mainline hydraulic design was done using the November 2002 design forecast and the mainline facilities design assumptions described in Section 2.6 as well as the compressor modernization program described in Section 2.8. NGTL performed computer simulations of the pipeline system to identify the facilities that would be required for NGTL to meet its firm transportation obligations for the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year.

The following guidelines are used in assessing and determining the facilities requirements in this Annual Plan.

**2.9.5.1 Operating Pressure**

A higher sustained maximum operating pressure (MOP) results in a more efficient system. It is possible to consider more than one MOP when reviewing the long term expansion of the pipeline system. If the expansion is such that a complete looping of an existing pipeline is likely within a few years, then it may be appropriate to consider developing a high-pressure line eventually isolated from the existing system.

**2.9.5.2 Temperature Parameters**

Pipeline design requires that reasonable estimates be made for ambient air and ground temperatures. These parameters influence the design in the following areas:

- power requirements for compressors;
- cooling requirements at compressor stations; and
- pressure drop calculations in pipes.

Winter and summer design ambient temperatures are determined using historical daily temperatures from Environment Canada at twenty locations throughout the province. An interpolation/extrapolation method was used to calculate the peak day ambient temperature for pipeline sections within each design area.

Ambient and ground temperatures based on historical information for each design area as described in Section 2.3 are shown in Tables 2.9.5.2.1 and 2.9.5.2.2.



**Table 2.9.5.2.1  
Ambient Air Temperature Parameters  
(Degrees Celsius)**

| <b>Design Area</b>  | <b>Summer Design Temperature</b> | <b>Summer Average Temperature</b> | <b>Winter Design Temperature</b> | <b>Winter Average Temperature</b> |
|---|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|
| Upper Peace River <sup>1</sup>  | 19                               | 10                                | -1 to 0                          | -11                               |
| Central Peace River <sup>1</sup>                                      | 19                               | 10                                | 1 to 3                           | -11                               |
| Lower Peace River <sup>1</sup>  | 18 to 19                         | 10                                | 3                                | -11                               |
| Marten Hills  | 18                               | 10                                | 3                                | -9                                |
| Upstream Bens Lake  | 19 to 20                         | 10                                | 2 to 3                           | -11                               |
| Downstream Bens Lake  | 20 to 23                         | 13                                | 1 to 5                           | -8                                |
| Edson Mainline <sup>2</sup>   | 18                               | 10                                | 3 to 4                           | -8                                |
| Eastern Alberta Mainline <sup>2</sup><br>(James – Princess)           | 18 to 21                         | 11                                | 4 to 5                           | -7                                |
| Eastern Alberta Mainline <sup>2</sup><br>(Princess - Empress/McNeill) | 22 to 23                         | 13                                | 6                                | -7                                |
| Western Alberta Mainline <sup>2</sup>                                 | 18 to 20                         | 11                                | 4 to 7                           | -4                                |
| Rimbey-Nevis  | 19 to 20                         | 11                                | 3 to 4                           | -7                                |
| South and Alderson  | 21 to 22                         | 13                                | 6 to 7                           | -7                                |
| Medicine Hat  | 23                               | 13                                | 7                                | -6                                |
| <sup>1</sup> Design Sub Areas within the Peace River Design Area      |                                  |                                   |                                  |                                   |
| <sup>2</sup> Design Sub Areas within the Mainline Design Area         |                                  |                                   |                                  |                                   |

**Table 2.9.5.2.2  
Ground Temperature Parameters  
(Degrees Celsius)**

| <b>Design Area</b>  | <b>Summer Design Temperature</b> | <b>Summer Average Temperature</b> | <b>Winter Design Temperature</b> | <b>Winter Average Temperature</b> |
|---|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|
| Upper Peace River <sup>1</sup>                                      | 14                               | 8                                 | 4                                | 1                                 |
| Central Peace River <sup>1</sup>                                    | 14                               | 8                                 | 4                                | 1                                 |
| Lower Peace River <sup>1</sup>                                      | 14                               | 8                                 | 4                                | 1                                 |
| Marten Hills  | 12                               | 7                                 | 5                                | 2                                 |
| Upstream Bens Lake  | 11                               | 6                                 | 5                                | 2                                 |
| Downstream Bens Lake  | 14                               | 8                                 | 5                                | 2                                 |
| Edson Mainline <sup>2</sup>   | 12                               | 8                                 | 5                                | 2                                 |
| Eastern Alberta Mainline <sup>2</sup><br>(James - Princess)         | 14                               | 9                                 | 5                                | 2                                 |
| Eastern Alberta Mainline <sup>2</sup><br>(Princess-Empress/McNeill) | 15                               | 9                                 | 5                                | 2                                 |
| Western Alberta Mainline <sup>2</sup>                               | 14                               | 9                                 | 5                                | 1                                 |
| Rimbey-Nevis  | 14                               | 10                                | 5                                | 2                                 |
| South and Alderson  | 16                               | 11                                | 7                                | 3                                 |
| Medicine Hat  | 17                               | 12                                | 7                                | 2                                 |
| <sup>1</sup> Design Sub Areas within the Peace River Design Area    |                                  |                                   |                                  |                                   |
| <sup>2</sup> Design Sub Areas within the Mainline Design Area       |                                  |                                   |                                  |                                   |

**2.9.5.3 Pipe Size and Compression Requirements**

For the mainline system, a combination of pipe and compression facilities is reviewed to meet the design flows. The possible combinations are almost unlimited so guidelines have been developed based upon experience and engineering judgment to assist in determining pipe size and compression requirements.

Experience has shown that the pressure drop along the mainline system should be within a range of approximately 15 to 35 kPa/km (3.5 to 8.0 psi/mile) of pipe. Above this range, compressor power requirements become excessive because of high friction losses, and pipeline loop usually becomes more economical than adding compression.

In addition, experience has also generally shown that it is advantageous to provide for a loop with a diameter at least as large as the largest existing line being looped. As a guide to selecting loop length, the loop should extend between two existing block valves where possible, thus minimizing system outages and impact from failures. In cases where design flows are projected to increase, it is usually cost effective to add loop in a manner that will ensure that no additional loop will be required in the same section in the near future.

There is some flexibility in the location of compressor stations when new compression is required. Shifting the location changes the pressure at the inlet to the station and, hence, the compression ratio (i.e. the ratio of outlet pressure to inlet pressure). Capital costs, fuel costs, and environmental and public concerns are also key factors in selecting compressor station location.

**2.9.5.4 Selection of Proposed and Alternative Facilities**

Many alternatives are identified when combinations of the facility configurations and optimization parameters are considered. This process requires NGTL to carefully evaluate a large number of alternative designs and to select those appropriate for further study.

Facilities that are most likely to meet future gas flows and minimize the long term cost of service are considered. As well, NGTL may consider when appropriate Transportation by Others (TBO) or purchase of existing other party facilities as an alternative to constructing facilities.

The process to identify the potential for facilities requirements begins with the generation of design flows (Chapter 4). Then, flow capabilities on the system are determined to identify where capacity restrictions occur. Pipe sizes, MOP and routings, as well as compressor station sizes and locations are evaluated as part of alternative solutions to eliminate these capacity restrictions.

The capital cost of each reasonable alternative is then estimated. Rule of thumb costing guidelines are established at the beginning of the process. These guidelines take the form of cost per kilometer of pipeline and cost per unit type of compression and are based on the latest actual construction costs experienced by NGTL.

Adjustments may be made for exceptions (i.e. winter/summer construction, location, and river crossings) that significantly impact these rule of thumb costing guidelines.

The results of the preliminary hydraulics and rule of thumb costs are compared and the best alternatives are given further study.

Simulations of gas flows on the NGTL system are performed for future years to determine when each new compressor station or section of loop should be installed

and to establish the incremental power required at each station. Additional hydraulic flow simulations beyond the design period, in this case the 2003/04 Gas Year and the winter season of the 2004/05 Gas Year, are performed for each remaining alternative to further define the location and size of compressor stations and loops.

Once the requirement for facilities in each year is determined, hydraulic flow simulations are performed based on seasonal average flows for each of the future years to determine compressor fuel usage, annual fuel, and operating and maintenance costs for each facility.

Next, detailed capital cost estimates for new facilities are determined to further improve upon the assessment of alternatives. Where appropriate, the alternatives include the use of standard compressor station designs which are incorporated into the cost estimates. These capital cost estimates reflect the best available information regarding the cost of labor and materials based on the preliminary project scope and also consider land and environmental constraints that may affect project timing and costs.

In reviewing capital, fuel, operating and maintenance costs, it is possible that some alternatives will have higher costs in all of these categories than other alternatives. The higher cost alternatives are eliminated from further consideration.

The annual cost of service, based on capital and operating cost estimates, is determined for each remaining alternative. This calculation includes annual fuel costs, capital costs escalated to the in-service date, annual operating costs, municipal and income taxes, return on investment and depreciation. The present value of each of the annual cost of service calculations are determined and then summed to calculate the CPVCOS for each alternative.

The proposed facilities are usually selected on the basis of lowest CPVCOS and lowest first year capital cost. However, a number of alternatives may be comparable when these costs are considered. For practical purposes, when these alternatives are essentially equal based on financial analyses, the selection decision will consider other relevant factors including operability of the facilities, environmental considerations and land access.

#### **2.9.5.5 Preliminary Site and Route Selection Areas**

Preliminary site and route selection areas are defined by hydraulic parameters. The downstream boundary of a compressor station is determined by locating the compressor station at a point where the maximum site-rated power available for the selected unit is fully used compressing the design flow and discharging at the pipeline MOP. The upstream boundary is determined by locating the selected unit at a location where any excess power available at the next downstream compressor station is consumed in compressing the design flow and discharging at MOP. Optimally, compressor stations are located in the immediate vicinity of existing pipelines to avoid additional pipeline that would otherwise be required to connect the new compressor stations.

The preliminary route selection area for new pipelines is defined by the reasonable alternative routes between the end points of the new pipeline. The location of loops of existing pipeline segments is often restricted, for practical purposes, to areas along existing pipeline corridors and between existing block valve sites.

#### **2.9.6 Final Site and Route Selection**

Once preliminary site and route selection areas have been identified, efforts are directed at locating final sites for compression and metering facilities and routes for pipelines that meet operational, safety and environmental considerations and have minimal social impact.

**2.9.6.1 Compressor Station Site Selection Process**

The final site selection for a new compressor station is a two step process. The first step is a screening process where the preliminary site selection area is examined against relevant screening criteria with the objective of eliminating those locations determined to be inappropriate. This methodology is essentially one where geographical, physical, environmental and landowner impact constraints are used to eliminate unsuitable areas.

In the second step, a matrix is used to rank candidate sites against a number of engineering, operational, environmental, social and land use criteria. With appropriate weighting assigned to each of these criteria, based on input received from the public participation process (Section 2.9.7), each candidate site is ranked relative to the others.

The criteria used to select compressor station sites include the following:

(1) Terrain:

Ideally, flat and well-drained locations are preferred, so that grading can be minimized and the surrounding landscape can be utilized to reduce visual impact to the surrounding residences.

(2) Access:

Compressor facilities are located as close as possible to existing roads and highways to minimize the cost and surface disturbance associated with new road construction.

(3) Land Use:

Compressor facilities are located, where possible, within areas cleared of vegetation and in areas where existing access routes can be utilized.

(4) Proximity to Residences:

Compressor facilities are designed to be in compliance with Board Interim Directive ID 99-8 and located as far away as possible from residences to minimize visual and noise impacts.

**2.9.6.2 Meter Station Site Selection Process**

Criteria similar to those applied to siting compressor stations are used to select meter station sites.

**2.9.6.3 Pipeline Route Selection Process**

The final pipeline route selection process consists of a review and an analysis of all available and relevant information, including: alignment sheets; aerial photographs; topographical maps; county maps; soil maps and historical data. Using this information, NGTL conducts an aerial and/or ground reconnaissance of the preliminary route selection area to confirm the pipeline end points and to identify alternative pipeline routes between end points.

Input is sought from landowners and the public affected by the alternate pipeline routes (Section 2.9.7). The pipeline route that best satisfies a variety of route selection criteria, including: geographical; physical; environmental; engineering; and landowner and public concerns is selected.

The criteria used to select pipeline routes include the following:

(1) Terrain:

To minimize environmental and construction impacts, the driest and flattest route possessing both stable and non-sensitive soils is preferred. Other terrain features, such as side slopes, topsoil, rocky areas, wet areas and water crossings are also considered.

(2) Land Use:

Pipeline routes, which cause minimal disturbance to the surrounding area, are preferred.

(3) Right-of-Way Corridors:

In accordance with Board Informational Letter IL 80-11, NGTL attempts to make use of any existing utility, seismic or pipeline right-of-way corridors within the route selection area. Utilizing existing corridors reduces the amount of clearing and land disturbance and, in the case of shared right-of-way, allows for narrower right-of-way width by overlapping existing pipeline corridors.

(4) Crossings:

On many occasions the pipeline route selected crosses both natural and man-made obstacles such as creeks, drainages, roads and other pipelines. Where practical, the pipeline is routed such that these crossings are avoided. However, when a crossing is necessary, the best possible location is selected considering terrain, land use, pipeline corridors, environmental considerations and the requirements of relevant regulatory authorities.



(5) Access:

The route which provides access during construction and that minimizes interference with surrounding land use is preferred. It is also preferable to locate the pipeline so that valves are easily accessible for day-to-day operations.

(6) Construction Time Frame:

The approximate timing of the construction phase, which is related to the required in-service date of the pipeline, is considered during pipeline route selection. Timing can be affected by terrain, land use, and the environment. Timing can also influence cost factors.

(7) Future System Expansion:

The possibility of future system expansion and any constraints that the proposed routing may have on future looping are considered.

**2.9.7 Public Consultation Process**

NGTL is involved in a variety of public consultation activities that help NGTL establish positive relationships with people affected by the construction and operation of the pipeline system. Part of the public consultation process involves information sharing on new projects and soliciting public input for the siting of new facilities.

The public consultation process allows NGTL to identify and address issues involving the public, share information on NGTL's plans and solicit input on decisions that may affect others.

While public consultation is an integral and important component of the facility site and route selection process that precedes every facility application, the nature and extent of public consultation that is appropriate for a specific facility depends on a number of factors, including the nature of the facility, the potential for public impact, the number of individuals affected and the level of public interest.

Consequently, NGTL conducts title searches of all lands impacted by each proposed facility to identify potentially impacted landowners and to introduce them to NGTL's facility proposal.

The title searches are done through the Land Titles Office to verify ownership and through Alberta Energy to verify whether Crown land is occupied or vacant. Lands potentially impacted may include:

- All lands crossed by the proposed pipeline route(s);
- All parcels of land lying adjacent to the lands being crossed by proposed pipeline route(s); and
- All lands lying within a 2.0 km radius of all proposed compressor station facilities.

In addition, the Member of Parliament and Member of the Legislative Assembly, as well as the local Municipality, the Board local area supervisor and the Farmer's Advocate in Edmonton are contacted and notified of NGTL's proposal.

Information packages for all proposed facilities are delivered to all potentially impacted landowners as a means of communication and to create an opportunity for landowners to provide input to routing and scheduling. These information packages contain:

- A preliminary data sheet with information such as length of the project, the start and end points, proposed pipe size and wall thickness, maximum operating pressure, new right-of-way and temporary work space requirements and the proposed construction timing;
- A map depicting the geographic location of the proposed pipeline route;
- Additional Information for Public Consultation;
  - Guide 30: Guidelines for Safe Construction Near Pipelines
  - Call Before You Dig
  - Negotiating Surface Rights
  - Pipelines in Alberta
  - As appropriate, an information package on compressor station design and construction
- EUB Information Package for Public Consultation containing;
  - Letter from EUB Chief Operating Officer
  - Guide 62: Responding to Public Concerns about Oil and Gas in Alberta
  - Guide 17-2: Well Site Selection and the Surface Landowner
  - Guide 17-3: Pipeline and Surface Rights

Advertisements respecting NGTL's proposed facilities are placed in local newspapers for a two week period. Any landowner concerns generated from the advertisement process are typically dealt with on a one-to-one basis with the landowner or at public consultation meetings.

A community meeting is held, where appropriate, in respect of specific proposed facilities. Community meetings provide a forum to review, discuss and resolve issues or concerns of interested parties. Invitations are extended to all potentially impacted landowners, occupants, government officials and

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general community members identified by NGTL. NGTL endeavors to answer any questions with regard to proposed facilities at these meetings. If NGTL is unable to respond to questions at that time, additional information is gathered and is provided following the meeting.

## **2.9.8 Environmental Considerations**

NGTL selects facility sites and pipeline routes which allow the facility to be constructed and operated in a cost effective manner with minimal environmental impact. The route and site selection processes address the impact of proposed facilities on all aspects of the environment, including: superficial geology and landform; soils; timber; water resources; vegetation; fisheries; wildlife; land use; aesthetics; air quality and noise levels as outlined in Alberta Environment's (AENV) *Guide for Pipelines, 1994* and the *NGTL Conservation and Reclamation Standard, 1997*. All potential environmental impacts are examined during the selection process and evaluated together with any mitigative measures that may be required to reduce the impacts of facility construction and operation. Measures appropriate to address hazardous materials, waste management, weed control and reclamation are designed to meet project specific conditions. Based on the consideration of potential environmental impacts and the design of mitigation measures, an Environmental Protection Plan is developed to communicate these mitigation measures.

### **2.9.8.1 Site Preparation**

During the construction of meter stations and compressor stations, the topsoil in the White Area (arable lands) of the province and the surface organic and near surface mineral material in the Green Area (non-arable lands) are stripped from the entire graded area. The stripped material is stockpiled at an appropriate location to conserve the material for use during reclamation of the site upon decommissioning. The

stockpile is seeded with a mixture of species compatible with the surrounding area to prevent wind and water erosion.

### **2.9.8.2 Right-of-Way Preparation**

During the construction of pipelines in the White Area of the province, NGTL conserves topsoil to maintain land capability following construction. Soil surveys are conducted in selected areas of the province to ensure that handling techniques are compatible with the soil conditions of the right-of-way.

In the Green Area of the province, surface materials are conserved through grubbing. Grubbing is the removal of woody debris (e.g. stumps, roots) from the right-of-way to allow for the safe passage of construction equipment. Timber is salvaged from the right-of-way when the trees meet merchantable criteria established in consultation with Land and Forest Service of Alberta Sustainable Resource Development (ASRD).

### **2.9.8.3 Weed Control**

NGTL's weed control program is designed to assess and respond to weed problems on newly constructed and operating pipelines and facilities. NGTL takes all reasonable measures to prevent the proliferation of weeds. Certificates of Analysis are obtained for all grass and legume seed mixes used in NGTL's reclamation program to ensure that prohibited and noxious weeds are not introduced to an area through seed application. In addition, construction equipment is cleaned of mud and vegetative debris prior to entering the right-of-way.

Measures to prevent the proliferation of weeds include tilling, mowing, spraying, or in rare cases, hand pulling of weeds. The method of control is chosen to accommodate site conditions, landowner requirements and Alberta Agriculture, Food and Rural Development (AAFRD) recommendations.

**2.9.8.4 Surface and Groundwater Considerations**

Surface water movements are taken into consideration during the facility site and pipeline route selection process. During construction, near surface groundwater flow may be encountered. In these situations, NGTL assesses the potential for impacting flow direction and, where necessary, installs below ground piping to ensure that groundwater moves across the facility.

**2.9.8.5 Fisheries and Wildlife Resources**

The identification and evaluation of fisheries and fisheries habitat is required for each watercourse crossing traversed by a pipeline route. This process enables NGTL personnel to: determine fisheries and fisheries habitat parameters and criteria at each watercourse crossing; evaluate and recommend appropriate crossing methodologies; identify construction mitigative measures; evaluate the need for specific reclamation measures at each crossing location; and meet provincial and federal legislative requirements.

Crossing evaluations and habitat assessment information establishes NGTL's recommended crossing methodology. This information provides documentation to meet the intent of the federal *Fisheries Act* and all other applicable legislation as well as the 'no net loss' principle. Information from the crossing evaluation (i.e. geotechnical assessment) and findings from the fisheries assessment are integrated to determine the most appropriate crossing methodology.

NGTL documents the evaluation and assessment to ensure and demonstrate due diligence in determining impacts associated with a crossing technique and/or proposed mitigation measures. NGTL attempts to install each crossing as quickly as possible to minimize potential environmental impacts during construction.

Identifying and evaluating wildlife and their habitats along the pipeline alignment and adjacent areas is part of NGTL's environmental planning process. NGTL reviews wildlife and habitats information to: ensure that pipeline activities have a minimal impact on these resources and their habitat; meet the requirements of the *Alberta Wildlife Act*; and all other applicable legislation; and identify the status of critical key wildlife species and their habitat (i.e. endangered, threatened or vulnerable). NGTL then determines the most appropriate route alignment by and if possible, avoiding routing through critical and/or key habitat. If key and/or critical habitat cannot be avoided, NGTL identifies appropriate mitigative measures in the Environmental Protection Plan and uses these measures during construction.

#### **2.9.8.6 Historical and Paleontological Resources**

Class I projects, as described in Section 2.9.9, are referred to Alberta Community Development to determine whether or not a Historical Resource Impact Assessment is required. The need for a historical resource assessment is based on the following principles: that crown owned archaeological and paleontological resources are held as a public trust; 'users pay' principle applies to all historical resource discoveries and therefore developers that create an impact on historical resources are responsible to undertake an impact assessment and implement mitigation measures to protect these resources; and the Minister responsible for historical resources management has discretionary powers to order an assessment and mitigation of historical resources impacts.

If a significant historical site is discovered during the assessment of a proposed facility, NGTL employs the service of a qualified archaeologist to further delineate historical resources in relation to construction activities. If warranted, mitigative measures are employed during construction to conserve and preserve historical resources. Although the assessment is intensive, it is still possible to encounter new sites during construction. In accordance with Section 27 of the *Alberta Historical*

*Resources Act*, should any cultural material be uncovered during construction, Alberta Community Development is contacted immediately to determine further requirements.

#### **2.9.8.7 Land Surface Reclamation**

The primary objective of surface land reclamation is to return lands to equivalent land capability. As a result, the focus is on the land capability of surface material and vegetation criteria. Surface land reclamation must be practical, feasible and cost-effective in meeting the objectives of equivalent land capability. Remedial efforts focus on reducing long-term risk and mitigating concerns.

Reclamation requirements are outlined in the Environmental Protection Plan. NGTL identifies reclamation criteria in the planning and preparation phase of a pipeline to ensure that any disturbed land is returned to an equivalent land capability. The reclamation criteria addresses: vegetation; drainage; moisture availability; erosion, contour or landscape pattern; and slope stability.

NGTL adheres to the following principles when developing and implementing a Reclamation Plan: salvage all surface materials/topsoil and store it separately from the subsoil and spoil material so it can be used for reclamation of the site; develop Reclamation Plans for all facilities; and obtain the appropriate regulatory approvals when abandoning a facility.

#### **2.9.8.8 Air Emissions and Alberta Environmental Protection and Enhancement Act (AEPEA) Approvals**

NGTL complies with the AEPEA in the design and construction of compressor stations.



**2.9.8.9 Noise Regulations**

NGTL complies with Board Interim Directive ID 99-8 in the design and construction of facilities.

**2.9.9 Facility Applications, Procurement and Construction Phase**

Applications for facilities for the 2003/04 Gas Year and the winter season of the 2004/05 gas Year will be submitted to the Board throughout 2003. Facilities not identified in this Annual Plan will be filed as a Section L of the Board's IL 90-8. As facility applications are being prepared, discussions with industry representatives will continue and modifications to specific facility applications, if warranted, will be made to reflect industry feedback on the Annual Plan. If any significant changes are made to accommodate a concern, timing of the completion of the facilities may be affected and result in a delay in the provision of firm transportation. However, NGTL will take all reasonable steps to mitigate such delays.

In September 1993, the AEPEA was proclaimed. As part of AEPEA, NGTL is required to submit Conservation and Reclamation (C&R) applications to the AENV for all Class I pipelines. Class I pipelines are those projects in which the pipe diameter (in millimeters) multiplied by the cumulative length (in kilometers) is greater than 2690. The C&R application contains details with respect to location of the pipeline, area description, environmental consultation activities, an environmental assessment and an environmental protection plan. The C&R applications are reviewed and approved by AENV prior to construction. During the review process, NGTL advertises the submission of the application, thereby allowing the public further opportunity to review and/or comment on the NGTL C&R application. Statements of concern brought forth by the public to AENV are addressed by NGTL prior to receiving approval. The application process typically parallels the Board facility applications approval process.

NGTL has developed and implemented the NGTL C&R Standard compiling all NGTL environmental policies and standard environment protection procedures. All project-specific C&R applications will refer to and incorporate the policies and procedures set out in NGTL's C&R Standard.

**Pipes Installed where Design Capacity Exceeded Contracts**

| <b>In-Service Year</b> | <b>Facility Name</b> | <b>Type</b> | <b>Length (km)</b> | <b>Size NPS</b> |
|------------------------|----------------------|-------------|--------------------|-----------------|
| 1998                   | Chigwell             | loop        | 0.8                | 6               |
| 1998                   | Mclean Creek         | lateral     | 24.0               | 12              |
| 1999                   | Bootis Hill          | lateral     | 5.1                | 8               |
| 1999                   | Doe Creek South      | lateral     | 5.0                | 6               |
| 1999                   | Heart River          | loop        | 43.0               | 10              |
| 1999                   | Hythe                | loop        | 13.0               | 16              |
| 1999                   | Marlow Creek         | lateral     | 50.0               | 10              |
| 1999                   | Musreau Lake         | lateral     | 16.5               | 10              |
| 2000                   | Canoe Lake           | loop        | 2.4                | 12              |
| 2000                   | Rainier South        | loop        | 8.8                | 6               |
| 2000                   | Roxanna              | loop        | 11.9               | 6               |
| 2001                   | Haig River           | loop        | 8.0                | 6               |
| 2001                   | Hay River            | loop        | 1.2                | 4               |
| 2001                   | Tangent              | loop        | 7.6                | 4               |
| 2002                   | Narraway             | extension   | 41.0               | 16              |
| 2002                   | Rainbow Lake         | loop        | 13.2               | 6               |

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ATCO-NGTL-011

[REVISED February 2004](#)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 2 of 23, Lines 7-8

**Preamble:**

ATCO Pipelines requires additional information on depreciation data and calculations.

**Request:**

Please provide the detailed calculations at the fixed asset account level that make up the 4.13% composite rate.

**Response:**

Please refer to [Attachment ATCO-NGTL-011](#) [which has been revised as per the February 2004 Update.](#)





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ATCO-NGTL-012(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 5 of 23, Lines 10-13

**Preamble:**

ATCO Pipelines requires information on the depreciation engagement letter and related correspondence.

**Request:**

Please provide a copy of all correspondence between Gannett Fleming and NGTL pertaining to the depreciation study. Please include the Engagement letter and all written notes, discussions and minutes between the two parties on this issue.

**Response:**

Please refer to Attachment ATCO-NGTL-012(a) for the relevant portions of the contract between TransCanada and Gannett Fleming in respect to the Depreciation Study that has been filed as part of the Application. TransCanada has not reproduced Schedule B (Gannett Fleming rates) and Schedule C (TransCanada's Alcohol and Drug Guidelines, Health & Safety Guidelines for Contractors, and Harassment Free Workplace Policy). The policies are available on request.

In addition to staff interviews Mr. Larry Kennedy of Gannett Fleming attended a number of internal meetings. These meetings generally consisted of discussion of study logistics and of updates on the progress of the depreciation study. NGTL declines to provide any other notes, correspondence and other forms of communication between Gannett Fleming and NGTL on the grounds that they are confidential, privileged or not relevant to this proceeding.

**Contract No. 2001-0098**  
**Between**  
**TransCanada PipeLines Limited**  
**and**  
**Gannett Fleming Valuation**  
**and Rate Consultants Inc.**  
**for**  
**Consulting Services on**  
**Valuation/Depreciation Studies**



**AGREEMENT FOR Consulting Services on Valuation/Depreciation Studies**  
(the "Agreement") dated as of November 1, 2001.

**PARTIES:**

**TransCanada PipeLines Limited**  
(the "Company")

- and -

**Gannett Fleming Valuation and Rate Consultants Inc.**  
(the "Consultant")

The **Parties** agree as follows:

**ARTICLE 1.0 INTERPRETATION**

1.1 The terms used in this Agreement and not defined herein but defined in the General Conditions shall have the meaning given in the General Conditions.

**ARTICLE 2.0 THE SERVICES**

2.1 The Consultant shall perform the Services all as more particularly set forth in Schedule "A" of the Contract Documents.

**ARTICLE 3.0 THE TERM**

3.1 The Consultant shall commence the Services on or before **November 1, 2001** and, subject to adjustment as provided in the Contract Documents, complete the Services by **December 31, 2003**, (the "Term").

**ARTICLE 4.0 CONTRACT DOCUMENTS**

4.1 The following documents form the Contract Documents:

- a. This Agreement;
- b. General Conditions for Consulting Services;
- c. Schedule "A", titled "Scope of Services";
- d. Schedule "B", titled "Price";
- e. Schedule "C", titled "Rules and Guidelines";

f. Change Orders.

4.2 All drawings, plans and specifications listed in the Schedules and the General Conditions or otherwise incorporated into the Agreement and all Change Orders and other documents which come into existence and are incorporated in the Agreement pursuant to the Contract Documents.

#### **ARTICLE 5.0 PRICE**

5.1 The Services shall be performed for the Price calculated and payable in the manner provided in the General Conditions and Schedule "B" to the Agreement.

5.2 All amounts are in United States funds unless specifically stated otherwise and are not subject to escalation during the Term of this Agreement.

#### **ARTICLE 6.0 REPRESENTATIVES**

6.1 The Company's Representative is **Ms. Shelley Radway**. The Company's Representative shall have the authority to give the notices, approvals and directions that may be given by the Company pursuant to this Agreement.

6.2 The Consultant's Representative is **Mr. Larry Kennedy**. The Consultant shall not change its Representative, except with the prior approval of the Company. The Consultant's Representative has the authority to bind the Consultant on all matters relating to the Services and the Agreement. All communications to or with the Consultant's Representative shall be deemed to be communications to or with the Consultant.

#### **ARTICLE 7.0 NOTICES**

7.1 Notices pursuant to this Agreement shall be in writing and sent by ordinary or registered mail, facsimile or courier to the Representative at the address for the Company or the Consultant noted below. Notices shall be deemed received three (3) days following mailing date or if sent by facsimile or courier, on the first business day following the date of transmission.

**The Company:**                   **TransCanada PipeLines Limited**  
PO Box 1000, Station M  
450 – 1st Street S.W.  
Calgary, Alberta  
T2P 5H1

Attention:                   Ms. Shelley Radway  
Telephone:                 (403) 920-7173  
Facsimile:                 (403) 920-2347  
E-mail address:           Shelley\_Radway\*@transcanada.com

**The Consultant:**               **Gannett Fleming Valuation and Rate Consultants Inc.**  
Suite 277, 200 Rivercrest Drive S.E.  
Calgary, Alberta  
T2C 2X5

Attention:                   Mr. Larry Kennedy  
Telephone:                 (403) 257-5946  
Facsimile:                 \*  
E-mail address:            \*

7.2     Either party may change its address for Notices by giving written notice to the other party.

## **ARTICLE 8.0            ENTIRE AGREEMENT**

8.1     The Contract Documents set forth the entire agreement between the Company and the Consultant pertaining to the Services and supersedes any previous discussions, negotiations and agreements, whether written or verbal, pertaining to the Services.

**ARTICLE 9.0 EXECUTION**

9.1 This Agreement shall be executed with the original signatures of the proper officers of the parties. The proper officers of the parties, or their Representatives, may execute subsequent documents forming part of the Contract Documents, by facsimile.

Executed: \_\_\_\_\_, 2001

Executed: \_\_\_\_\_, 2001

**TransCanada PipeLines Limited**

**Gannett Fleming Valuation and Rate  
Consultants Inc.**

Per: \_\_\_\_\_

Per: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Per: \_\_\_\_\_

Per: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

| ORIGINATOR | CHECKED BY | CLIENT | LEGAL | RISK |
|------------|------------|--------|-------|------|
|            |            |        |       |      |

**SCHEDULE "A"**

**SCOPE OF SERVICES**

**Attached to and forming part of Agreement #2001-0098  
Between the Company**

**and**

**the Consultant**

**Scope of Work**

The Consultant shall provide services to conduct depreciation studies for TransCanada's pipeline systems. The Consultant shall participate in regulatory proceedings as required.

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ATCO-NGTL-012(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 5 of 23, Lines 10-13

**Preamble:**

ATCO Pipelines requires information on the depreciation engagement letter and related correspondence.

**Request:**

Please provide a summary of the interview notes (or the actual interview notes) of all discussions held with Operations and Engineering staff used in the development of the recommendations in this study.

**Response:**

The interview notes are provided in Attachment ATCO-NGTL-012(b).

TransCanada PipeLines Limited

Interview notes

Shane Savard  
David Murray  
Chiu Chow

Capital Planning  
September 05, 2003 – TransCanada Offices

Purpose of Interview

Historic life indications are only one consideration in the determination of the average service life. One of the additional factors to consider includes the review of the probability that the historic indications will be indicative of the future retirement patterns. Future forces of retirement can be influenced by recent and upcoming facility design changes, recent and upcoming system reconfigurations, and the impacts of changes in technology.

The capital planning group also can provide insight into the cost of removing facilities. As in the case of life estimations, the estimates of net salvage percentages can also be impacted by changes in the future forces of retirements. Additionally, the pace of change in the environmental regulations, and the impact that these changes in regulation have had in the historic net salvage indications, need to be reviewed in order to determine appropriate net salvage percentages for the current investment.

Background of Mr. Savard

- Manager, Customer Solutions and Gas Quality
- 11 months in current position
- 13 years with TransCanada

Background of Mr. Murray

- Manager, Mainline Planning, West
- 2 years in current position
- 12 years with TransCanada

Background of Mr. Chow

- Senior Engineer
- Over 6 years in current position
- 10 years with TransCanada

**Compression Facilities**

Retirement programs

Over the last few years and continuing through to the end of 2003, the Alberta system compression has been going through a system optimization program. This program has reviewed the usefulness and the economic viability of the compression locations and units. This review

has resulted in an increased level of units being transferred (for example, 4 units were re-located in 2001) and of units being retired from service. The increased level of units being retired from service, has resulted in an increased number of units being stored and transferred through the warehouse facilities and has also resulted in a spike of sales of compressor units to third parties.

Historically, the company usually does not backfill re-located compression with smaller units. Re-use of a compression unit may require a significant amount of retro-fitting in order to meet today's design and emission standards. The company estimates that the retrofitting of units will cost up to approximately 50% of the cost of a new unit.

It is anticipated that the increased trends with regard to retirement and re-location activity will continue over the next few years, given that the optimization review will continue through 2004. The company currently has a number (3 or 4) of units that are currently de-activated, which have not yet been physically removed.

As the system optimization has not yet been completed, and given that the 3 or 4 units that are de-activated require removal, it is anticipated that the costs of retirement in the compression accounts will increase significantly in the next few years. However, it is not anticipated that these units will be removed until at least 2005. The company is currently experiencing costs of approximately \$1 to \$3 million to clean up the compression sites upon removal. This cost is in addition to the costs to de-activate or physically re-locate a unit.

#### Compression Design Changes

In the mid-1990's the company began to move towards a compression station design that allowed the compression units to be more portable, to accommodate the forecast (at that time) that the compression needs would be more geographically diverse and changing. These changes include increased ease of access to the compression units, utilization of metal buildings that could be dismantled and re-used, and instrumentation systems that now require less cabling. However, even with these changes, 3 to 6 months is still required to de-activate and remove a compression unit. This timing includes only the physical removal of the unit, and does not include any of the site remediation and clean up that may be required.

Over the long term, it is not anticipated that the compression units will be re-located at the same pace as has been the case over the last few years (including 2003). Due to declining long term forecast throughput, the long term system needs for compression units will diminish overall, resulting in more frequent removal of compression as compared to the re-location of the units.

### **Metering Facilities**

#### Retirement Programs

The company has not undertaken any specific retirement or rationalization program for metering facilities. However, the divesture program has resulted in some facilities being prematurely retired. All divested meter stations have been for stations that are considered as depletable.



Over the last few years, the inventory accounts have witnessed a larger than normal amount of transactions involving meter station facilities. This spike in inventory activity has been primarily caused by a dedicated effort at cleaning up the inventory warehouse facilities, which have built up a surplus of meter station related material and equipment due to the growth in the number of meter stations throughout the 1990's.

It is anticipated that the future metering needs will generally be flat over the short term and will decline over the long term. In the short term, gas decline in some areas of the province will be offset by the requirement for system access points. Over the longer term, the number of metering stations will diminish due to the forecast decline in gas supply. Overall long term declines in gas supply may cause some future consolidation in the sales and border metering stations. However, it is anticipated that the investment in sales and border facilities will continue to retire at the same pace as has been witnessed over the last few years.

#### Design Changes

Over the last few years, the design of meter stations has changed to now include some standard design features that make the metering stations more portable. These design changes include:

- Standard facilities are now skid mounted, rather than built on site
- Stations have moved from manual chart recording to digital recording
- Portable fencing is now used
- Facilities are now set on piles rather than on foundations.

TransCanada PipeLines Limited

Interview notes

Gail Stuart  
Kim Emons

Inventory Procedures  
September 04, 2003 – TransCanada Offices

Purpose of Interview

Transactions in and out of the inventory can have a large influence on the gross salvage proceeds that are analyzed in a depreciation study. In order to understand the transactions as recorded in the accounting ledgers, it is necessary to gain an understanding of the physical inventory movements, and of the company policies regarding the valuation of material moving in and out of the inventory complexes.

Background

Gail Stuart: Manager – Supply Chain Projects Group – since June 2003  
- Prior: Manager, Strategic Planning

Kim Emons - Inventory Analyst – since 1999

Physical Locations of the warehouses (Alberta Assets)

The main warehouse for use in the Alberta system is the Airdrie facility. In addition to the inventory, the Airdrie facility also houses the following functions:

- Airdrie Surplus
- Airdrie Construction Stores
- Airdrie Construction Surplus

In addition to the main Airdrie facility, each Compression Station has a small inventory of parts that may be required for emergency repair.

There is also a number of Pipe Yards located throughout the Province where surplus pipe from Construction Projects is stored.

The company also has a Spruce Grove Fabrication Shop where construction pre-fabrication work is performed. This facility also has a limited amount of inventory stored.

Generally all of the warehouses are managed as one warehouse.

### Purpose of inventory

The warehouse facilities have three main functions within the NGTL system. Firstly, the warehouse houses “Emergency Spares” which are capitalized and included in Gross Plant in Service with a location number specific to the warehouse. When the emergency spare is moved from the warehouse and physically installed in the field, an accounting “transfer” entry may be recorded. The plant item removed from service is “transferred” into the warehouse location, and if feasible refurbished. The refurbishment costs are accounted for in accordance with the company’s capitalization policies wherein most refurbishment is treated as an operating cost. The refurbished unit remains in Gross Plant in Service as the new emergency spare.

The second main function of the warehouses is for the staging of new construction material for capital projects. This function has no impact on the determination of the net salvage percentages or average service life determinations in the depreciation study.

The warehouse facilities also house retired material that has potential for future use. Retired material that may have a potential for re-use is returned to the warehouse. At this time a retirement entry is prepared and the used material is removed from Gross plant in service. Upon evaluation at the warehouse facility, if the material is considered to be re-useable, a salvage entry equal to the estimated net book value of the fabricated cost is credited to the accumulated depreciation account. It was noted that only a limited amount of material, other than compressors and meters, is retained for future use. As such, the historic re-use salvage entries associated with material other than compressors and meters should not need to be specifically adjusted in the depreciation study.

### Compressor Units

Compression units are occasionally “cycled” through a warehouse facility to accommodate system re-configurations and re-designs. Normally, when a compression unit is removed from service, its re-use potential is already determined. In circumstances where a compression unit is scheduled to be refurbished and returned to service in a different location, the re-furbishment, removal and reconnection costs are all charged to operating expense. No retirements or transfers are posted in the plant accounting system, as the removed unit is considered to replace the capitalized spare that was installed at the location the unit was removed from. The company has a small number of capitalized spares that are stored at the inventory locations that are used to replace other unit that require refurbishment. This re-deployment is caused by either the need to periodically re-condition a unit, or due to changing system needs.

In circumstances where a unit is removed from service and is not scheduled to be re-deployed within the NGTL system, the compressor unit is retired at the time it is removed from service. The costs of removal are debited to the accumulated depreciation account. The retired unit is stored at the warehouse facility pending attempts to sell the unit to third parties. The resale market for compression units has been unusually strong over the last few years due to unique international market forces. This strong international marketplace, combined with the fact that NGTL has had a larger than normal number of units for sale, due to the system-wide compression rationalization program, has resulted in a larger than normal amount of salvage

proceeds being realized over the last few years. All sale proceeds are credited to the accumulated depreciation account, and the costs associated with the sale (commission costs, etc.) are debited to the accumulated depreciation account as a cost of retirement.

#### Metering Units

Meters are tracked on a “location life” accounting basis. The meters are generally part of a complete metering skid. When the metering skid is removed from service it is generally re-furbished and re-tested in a warehouse facility. In this accounting procedure, meters that are returned to a warehouse facility for refurbishment and re-testing are retired. If it is deemed that the meter skid can be re-furbished, a salvage entry is booked to the accumulated depreciation account at the net book value of the original fabrication costs of the skid. The offsetting debit is to the inventory account. If during the re-testing and re-furbishment process, it is determined that the meter should not be re-deployed, a retirement transaction is prepared, and the equipment is disposed of.

#### New Construction surplus

All material purchased for capital projects is charged to the capital AFE. In circumstances where some surplus new material is purchased as part of a new capital project, but is ultimately not used in the capital project and returned to the warehouse, the material remains in the costs of the capital project. If the material can be disposed of, any sales proceeds are credited to the appropriate AFE. In circumstances where the material is taken into the inventory an accounting entry to credit the AFE and debit the inventory account is made. This is a rare circumstance and would normally only occur for small construction material (i.e. flange bolts, etc.).

#### Bone-yard type of assets

This “unofficial” inventory of scrap material and parts has been dramatically eliminated through a dedicated clean-up effort of this type of material over the last few years.

#### Other Inventory Issues

The company is in the process of a large scale clean up of the inventory facilities. This includes a policy review of the type of material that is maintained, the costing of the inventory and roles and locations of the physical inventory facilities. As a result of this review, a significant amount of material from the inventory facilities has been disposed of. As a result of this disposal of inventory, a significant amount of sales proceeds have been realized. In some cases (i.e. compression units), this disposal has resulted in an abnormal amount of salvage proceeds being credited to the accumulated depreciation accounts. However, a large amount of the surplus inventory disposal proceeds have not been credited to accumulated depreciation as a salvage entry had already been recorded at the time that material was taken into inventory. As a result much of the sale proceeds from the disposal of the surplus inventory was credited to offset the operating costs of the warehouses.

The company also has a small number of mobile compression units that are kept in strategic locations throughout the province. As it is considered that these mobile units are required in the normal course of the operations of the company, these mobile units are not

included in the inventory, but are rather capitalized as Gross Plant in Service. Therefore, when it is determined that these mobile units are no longer required, a normal retirement transaction entry will be prepared and any salvage proceeds realized will be credited to accumulated depreciation at that time.

TransCanada PipeLines Limited

Interview notes

Tim Gibson  
David Mercer  
Dean Scovell

Gas Control Center  
September 04, 2003 – TransCanada Offices

Purpose of Interview

The gas control center is critical to the Company's operations. As such, it comprises a significant portion of information systems assets. The control room (consoles and screens) was moved as part of the company consolidating its operations into one control center. A site visit through the control room and associated interviews with operating and IS personnel interviews are necessary to understand the recent upgrades to the physical facilities and to gain an understanding to the average service life indications.

Associated with the control room tour, Gannett Fleming wished to better understand the SCADA and associated control systems. The SCADA systems are not specifically identified as a plant account and an understanding of where the investment resides and the associated influences of the control system assets on the account in which it does reside is necessary.

Background of Mr. Gibson

- Manager, Gas Control
- 10 years in current role, and 23 years with TransCanada

Background of Mr. Scovell

- Leader – Information Systems Team accountable for the Gas Control Center
- 1.5 years in current position, and 6 years with TransCanada

Background of Mr. Mercer

- Manager, SCADA
- 2 months in current role
- 12 years with TransCanada

### History of Control Center Moves

With respect to the control of the Alberta System, there have been two significant historic moves that would have impacted the lives of the various equipment types. In 1992, the control system and operators were moved from Edmonton to Calgary. This move resulted in very little retirement of any of the furniture or equipment associated with the control system.

In 2001, the control center for the Alberta System, the Mainline system and British Columbia system were all consolidated into one control center. The move resulted in the purchase of new furniture including the consoles (included in the Office Furniture Account – Account 4831). The software systems associated with the gas control were not retired during either move.

### Control Center Software Applications

The gas control center relies on two main software systems. The first is the SCADA systems that were replaced in 1998 by the NGTL's system (DRAGON). Through the current SCADA system, the Controller has detailed information from each site that is updated every 30 seconds. Prior to the current SCADA system, the previous version was installed in the mid 1980s, but had significantly outlived its expected life at the time of replacement in 1998. Typically, SCADA systems would be expected to last 10 to 15 years. There was no positive salvage market for the equipment and software that were retired in the mid 1980s and in the most recent replacement of the SCADA system in 1998. Generally, there is a small cost of retirement associated with the labour to remove the old systems.

Secondly, the control room makes extensive use of non-SCADA systems that are comprised of the main corporate software packages currently based in Windows NT. Additionally, a number of specific Web Based applications are used, for example, to maintain information regarding producer information, call-out information and procedures.

### Upcoming retirement of Control Equipment

The company is currently in the process of retiring all radio control towers. The radio control system is being replaced with cell and satellite phone technology. Given that the radio towers were generally leased from phone and power companies, there is not a significant number of towers to be retired. The retirement of the towers will, however, result in some retirement of the NGTL owned equipment that was placed on the towers. This equipment consists of cabling, antennas and other periphery equipment associated with the radio control system.

Consistent with an overall corporate initiative, it is anticipated that Windows XP will replace the NT systems within the control room in the near future. The change to windows XP will also be accompanied by the replacement on the current Office 97 suite of products.

The company has no specific plans for the replacement of any other control room hardware or control software.

Integration of the control of the Alberta and Mainline systems

A common control room is used for the control of the Mainline, Alberta and BC systems. The control of the Alberta and BC system is segregated and independent from the control of the system east of Empress. When equipment is purchased, it is specifically purchased for use on either the Alberta system or on the mainline system. In this manner, the rate bases for both the Mainline and Alberta systems are segregated.



TransCanada PipeLines Limited

Interview notes

Tom Young

August 22, 2003 – via teleconference

Purpose of Interview

Based on an initial review of the net salvage transactions, it was noted that a significant spike in the recent amounts of gross salvage proceeds in the meter station and depletable pipe accounts. Preliminary discussions with the company indicated that TransCanada has developed a procedure where offers for purchase of facilities will be entertained in certain circumstances. The development of this program (“the Divestiture Program”) has resulted in some sales of facilities resulting in large gross sale proceeds. I asked to interview the party within the organization that would be responsible for this program to better understand the procedures and to determine the probability of the gross sales indications continuing into the future.

Background of Mr. Young

- Approximately 25 years with NGTL
- Responsible for the acquisition and divestiture activity
- Title is Customer Service Representative

Procedures used/followed when a divestiture opportunity arises

All divestiture opportunities to date have resulted from an expression of interest from 3<sup>rd</sup> parties. The initial contact to date has always been initiated by an interested 3<sup>rd</sup> party. The company has no current plans to become any more pro-active in initiating any sale discussions. The initial 3<sup>rd</sup> party contacts to NGTL are a result of EUB Guide 56 and the requirement of the applicant to solicit industry area involvement when applying to construct new facilities. Companies through dialogue with NGTL have initiated potential acquisitions of NGTL facilities in lieu of applying to the EUB to construct new facilities. Additionally, the interested parties are often seeking a solution to their specific pipelining requirements in a manner that is quicker and /or cheaper than through the construction of new facilities.

Once the initial 3<sup>rd</sup> party contact has been made, NGTL undertakes an initial review to internally determine the feasibility of divesting of the facility. This review looks at the current and future NGTL need for the facility. Once the facility passes the test of this first review, the 3<sup>rd</sup> party is asked to submit to NGTL a non-binding offer for the purchase of the facility. After receipt of the non-binding offer, NGTL establishes an internal review team to more extensively review the offer. The review team reviews the potential sale to determine:

- Can the facility be sold without compromising NGTL operations?
- Should the sale proceed through a public bid process or sold directly to the initiating party?
- What is the minimum price that NGTL would accept in the circumstances that the facility is offered for sale via a bid process? This minimum price considers a number of factors such as the future use of this and other

NGTL facilities; the impact the sale of the facility would have on the company revenues; the estimated future costs of retirement or removal of the facility; the condition of the facility; and the ability of the purchaser to own and operate the facilities. This minimum price is not dependent upon the estimated net book value at the time the offer is evaluated.

It was indicated that in most circumstances, the divestitures have incorporated an open and public bid process. Direct sales occurred in cases where the value of the facilities did not warrant the cost of the public bid process or the facilities were between NGTL's meter station and the upstream plant, thereby limiting the potential buyers. The bid process is advertised in Edmonton, Calgary, and local newspapers, and well as posted on NrG Express, FLC and TTP Web pages. The bid process also encompasses the establishment of a data room to be used by parties expressing an interest to the bid process.

In the circumstances where any of the bids exceed the previously determined minimum price, the facility is offered for sale to the winning bidder. In cases where the bid does not exceed the minimum price, NGTL will enter into negotiations with the highest bidder to determine if a mutually beneficial solution can be reached.

### **Types of facilities that have been divested**

The majority of facilities sold to date through the divestiture program have been receipt laterals and meter stations. NGTL would consider divestiture offers on any facility types. All offers on individual facilities continue to be subjected to the sale reviews as described above.

#### Accounting Procedures for Divested Facilities

Once it is determined to accept an offer for the divestiture of a facility, a Retirement Order is raised to capture all costs, proceeds, and property descriptions. The original costs are credited to Gross Plant in Service, and debited to the Accumulated Depreciation account. The sales proceeds are credited to the Accumulated Depreciation Account as Salvage proceeds, and the costs incurred in the evaluation of the initial offer, bid process and closing costs are debited to the Accumulated Depreciation account as costs of retirement.

The accounting treatments used by NGTL are consistent with the treatment accorded to normal retirement transactions. In this manner the retirement of the original costs have no impact on rate base. However, the net credit to the accumulated depreciation account for the gross salvage proceeds reduces the value of the associated accounts.

#### History of the Divestiture Program

The program has formally been in place since 1997. The level of facilities sold through the Divestiture Program has remained fairly constant since 1997. Tom Young will provide a summary of the annual divestiture activity since 1997 to Gannett Fleming.

The FLC, TTP and EUB are informed of all divestitures. The EUB provided NGTL with direction concerning divestitures in EUB Order U2001-196.

### Future of the Divestiture Program

The company has no plan, at this time, to modify the Divestiture Program. The program and associated procedures will continue to be used in circumstances where interested 3<sup>rd</sup> parties approach NGTL. While Tom Young indicated that many of the facilities that have been divested to date are considered attractive to interested parties, there is no reason to believe that the divestiture activity will slow or expand appreciably over the short term.

To date, all divestiture activity has been in areas where the gas supply is not completely exhausted. While the facilities sold have been either operating, discontinued or abandoned, sufficient gas supply existed in the area to make the facilities attractive to other parties. Additionally, in some circumstances, the facilities were sold for the purposes for conversion to the transportation of products other than processed natural gas, such as NGL (Natural Gas Liquids) products. However, the converted facilities were still dependent upon the overall supply of natural gas within the area. As such, as the natural gas supply in specific areas becomes exhausted, the sale potential of the NGTL facilities within the area will diminish, as compared to the current marketplace.

TransCanada PipeLines Limited

Interview notes

Jackie Ross  
Tammy Wiebe

Fleet Equipment  
September 05, 2003 – TransCanada Offices

Purpose of Interview

The average service life and net salvage characteristics of fleet vehicles and equipment is widely divergent and is mainly dependent upon company policy. This interview will assist in the determination of the depreciation parameters, and will also assist in evaluating the reasonableness of historic indications for estimating the appropriate parameters for the future.

Background of Ms. Ross

- Commercial Manager, Corporate Services
- Has been in current position July 2003
- Has been with TransCanada for 6 years

Background of Ms. Wiebe

- Fleet and Freight Coordinator
- Has been in current position since the beginning of 2003
- Has been with TransCanada for 11 years

General Information

One fleet management group oversees all of the fleet vehicles and equipment throughout the entire TransCanada system (Corporate Assets, NGTL, Mainline, and BC). As such, over time the consistent use of the policies should bring the depreciation parameters for this equipment over all the systems into convergence.

Vehicles are generally replaced when their mileage reaches 150,000 kilometers. The age at which the vehicles reach the 150K threshold varies significantly depending upon the specific use and assignment of the vehicle. One supplier, through one large annual purchase, supplies all fleet vehicles. All retired equipment is sold through a public auction. The release of the vehicles to the auction is controlled and coordinated with the auction house in an effort to achieve the maximum sale value.

The current replacement policy for passenger vehicles is replacement of these vehicles with a Chevrolet Malibu or equivalent. The current purchase price of these vehicles is averaging \$30,000 to \$35,000. The company expects to achieve a sale value of approximately \$9,500 through the public sale of the retired automobiles.

The company is moving away from any new purchases of Cargo Vans, preferring instead to replace the cargo vans with either a truck or SUV. As such, most of the cargo vans in the company fleet are in excess of 5 years old. The company expects to sell the cargo vans for approximately 25% to 30% of their original cost through public auction.

The current replacement policy for vans is replacement of these vehicles with a Chevrolet Venture or equivalent. The current purchase price of these vehicles is averaging approximately \$30,000 to \$35,000. The company expects to achieve a sale value of approximately \$9,500 through the public sale of the retired vans.

The current replacement policy for SUV's is replacement of these vehicles with a Chevrolet Trail Blazer or equivalent. The current purchase price of these vehicles is averaging approximately \$37,000 to \$40,000. The company expects to sell the SUV's for approximately 25% to 30% of their original cost through public auction

The majority of fleet vehicles are  $\frac{1}{2}$  and  $\frac{3}{4}$  ton trucks. The current replacement policy for these trucks is replacement of these vehicles with a Chevrolet Silverado. The current purchase price of these vehicles is averaging approximately \$37,000 to \$40,000. Depending on the assignment of these vehicles, the age and condition at the time of replacement are widely divergent. However, as the trucks are replaced, the company expects that a public sale of these vehicles at retirement will achieve sales proceeds of approximately \$9,500.

TransCanada PipeLines Limited

Interview notes

David Eremita  
Mark Yeomans  
Robert McKinnon

Engineering Interviews  
September 04, 2003 – TransCanada Offices

Purpose of Interview

In order to understand the physical characteristics of the company's assets, an understanding of the company specific Engineering practices and policies is required. An understanding of the various technologies of various categories of pipeline assets, and how the technology has changed can have a significant influence in the selection of the average service lives and retirement characteristics. Additionally, an understanding of the company specific engineering practices, also leads to a better ability to compare the results of the life analysis of this company to the published study results of other companies.

The development of average service life estimates not only requires a review of the historic retirement patterns, but also requires the determination of the likelihood that the future retirement patterns will be similar to those witnessed in the past. This determination can only be made through the discussion of both past and future retirement influences with the appropriate engineering staff of the company.

Any programs for de-commissioning of facility removal and site clean up are the responsibility of the Engineering departments. Review of current and recent de-commissioning programs is required in the determination of the appropriate net salvage percentages. Additionally, an understanding and review of the environmental requirements for site restoration with the appropriate Engineering staff is required.

Background of Mr. Yeomans

- Is currently the Manager, Pipe Integrity
- Has been with TransCanada for 9 years; all in Engineering
- Has been in current position for 1 month

Background of Mr. McKinnon

- Is currently a Project Manager, Pipe Integrity and Projects Team
- Is responsible for Measurement Engineering; and Pipeline de-commissioning programs
- Has been with TransCanada for 15 years
- Has been in current position for 4 years.

### Background of Mr. Eremita

- Is a member of the Environment Group that is responsible for Pipeline and Meter Station de-commissioning
- Has been with TransCanada for 3 years; all in this current position

### **Meter Stations**

Historically, the design of the meter stations has had only one significant change. As a result of a 1994 Measurement Modernization Program, meter stations installed since 1994 now usually incorporate a skid-mounted design, include the installation of above ground drip tanks, and portable site fencing. Additionally the facilities are now installed on piles, now include remotely operated flow computers, no longer contain any asbestos, and the company now stockpiles top soil on site. It is estimated that this new design has been incorporated into approximately 35%-40% of the current meter stations.

Due to the revised station configuration, the facilities installed since the Measurement Moderation Program are slightly less costly to remove than the stations installed prior to 1994. In all cases, the process to remove a meter station from service involves the following:

- Confirmation that the facility cannot be divested through the Divesture Program
- Design of a de-commissioning plan that will be sufficient to achieve all requirements for certification required under the applicable Environmental Protection Program (EPP) and provincial legislation. This would include the removal of all mercury contaminants, PCB's, and site remediation to approximately 80% of the original state of intended use.
- Seek budget authorization to proceed with the proposed de-commission plan.
- Physically de-commission facilities and clean up the site according to the de-commissioning plan.

Generally, the sites installed since the mid 1980's are cleaner and less costly to retire than the sites installed in the period prior to the mid 1980's. It is the experience of the staff interviewed that sites installed prior to the mid 1980's typically cost approximately \$70,000 to remove. It is generally considered that these older facilities have less re-use potential and as such seldom achieve significant gross salvage. The facilities installed since the mid 1980's typically are less costly to remove and are more often re-useable, which results in the recognition of gross salvage proceeds. The net cost of removal on the newer stations is typically in the range of \$35,000 to \$40,000.

The company provided two typical scenarios for the removal and reuse of meter stations. Typically, meter stations originally installed since 1994 are targeted for any one of the following two re-use treatments:

1. Meter Station is immediately re-located to a new site. The following plant accounting entries are associated with the re-location
  - Original book costs of the fabricated skid mounted assets, portable fencing, and other assets that can be relocated are transferred via a plant transfer in the plant accounting system from the old location to the new location

- The original cost of the facilities that cannot be transferred such as foundations, piles, electrical, etc. are retired in the plant accounting system.
  - The costs for the original site reclamation in order to comply with the EPP standards and provincial legislation are debited to accumulated depreciation.
  - The costs associated with any piping by-pass resulting from the removal of the metering facilities are debited to the accumulated depreciation account.
  - The costs of the installation of the meter facilities at the new location, including foundations, electrical, pilings, and system piping are capitalized in a new capital project.
2. Meter Station is potentially re-useable in the future. However, a new use of the material is not identified at the time of removal. The following plant accounting entries are associated with the removal.
- All original costs associated with the asset and site is booked as a retirement.
  - The skid mounted, pre-fabricated portion of the meter station is physically transferred to a warehouse facility. A gross salvage entry equal to the net book value of the original fabricated assets is credited to accumulated depreciation with an offsetting entry to the inventory account.
  - All costs of refurbishment of the metering assets are charged to the inventory account.
  - When the asset is re-used, the inventory accounted is credited for the moving average cost of the assets in inventory (which has been impacted by the original salvage entry and the costs of refurbishment), with an offsetting entry to a new capital project.

### **Pipeline Assets**

The current NGTL pipeline assets are comprised of three eras of pipe wrapping and coating. The pipe installed prior to the early 1970's contained an asphalt coating that has generally held up well, and tends to break down over time in a manner that is friendly with cathodic protection. Pipe installed from the early 1970's to the late 1970's was coated with wrapping tapes that have not proven to be as effective, in particular the wrapping tapes were not effective on pipe greater than 16". Furthermore, this pipe wrapping technology is not friendly with cathodic protection technologies. Since the early 1980's, fusion bond epoxy (pipe diameters > NPS 16) and extruded polyethylene (pipe diameters < NPS 20) have been used. Both of these coating systems are still used today and are considered to provide effective corrosion protection when combined with an effective cathodic protection system.

NGTL has an on-going program associated with the inspection of the transmission lines. The program consists of periodic internal pigging, testing through targeted site digs, and an aggressive cathodic protection program. Internal pigging is undertaken based on a risk assessment that includes a review of the risk factors which include:

- Corrosion identified through other means
- Identification of stress corrosion cracking
- Geo-technical hazards
- Minimum level of acceptable risk



- Review of the consequences of not pigging

The NGTL pipeline facilities face a diversity of geo-graphic conditions. The pipe installed in the northern areas of the province face much harsher conditions than do the pipeline facilities installed in the southern areas of the province. Each year NGTL performs a risk assessment of each pipeline and identifies maintenance programs that effectively mitigate the prevailing risk factors (i.e. cathodic protection, pigging, etc.).

The company generally has two options when dealing with retired pipe. Retired pipelines can either be retired in place or can be physically dug up and removed from the right of way. The decision with regard as to which of the two options to follow, is generally based on a full review of the life cycle costs associated with each option. Additionally, all regulatory and environmental regulation are reviewed and followed in circumstances. To date, most retired pipe has been abandoned in place.

In the circumstance where pipelines are abandoned in place the follows steps are undertaken:

- The line is purged and pigged
- Line is filled with an inert gas
- All road and rail crossings are filled with concrete

Cathodic protection is not maintained on the pipelines once they have been abandoned in place. However, new draft regulations indicate that future pipeline abandonment may require the continual and on-going cathodic protection of the abandoned lines.

TransCanada PipeLines Limited

Interview notes

Paul Glatz  
Jim Shultz

Information System (IS) Assets  
September 05, 2003 – TransCanada Offices

Purpose of Interview

The IS assets now comprise 47% of the general plant investment as at December 31, 2002. Given the short life nature of these assets, small changes in the amortization period can result in large changes in amortization expense. An understanding of the types of I/S assets owned by the company, and the company policy regarding the replacement of these assets is vital to the selection of the amortization period.

Background of Mr. Glatz

- Manager, IS Governance and Support
- Recently appointed to current position
- Has 6 years of experience with TransCanada

Background of Mr. Shultz

- Manager, Information Systems Business Planning and Services
- Has been in current position for 3 years
- Has 14 years of experience with TransCanada

General Information

One Information Systems group oversees all of the Information System technology throughout the entire TransCanada system (Corporate Assets, NGTL, Mainline, and BC) with the exception of Measurement (SCADA) technology. As such, over time the consistent use of the policies should bring the depreciation parameters for this equipment over all the systems into convergence.

In order to maintain appropriate rate bases for each of the business segments, all I/S purchases are split between the Alberta and Mainline systems. All equipment is allocated between business units, with the large equipment being allocated on unit-by-unit bases.

Over the last few years a couple of significant changes have occurred. Firstly, the last of TransCanada's mainframe computer systems were retired in 2002. Additionally, the printing technology is now moving towards multi-use units that include photo-coping and faxing capabilities.

### Application Software

Application Software includes both the purchase of “canned packages” and the in-house development of specific software application. Investment in Application Software comprises 64% of the Company’s investment in IS assets.

The investment in “canned” packages includes the following systems:

- CODA OCS – General Accounting
- PowerPlant Plant Accounting systems
- Prism – Project Management
- SAP-HR – Human Resources Management
- Avantis – Inventory and Plant Maintenance

Application software that has been developed in-house includes:

- Customer System – NrG Dovetail
- LAND – Land Management System
- Various Pipeline Integrity Modeling tools

### **Servers**

TransCanada currently has two types of Server technology. The company currently has approximately 120 mid-to-large servers that are used to host large software applications and databases, and approximately 160 “file servers” used for file sharing and running small applications. The investments in Servers (both large and PC) comprise 23% of the company investment in I/S assets, and are typically replaced within a 5 year period.

### Personal Computers

The Company currently has approximately 3,200 personal computers. The investment in PC’s comprises approximately 13% of the company investment in IS assets. The PC’s are typically replaced based on a 3 year life cycle program, with only very few units not being retired within a 5 year period. Currently the company has a standard PC configuration that costs approximately \$1,500 per unit.

The company plans to change all PC’s from the Windows NT platform to a Windows XP platform beginning in 2003. As part of this change TransCanada plans to launch the Windows 2002 Office suite (including conversion to Windows Outlook) of software products as the corporate standard.

TransCanada PipeLines Limited

Interview notes

Doug Harvey  
Craig Rautenberg

Compression Assets  
September 05, 2003 – TransCanada Offices

Purpose of Interview

The NGTL compression assets comprise a significant portion of the company's assets. As such, an understanding of company policies regarding the maintenance practices and policies with regard to compression facilities is required. Additionally, Gannett Fleming requires a better understanding of the ability of the compression units to be moved, and the amount and types of assets that are retired when a Compression unit is moved.

Over the last few years the company has undertaken a "Compression Rationalization Program". Initial review of the company historic data has provided an indication of increased retirement activity and salvage proceeds. Gannett Fleming wishes to gain an increased understanding of the physical operations and company practices and procedures in order to determine the reasonableness of the statistical data. As such Gannett Fleming has requested Engineering, Planning and operating staff interviews in addition to site visits of typical compression equipment.

Background of Mr. Harvey

- Manager, Plant Integrity
- Has been in current role for two (2) years
- 13 years with TransCanada

Background of Mr. Rautenberg

- Program Manager, Plant Integrity
- Has been in current role for four (4) years
- 23 years with TransCanada

Technological evolution of NGTL compression

- The NGTL compression units are comprised of 4 generations of technology as follows:
- Units installed prior to the mid 1960's were reciprocating units

- Units installed between the mid 1960's through the late 1980's were early generation gas turbines
- Units installed from the late 1980's through to the mid 1990's were high efficiency gas turbines
- Units installed since the mid-1990's are high efficiency low emission gas turbines

Of the units currently in service, approximately 62% of the TransCanada system is of high efficiency gas turbines. A number of the early generation reciprocating units are still in service, as the company still views these units as being more economic to maintain than to replace and are required to meet service requirements. All of the units in service are maintained and supported in order to ensure their reliability, and should not be considered as obsolete.

#### Extent to which the recent Compression Rationalization Program has impacted the Alberta Assets

The Alberta Compression assets were reviewed as part of the overall company Compression Rationalization program. In addition the compression needs are continually reviewed in order to assure that the compression assets are deployed in a manner that cost effective to the shippers. The Plant Integrity department provides the maintaince and costing information to be used in the determination of the lowest cost alternatives with regard to compression in order to meet the service requirements.

#### Historic Retirement Experience

To date, the company has not undertaken any specific technology displacement programs for compression equipment. However, the company does review the system wide compression requirements to determine if the assets are required for service.

The company considers that the historic experience of compression retirement will be an indicator of the future compression retirement patterns. However, changes in regulation regarding acceptable noise and emission requirements, changing regional market conditions, and other regulatory issues could cause the pace of retirement activity to accelerate in the future.

#### Costs of retirement

In the circumstances where a site is retired, the retirement costs are significant. In this circumstance, the entire site must be cleaned-up to the legislative standards of the day. A number of environmental issues require investigation prior to the development of a site-specific remediation plan. Generally these issues include the review of any soil contamination from oil leaks, a review of the foundations that require removal, building dismantlement and removal, and site fencing removal. All regulatory and environmental regulations are reviewed to ensure that the site is cleaned-up to current standards. It is anticipated that these standards will likely continue to escalate and cause increased costs of retirement in the future.

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ATCO-NGTL-013(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 7 of 23, Lines 8-15

**Preamble:**

Section 6.0, Appendix A, Pages 15 to 17, provides physical and functional definitions of facilities. ATCO Pipelines wishes to understand the existing compression facilities on NGTL's system.

**Request:**

Does NGTL have any compression facilities located on pipelines that are physically defined as laterals? If so, please provide the names, locations and related depreciation expense for each compression facility.

**Response:**

For the purpose of calculating depreciation rates all compression facilities are considered depreciable and the depreciation rate is calculated for the entire account and is not calculated on an individual facility basis. In the Cost of Service Study, all compression is allocated to all pipes based on power requirement so no individual compressor stations are associated with either mainline or lateral pipes for any definition of mainline and lateral.

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ATCO-NGTL-013(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 7 of 23, Lines 8-15

**Preamble:**

Section 6.0, Appendix A, Pages 15 to 17, provides physical and functional definitions of facilities. ATCO Pipelines wishes to understand the existing compression facilities on NGTL's system.

**Request:**

Does NGTL have any compression facilities located on pipelines that are functionally defined as laterals? If so, please provide the names, locations and related depreciation expense for each compression facility.

**Response:**

Please refer to the response to ATCO-NGTL-013(a).

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ATCO-NGTL-014(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

Please provide a copy of NGTL's Accounting Policy as it relates to timing of receipt and delivery station retirements.

**Response:**

Receipt and delivery stations are retired for accounting purposes in the month an out-of-service notification is received.



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ATCO-NGTL-014(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

Are delivery meter stations that experience a period of no flow removed from rate base and transferred to "Plant Held for Future Use"? If not, how are they reflected in this application?

**Response:**

No. The station remains in "Gas Plant in Service" until an out-of-service notification is received.

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ATCO-NGTL-014(c)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

How long does NGTL wait before retiring a delivery station that experiences no flow?

**Response:**

NGTL's Tariff, Rate Schedule FCS, Article 6.0 states a period of six months of no flow must expire before NGTL can consider retirement of facilities prior to the termination of the contract. NGTL will also accept service allocation corrections for up to thirteen months and the station must be in-service in order to facilitate such correction.

As such, NGTL will generally initiate its review of such retirement consideration after at least six months of no flow with the target retirement date at a minimum a further seven months out. However NGTL will suspend meter stations as soon as possible under no flow situations to reduce annual operating and maintenance expenses. Given consideration to shipper consultation and NGTL's work plan, a typical retirement will be scheduled to be initiated within the second year of no flow. Upon retirement of the facility, an out-of-service notification is issued internally and to the EUB.

As an alternative to NGTL terminating the FCS contract and retiring facilities with no flow, intra-Alberta delivery customers have the option of providing a "Net Book Value Buyout" payment equal to the remaining net book value of the facilities associated with the delivery metering service. Generally this option is elected where the customer requires a stand-by 'alternative' or 'emergency' source of supply.

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**ATCO-NGTL-014(c)**

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In such Net Book Value Buyout situations, the asset is retired for accounting purposes and the payment is booked as salvage to accumulated depreciation. This effectively makes the net book value of the asset in rate base equal to zero. Customers who provide such Net Book Value Buyout payments continue to be accountable on an annual basis for the respective operating expenses (e.g. maintenance, municipal taxes, etc.) via the Minimum Annual Volume associated with the FCS contract.

Under any circumstance, the Minimum Annual Volume associated with the FCS contract accounts for the annual cost of service of the facilities. If there is no flow, such FCS customer would receive an FCS Charge directly for the full amount of the annual cost of service.

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ATCO-NGTL-014(d)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

Are receipt meter stations that experience a period of no flow removed from rate base and transferred to "Plant Held for Future Use"? If not, how are they reflected in this application?

**Response:**

No. The station remains in "Gas Plant in Service" until an out-of-service notification is received.

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ATCO-NGTL-014(e)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

How long does NGTL wait before retiring a receipt station that experiences no flow?

**Response:**

NGTL will accept service allocation corrections for up to thirteen months and the station must be in-service in order to facilitate such correction. As such, NGTL will generally initiate the review of such retirement within a year of no flow. However NGTL will suspend meter stations as soon as possible under no flow situations to reduce annual operating and maintenance expenses. Given consideration to customer consultation and NGTL's work plan, a typical retirement will be scheduled to be initiated within the second year of no flow. Upon retirement of the facility an out-of-service notification is issued both internally and to the Board.

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ATCO-NGTL-014(f)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

For the period of 2001, 2002 and 2003 (up to October 31), respectively, how many instances has a customer requested NGTL to remove a delivery meter station?

**Response:**

NGTL does not retire an intra-Alberta delivery meter station without customer consultation. The consideration of a retirement of an intra-Alberta delivery meter station is typically initiated by NGTL pursuant to article 6.0 of Rate Schedule FCS. Please refer to the response to ATCO-NGTL-014(c).

NGTL, in consultation with the associated intra-Alberta delivery meter station customer, retired the following number of delivery meter stations in the respective years:

2001 – 5;  
2002 – 2; and  
2003 (to October 31) – 5.

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ATCO-NGTL-014(g) and (h)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

- (g) For the period of 2001, 2002 and 2003 (up to October 31), respectively, please list receipt meter stations (by name and meter number) that experienced a period of no flow, are not in "Plant Held For Future Use", but are not retired because new gas development is foreseen in the short-term.
- (h) Please describe what NGTL views as short-term with respect to request (g) above.

**Response:**

- (g) There is none.
- (h) Please refer to the response to ATCO-NGTL-014(e) with respect to receipt meter station retirement timeline.

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ATCO-NGTL-014(i)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

Please provide the depreciation and retirement data related to all metering and regulating facilities installed to delivery gas to Joffre area markets.

**Response:**

The requested data cannot be provided. Being delivery points, the Joffre meter stations are classified as depreciable assets in the depreciation study. The life analysis and the calculation of depreciation rates for depreciable assets require the data at the utility account level only. It is not possible to identify and extract specific meter station records from that data.

Please refer to Attachment ATCO-NGTL-030 for a list of the delivery stations and their estimated original book cost.



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ATCO-NGTL-014(j)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 8 of 23, Lines 16-25

**Preamble:**

ATCO Pipelines wishes to understand NGTL's retirement policy with respect to receipt and delivery stations.

**Request:**

If a line heater is installed by NGTL, who is responsible for the fuel gas?

**Response:**

It is not apparent how this request relates to retirement policy and the depreciation study. The answer, nonetheless, is that the customer is responsible for the fuel gas.

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ATCO-NGTL-015(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Table 4.3-1

**Preamble:**

Section 6.0, Appendix A, Pages 15 to 17 provides physical and functional definitions of facilities. ATCO Pipelines wishes to understand existing infrastructure designated for unit of production depreciation.

**Request:**

For each pipeline that is physically defined as a lateral, please provide a list indicating whether or not the pipeline has a delivery meter station(s) and if so, please identify the station(s).

**Response:**

Please refer to Attachment ATCO-NGTL-015(a).













































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ATCO-NGTL-015(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Table 4.3-1

**Preamble:**

Section 6.0, Appendix A, Pages 15 to 17 provides physical and functional definitions of facilities. ATCO Pipelines wishes to understand existing infrastructure designated for unit of production depreciation.

**Request:**

For each pipeline that is functionally defined as a lateral, please provide a list indicating whether or not the pipeline has a delivery meter station(s), and if so, please identify the station(s).

**Response:**

Please refer to Attachment ATCO-NGTL-015(b).

































































































| Unit Number | Unit Name                 | GRANDE CENTRE S | WOOD RVR SALES | WESTLOCK SALES | ST. PAUL SALES | FERINTOSH SALES | HARMATTAN SALES | REDWATER 'B' SL | SHEERNESS SALES | PINCHER CRK SLS |
|-------------|---------------------------|-----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 6982        | LLOYD CREEK SALES         |                 |                |                |                |                 |                 |                 |                 |                 |
| 7361        | COUSINS A SALES           |                 |                |                |                |                 |                 |                 |                 |                 |
| 7362        | COUSINS B SALES           |                 |                |                |                |                 |                 |                 |                 |                 |
| 7461        | ELK RIVER SOUTH SALES     |                 |                |                |                |                 |                 |                 |                 |                 |
| 7906        | COLEMAN SALES             |                 |                |                |                |                 |                 |                 |                 |                 |
| 7965        | ATUIS CREEK SALES         |                 |                |                |                |                 |                 |                 |                 |                 |
| 8150        | SIMONETTE SALES           |                 |                |                |                |                 |                 |                 |                 |                 |
| 8152        | DEEP VALLEY CREEK SALES   |                 |                |                |                |                 |                 |                 |                 |                 |
| 8999        | LAC LA BICHE SALES LAT    |                 |                |                |                |                 |                 |                 |                 |                 |
| 9161        | LOUISE CREEK SALES        |                 |                |                |                |                 |                 |                 |                 |                 |
| 9320        | HAYNES SALES              |                 |                |                |                |                 |                 |                 |                 |                 |
| 9776        | REDWATER SALES            |                 |                |                |                |                 |                 |                 |                 |                 |
| 9778        | REDWATER B SALES LAT      |                 |                |                |                |                 |                 | √               |                 |                 |
| 10661       | GREENCOURT WEST SALES LAT |                 |                |                |                |                 |                 |                 |                 |                 |
| 11097       | RAINBOW SALES LATERAL     |                 |                |                |                |                 |                 |                 |                 |                 |
| 11155       | CHIGWELL NORTH SALES      |                 |                |                |                |                 |                 |                 |                 |                 |
| 11301       | VIRGINIA HILLS SALES      |                 |                |                |                |                 |                 |                 |                 |                 |
| 12285       | CROW LAKE SALES LATERAL   |                 |                |                |                |                 |                 |                 |                 |                 |
| 12376       | LEMING LAKE SLS LATERAL   |                 |                |                |                |                 |                 |                 |                 |                 |
| 12379       | LOSEMAN LAKE SALES LAT    |                 |                |                |                |                 |                 |                 |                 |                 |
| 12624       | HANNA SOUTH B SALES       |                 |                |                |                |                 |                 |                 |                 |                 |
| 12629       | LOSEMAN LAKE SALES #2     |                 |                |                |                |                 |                 |                 |                 |                 |
| 12981       | FIRE CREEK SALES LATERAL  |                 |                |                |                |                 |                 |                 |                 |                 |
| 13001       | OTAUWAU SALES             |                 |                |                |                |                 |                 |                 |                 |                 |
| 13028       | CHEECHAM WEST SALES       |                 |                |                |                |                 |                 |                 |                 |                 |
| 13090       | FERINTOSH NORTH SALES     |                 |                |                |                |                 |                 |                 |                 |                 |
| 13137       | EVERGREEN SALES           |                 |                |                |                |                 |                 |                 |                 |                 |
| 13181       | FERINTOSH SALES LATERAL   |                 |                |                |                | √               |                 |                 |                 |                 |
| 13206       | GODS LAKE SALES           |                 |                |                |                |                 |                 |                 |                 |                 |
| 13283       | LUNDBRECK-COWLEY SALES    |                 |                |                |                |                 |                 |                 |                 |                 |
| 13302       | BLEAK LAKE SALES LAT      |                 |                |                |                |                 |                 |                 |                 |                 |
| 13358       | THORHILD SALES LATERAL    |                 |                |                |                |                 |                 |                 |                 |                 |
| 13580       | INLAND SALES LATERAL      |                 |                |                |                |                 |                 |                 |                 |                 |
| 13949       | MINNOW LAKE SOUTH         |                 |                |                |                |                 |                 |                 |                 |                 |
| 14008       | WESTLOCK SALES LATERAL    |                 |                | √              |                |                 |                 |                 |                 |                 |















































































| Unit Number | Unit Name                 | CROW LAKE SALES | UNITY BORDER | COLD LAKE BDR | EMPRESS BORDER | MERIDIAN LK BDR | ABC SALES #1 | ALBERTA-MONTANA | ABC SALES #2 | GORDONDA LE BDR |
|-------------|---------------------------|-----------------|--------------|---------------|----------------|-----------------|--------------|-----------------|--------------|-----------------|
| 14011       | GOLD CREEK SALES          |                 |              |               |                |                 |              |                 |              |                 |
| 14093       | CARROT CREEK SALES        |                 |              |               |                |                 |              |                 |              |                 |
| 14105       | VIKING SALES              |                 |              |               |                |                 |              |                 |              |                 |
| 14120       | COUSINS C                 |                 |              |               |                |                 |              |                 |              |                 |
| 14331       | MOOSEHORN RIVER SALES     |                 |              |               |                |                 |              |                 |              |                 |
| 14410       | BRAZEAU NORTH SALES       |                 |              |               |                |                 |              |                 |              |                 |
| 14429       | SARATOGA SALES            |                 |              |               |                |                 |              |                 |              |                 |
| 14474       | PEMBINA SALES             |                 |              |               |                |                 |              |                 |              |                 |
| 17080       | DEADRICK CREEK            |                 |              |               |                |                 |              |                 |              |                 |
| 17572       | MILDRED LAKE SALES LAT    |                 |              |               |                |                 |              |                 |              |                 |
| 17575       | JOFFRE SALES #3           |                 |              |               |                |                 |              |                 |              |                 |
| 17580       | DEEP VALLEY CRK STH SALES |                 |              |               |                |                 |              |                 |              |                 |
| 17604       | ECB10-M-1MV0-EC           |                 |              |               |                |                 |              |                 |              |                 |
| 4756        | HARMATTAN-LEDUC SALES     |                 |              |               |                |                 |              |                 |              |                 |
| 7176        | BITTERN LAKE SALES        |                 |              |               |                |                 |              |                 |              |                 |
| 7886        | WESTERDALE SALES          |                 |              |               |                |                 |              |                 |              |                 |
| 9595        | GAS CITY SALES            |                 |              |               |                |                 |              |                 |              |                 |
| 10186       | NORTH PENHOLD SALES       |                 |              |               |                |                 |              |                 |              |                 |
| 11350       | RICINUS S. SALES LATERAL  |                 |              |               |                |                 |              |                 |              |                 |
| 12997       | MITTIE SALES              |                 |              |               |                |                 |              |                 |              |                 |
| 13472       | TWINLAKES CREEK SALES     |                 |              |               |                |                 |              |                 |              |                 |
| 7095        | WIMBORNE SALES LATERAL    |                 |              |               |                |                 |              |                 |              |                 |
| 13075       | HARMATTAN SALES           |                 |              |               |                |                 |              |                 |              |                 |
| 17700       | ALTA MONTANA              |                 |              |               |                |                 |              | √               |              |                 |
| 17704       | SILVER VALLEY SALES       |                 |              |               |                |                 |              |                 |              |                 |
| 17697       | DUTCH CREEK SALES         |                 |              |               |                |                 |              |                 |              |                 |
| 41898       | CRANBERRY SALES DELIVERY  |                 |              |               |                |                 |              |                 |              |                 |
| 41803       | SUNDAY CK STH SALES LAT   |                 |              |               |                |                 |              |                 |              |                 |
| 17770       | CAVALIER SALES            |                 |              |               |                |                 |              |                 |              |                 |
| 41825       | HUGGARD CK SALES LATERAL  |                 |              |               |                |                 |              |                 |              |                 |
| 41780       | EAST CALGARY SALES        |                 |              |               |                |                 |              |                 |              |                 |
| 47960       | CANOE LAKE SALES          |                 |              |               |                |                 |              |                 |              |                 |
| 47997       | CHIPEWYAN RVR SALES LAT   |                 |              |               |                |                 |              |                 |              |                 |
| 49419       | UNITY LATERAL             |                 | √            |               |                |                 |              |                 |              |                 |
| 49424       | SADDLE LAKE LATERAL       |                 |              | √             |                |                 |              |                 |              |                 |







| Unit Number | Unit Name                 | EMPRESS SYST.7 | BOUNDARY LK BDR | ESTHER BORDER | MCNEILL A BORDR | MCNEILL A UTIL | MERIDIAN LK DLV |
|-------------|---------------------------|----------------|-----------------|---------------|-----------------|----------------|-----------------|
| 10489       | CARIBOU LAKE SALES        |                |                 |               |                 |                |                 |
| 10921       | VALVE BLB10-M-IMV0-WRSY   |                | √               |               |                 |                |                 |
| 10947       | MARSH HEAD CREEK W. SALES |                |                 |               |                 |                |                 |
| 10991       | MERIDIAN LAKE BORDER      |                |                 |               |                 |                | √               |
| 11237       | HEART RIVER SLS LATERAL   |                |                 |               |                 |                |                 |
| 11246       | MINNOW LAKE S. SALES      |                |                 |               |                 |                |                 |
| 11258       | OUTLET CREEK SALES        |                |                 |               |                 |                |                 |
| 11270       | BEAVER HILLS SALES        |                |                 |               |                 |                |                 |
| 11420       | SOSA CREEK E. SALES       |                |                 |               |                 |                |                 |
| 11762       | CRAMMOND SALES            |                |                 |               |                 |                |                 |
| 11763       | SHORNCLIFFE CRK SLS LAT   |                |                 |               |                 |                |                 |
| 11830       | ROSS CREEK SALES          |                |                 |               |                 |                |                 |
| 12027       | AMOCO SALES TAP (P-459)   |                |                 |               |                 |                |                 |
| 12045       | NOEL LAKE SALES           |                |                 |               |                 |                |                 |
| 12102       | SARRAIL SALES LATERAL     |                |                 |               |                 |                |                 |
| 12198       | NOSEHILL CRK SLS LATERAL  |                |                 |               |                 |                |                 |
| 12469       | FALHER SALES              |                |                 |               |                 |                |                 |
| 12768       | PADDY CREEK SALES         |                |                 |               |                 |                |                 |
| 13021       | BLUE RIDGE EAST SALES     |                |                 |               |                 |                |                 |
| 13078       | LONE PINE CREEK SALES     |                |                 |               |                 |                |                 |
| 13359       | LONDON LAKE SALES         |                |                 |               |                 |                |                 |
| 13362       | ELK POINT SALES           |                |                 |               |                 |                |                 |
| 13451       | GRANDE CENTRE SALES       |                |                 |               |                 |                |                 |
| 13481       | VALHALLA SALES LAT        |                |                 |               |                 |                |                 |
| 13491       | WILSON CREEK S. SALES     |                |                 |               |                 |                |                 |
| 13528       | CHICKADEE CREEK SALES     |                |                 |               |                 |                |                 |
| 13925       | USONA SALES               |                |                 |               |                 |                |                 |
| 13992       | CAROLINE SALES            |                |                 |               |                 |                |                 |
| 14099       | GRIZZLY SALES             |                |                 |               |                 |                |                 |
| 14572       | WEMBLEY SALES             |                |                 |               |                 |                |                 |
| 5022        | EMPRESS 3 SYST 7          | √              |                 |               |                 |                |                 |
| 5023        | EMPRESS 1 SYST 7          | √              |                 |               |                 |                |                 |
| 5164        | COLEMAN SALES XOVER       |                |                 |               |                 |                |                 |
| 5681        | RAINBOW LAKE SALES LAT    |                |                 |               |                 |                |                 |
| 5808        | VALVE GRDB10-M-MU         |                |                 |               |                 |                |                 |

| Unit Number | Unit Name                 | EMPRESS SYST.7 | BOUNDARY LK BDR | ESTHER BORDER | MCNEILL A BORDR | MCNEILL A UTIL | MERIDIAN LK DLV |
|-------------|---------------------------|----------------|-----------------|---------------|-----------------|----------------|-----------------|
| 6982        | LLOYD CREEK SALES         |                |                 |               |                 |                |                 |
| 7361        | COUSINS A SALES           |                |                 |               |                 |                |                 |
| 7362        | COUSINS B SALES           |                |                 |               |                 |                |                 |
| 7461        | ELK RIVER SOUTH SALES     |                |                 |               |                 |                |                 |
| 7906        | COLEMAN SALES             |                |                 |               |                 |                |                 |
| 7965        | ATUIS CREEK SALES         |                |                 |               |                 |                |                 |
| 8150        | SIMONETTE SALES           |                |                 |               |                 |                |                 |
| 8152        | DEEP VALLEY CREEK SALES   |                |                 |               |                 |                |                 |
| 8999        | LAC LA BICHE SALES LAT    |                |                 |               |                 |                |                 |
| 9161        | LOUISE CREEK SALES        |                |                 |               |                 |                |                 |
| 9320        | HAYNES SALES              |                |                 |               |                 |                |                 |
| 9776        | REDWATER SALES            |                |                 |               |                 |                |                 |
| 9778        | REDWATER B SALES LAT      |                |                 |               |                 |                |                 |
| 10661       | GREENCOURT WEST SALES LAT |                |                 |               |                 |                |                 |
| 11097       | RAINBOW SALES LATERAL     |                |                 |               |                 |                |                 |
| 11155       | CHIGWELL NORTH SALES      |                |                 |               |                 |                |                 |
| 11301       | VIRGINIA HILLS SALES      |                |                 |               |                 |                |                 |
| 12285       | CROW LAKE SALES LATERAL   |                |                 |               |                 |                |                 |
| 12376       | LEMING LAKE SLS LATERAL   |                |                 |               |                 |                |                 |
| 12379       | LOSEMAN LAKE SALES LAT    |                |                 |               |                 |                |                 |
| 12624       | HANNA SOUTH B SALES       |                |                 |               |                 |                |                 |
| 12629       | LOSEMAN LAKE SALES #2     |                |                 |               |                 |                |                 |
| 12981       | FIRE CREEK SALES LATERAL  |                |                 |               |                 |                |                 |
| 13001       | OTAUWAU SALES             |                |                 |               |                 |                |                 |
| 13028       | CHEECHAM WEST SALES       |                |                 |               |                 |                |                 |
| 13090       | FERINTOSH NORTH SALES     |                |                 |               |                 |                |                 |
| 13137       | EVERGREEN SALES           |                |                 |               |                 |                |                 |
| 13181       | FERINTOSH SALES LATERAL   |                |                 |               |                 |                |                 |
| 13206       | GODS LAKE SALES           |                |                 |               |                 |                |                 |
| 13283       | LUNDBRECK-COWLEY SALES    |                |                 |               |                 |                |                 |
| 13302       | BLEAK LAKE SALES LAT      |                |                 |               |                 |                |                 |
| 13358       | THORHILD SALES LATERAL    |                |                 |               |                 |                |                 |
| 13580       | INLAND SALES LATERAL      |                |                 |               |                 |                |                 |
| 13949       | MINNOW LAKE SOUTH         |                |                 |               |                 |                |                 |
| 14008       | WESTLOCK SALES LATERAL    |                |                 |               |                 |                |                 |

| Unit Number | Unit Name                 | EMPRESS SYST.7 | BOUNDARY LK BDR | ESTHER BORDER | MCNEILL A BORDR | MCNEILL A UTIL | MERIDIAN LK DLV |
|-------------|---------------------------|----------------|-----------------|---------------|-----------------|----------------|-----------------|
| 14011       | GOLD CREEK SALES          |                |                 |               |                 |                |                 |
| 14093       | CARROT CREEK SALES        |                |                 |               |                 |                |                 |
| 14105       | VIKING SALES              |                |                 |               |                 |                |                 |
| 14120       | COUSINS C                 |                |                 |               |                 |                |                 |
| 14331       | MOOSEHORN RIVER SALES     |                |                 |               |                 |                |                 |
| 14410       | BRAZEAU NORTH SALES       |                |                 |               |                 |                |                 |
| 14429       | SARATOGA SALES            |                |                 |               |                 |                |                 |
| 14474       | PEMBINA SALES             |                |                 |               |                 |                |                 |
| 17080       | DEADRICK CREEK            |                |                 |               |                 |                |                 |
| 17572       | MILDRED LAKE SALES LAT    |                |                 |               |                 |                |                 |
| 17575       | JOFFRE SALES #3           |                |                 |               |                 |                |                 |
| 17580       | DEEP VALLEY CRK STH SALES |                |                 |               |                 |                |                 |
| 17604       | ECB10-M-1MV0-EC           |                |                 |               |                 |                |                 |
| 4756        | HARMATTAN-LEDUC SALES     |                |                 |               |                 |                |                 |
| 7176        | BITTERN LAKE SALES        |                |                 |               |                 |                |                 |
| 7886        | WESTERDALE SALES          |                |                 |               |                 |                |                 |
| 9595        | GAS CITY SALES            |                |                 |               |                 |                |                 |
| 10186       | NORTH PENHOLD SALES       |                |                 |               |                 |                |                 |
| 11350       | RICINUS S. SALES LATERAL  |                |                 |               |                 |                |                 |
| 12997       | MITTUE SALES              |                |                 |               |                 |                |                 |
| 13472       | TWINLAKES CREEK SALES     |                |                 |               |                 |                |                 |
| 7095        | WIMBORNE SALES LATERAL    |                |                 |               |                 |                |                 |
| 13075       | HARMATTAN SALES           |                |                 |               |                 |                |                 |
| 17700       | ALTA MONTANA              |                |                 |               |                 |                |                 |
| 17704       | SILVER VALLEY SALES       |                |                 |               |                 |                |                 |
| 17697       | DUTCH CREEK SALES         |                |                 |               |                 |                |                 |
| 41898       | CRANBERRY SALES DELIVERY  |                |                 |               |                 |                |                 |
| 41803       | SUNDAY CK STH SALES LAT   |                |                 |               |                 |                |                 |
| 17770       | CAVALIER SALES            |                |                 |               |                 |                |                 |
| 41825       | HUGGARD CK SALES LATERAL  |                |                 |               |                 |                |                 |
| 41780       | EAST CALGARY SALES        |                |                 |               |                 |                |                 |
| 47960       | CANOE LAKE SALES          |                |                 |               |                 |                |                 |
| 47997       | CHIPEWYAN RVR SALES LAT   |                |                 |               |                 |                |                 |
| 49419       | UNITY LATERAL             |                |                 |               |                 |                |                 |
| 49424       | SADDLE LAKE LATERAL       |                |                 |               |                 |                |                 |

| Unit Number | Unit Name                | EMPRESS SYST.7 | BOUNDARY LK BDR | ESTHER BORDER | MCNEILL A BORDR | MCNEILL A UTIL | MERIDIAN LK DLV |
|-------------|--------------------------|----------------|-----------------|---------------|-----------------|----------------|-----------------|
| 49509       | HOUSE RIVER SALES        |                |                 |               |                 |                |                 |
| 49526       | TO ATMORE B              |                |                 |               |                 |                |                 |
| 49568       | VEGREVILLE SALES LATERAL |                |                 |               |                 |                |                 |
| 49569       | VEGREVILLE SALES LATERAL |                |                 |               |                 |                |                 |
| 17576       | JOFFRE SALES #2 LATERAL  |                |                 |               |                 |                |                 |
| 17573       | MILDRED LAKE #2 SALES    |                |                 |               |                 |                |                 |

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ATCO-NGTL-016(a)

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**Issue**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

**Request:**

Please confirm that the unit of production method results in separate depletion rates for each localized area. If not confirmed, please identify each geographic area that has a separate unit of production rate.

**Response:**

The unit of production method results in a separate depletion calculation at the level of the lowest common unit of plant data and gas supply information. In the circumstances of the filed depreciation study, the plant accounting data and gas supply information were both available at the meter station and gathering pipe lateral level, but both were not available at a lower level. As such, the unit of production calculation was made at the meter station and pipe lateral level. In a limited number of circumstances, a specific pipe lateral was considered to be dependent upon the sum of gas within a Reserve Addition Collector (RAC). However, even in these circumstances, the unit of production calculation was based on the plant accounting data specific to the pipe lateral.

The depletion calculations, as summarized in Tables 1 and 2 of the depreciation study, represent the aggregation of the unit of production results of each meter station and pipe lateral at the total account level. There was no other aggregation of unit of production at another level.

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**ATCO-NGTL-016(b)**

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

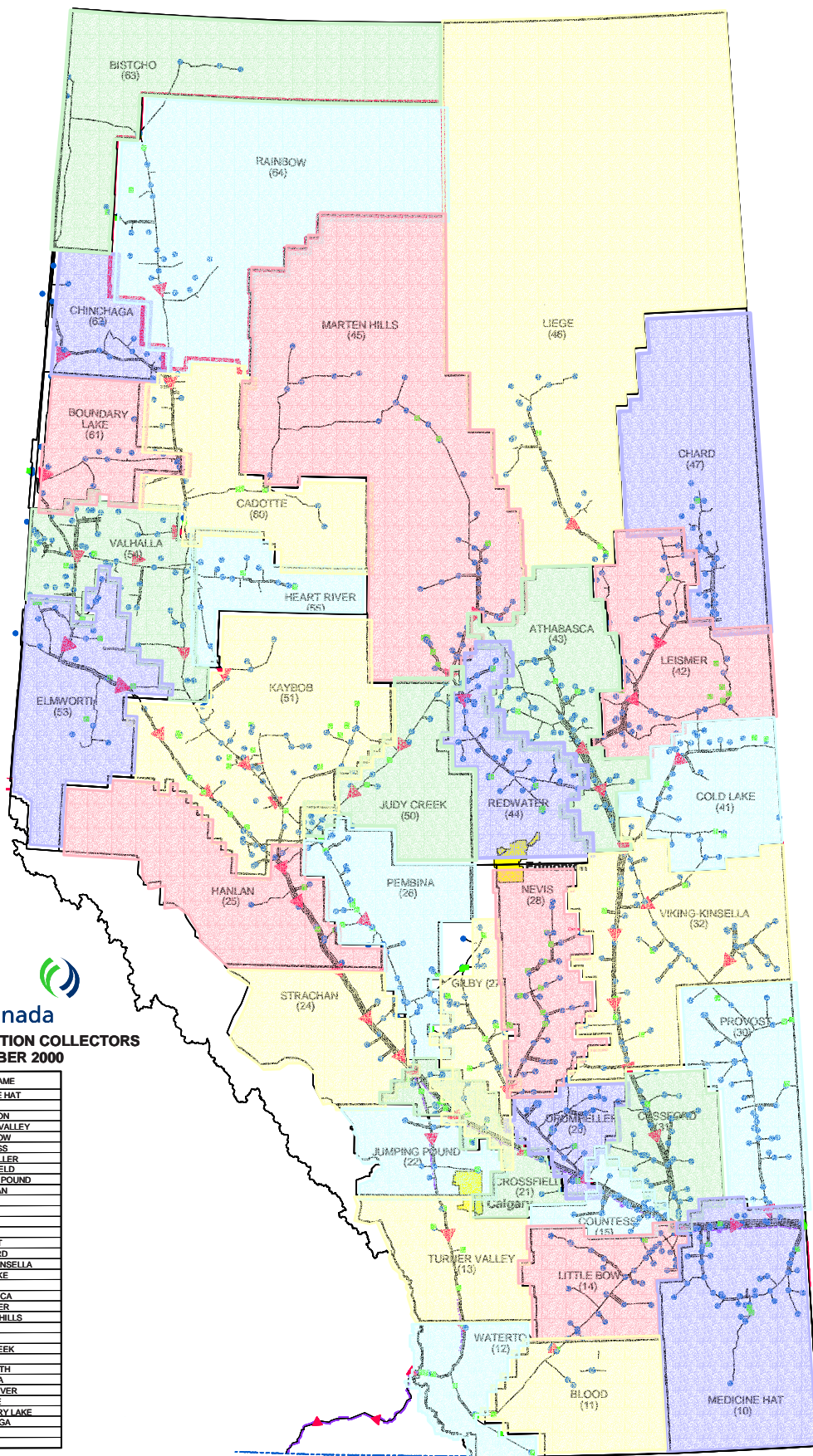
**Request:**

For each localized area, please provide a description of the area, each receipt point number and name and each delivery point number and name. Please also show these localized areas on a pipeline system map.

**Response:**

NGTL calls the localized areas of gas supply RACs. Please refer to the response to ATCO-NGTL-021 for the list of all receipt meter stations by RAC. An Alberta System map identifying the RACs is provided in Attachment ATCO-NGTL-016(b).

RACs are relevant to receipt meter stations only. Consequently, a list of delivery meter stations by RAC is not provided.



**TransCanada**  
 RESERVE ADDITION COLLECTORS  
 NOVEMBER 2000

| RAC | NAME            |
|-----|-----------------|
| 10  | MEDICINE HAT    |
| 11  | BLOOD           |
| 12  | WATERTON        |
| 13  | TURNER VALLEY   |
| 14  | LITTLE BOW      |
| 15  | COUNTRESS       |
| 20  | DRUMHELLER      |
| 21  | CROSSFIELD      |
| 22  | JUMPING POUND   |
| 24  | STRACHAN        |
| 25  | HANLAN          |
| 26  | PEMBINA         |
| 27  | GILBY           |
| 28  | NEVIS           |
| 30  | PROVOST         |
| 31  | CRESSFORD       |
| 32  | VIKING-KINSELLA |
| 41  | COLD LAKE       |
| 42  | LEISMER         |
| 43  | ATHABASCA       |
| 44  | REDWATER        |
| 45  | MARTEN HILLS    |
| 46  | LIEGE           |
| 47  | CHARD           |
| 50  | JUDY CREEK      |
| 51  | KAYBOB          |
| 53  | ELMWORTH        |
| 54  | VALHALLA        |
| 55  | HEART RIVER     |
| 60  | CADOTTE         |
| 61  | BOUNDARY LAKE   |
| 62  | CHINCHAGA       |
| 63  | BISTCHO         |
| 64  | RAINBOW         |

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ATCO-NGTL-016(c)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

**Request:**

Please explain if and how frequently NGTL plans to re-evaluate localized gas reserves to reflect changes in reserve estimates.

**Response:**

Annually.



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**ATCO-NGTL-016(d)**

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

**Request:**

Please list all receipt meter stations at locations where gas may flow to another pipeline ("dually connected receipt meter stations").

**Response:**

Please refer to Attachment ATCO-NGTL-016(d).

| MS No | NGTL MS Name        | Competitor     | Sec | Twp | Rge | Mer |
|-------|---------------------|----------------|-----|-----|-----|-----|
| 1019  | NEVIS SOUTH         | ATCO           | 03  | 039 | 22  | W4  |
| 1034  | CHIGWELL            | ATCO           | 17  | 041 | 24  | W4  |
| 1053  | OLDS                | ATCO           | 18  | 032 | 01  | W5  |
| 1164  | RANFURLY            | ATCO           | 28  | 050 | 09  | W4  |
| 1500  | MIRROR              | ATCO           | 07  | 041 | 22  | W4  |
| 1516  | SUNDANCE CREEK      | ATCO           | 23  | 053 | 20  | W5  |
| 1572  | MARLBORO            | ATCO           | 24  | 052 | 20  | W5  |
| 1663  | MARLBORO EAST       | ATCO           | 24  | 052 | 20  | W5  |
| 1739  | PIPER CREEK         | ATCO           | 11  | 038 | 26  | W4  |
| 1741  | RABBIT LAKE         | ATCO           | 31  | 094 | 18  | W4  |
| 1747  | NIGHTINGALE         | ATCO           | 31  | 026 | 23  | W4  |
| 1796  | BONNIE GLEN         | ATCO           | 08  | 047 | 27  | W4  |
| 1807  | CULP NORTH          | ATCO           | 09  | 079 | 22  | W5  |
| 1841  | TORLEA EAST         | ATCO           | 06  | 049 | 12  | W4  |
| 1949  | RIM-WEST SUMMARY    | ATCO           | 32  | 043 | 01  | W5  |
| 2007  | EAST CALGARY        | ATCO           | 03  | 026 | 29  | W4  |
| 2022  | JUDY CREEK          | ATCO           | 25  | 064 | 11  | W5  |
| 2036  | JUMPING POUND W     | ATCO           | 18  | 025 | 04  | W5  |
| 2111  | LOBSTICK            | ATCO           | 15  | 053 | 13  | W5  |
| 2209  | CYNTHIA #2          | ATCO           | 21  | 049 | 11  | W5  |
| 1064  | EDSON               | ATCO, ALLIANCE | 11  | 053 | 18  | W5  |
| 1094  | WHITECOURT          | ALLIANCE       | 26  | 059 | 11  | W5  |
| 1462  | KARR                | ALLIANCE       | 10  | 065 | 02  | W6  |
| 1476  | DEMMITT             | ALLIANCE       | 18  | 074 | 12  | W6  |
| 1569  | IROQUOIS CREEK      | ALLIANCE       | 08  | 069 | 08  | W6  |
| 1615  | ELMWORTH HIGH       | ALLIANCE       | 08  | 070 | 11  | W6  |
| 1693  | MINNOW LAKE         | ALLIANCE       | 01  | 051 | 15  | W5  |
| 2012  | WINDFALL            | ALLIANCE       | 08  | 060 | 15  | W5  |
| 2013  | KAYBOB              | ALLIANCE       | 03  | 064 | 19  | W5  |
| 2018  | CARSON CREEK        | ALLIANCE       | 22  | 061 | 12  | W5  |
| 2020  | KAYBOB SOUTH        | ALLIANCE       | 12  | 062 | 20  | W5  |
| 2029  | WASKAHIGAN          | ALLIANCE       | 07  | 064 | 23  | W5  |
| 2031  | GOLD CREEK          | ALLIANCE       | 26  | 067 | 05  | W6  |
| 2035  | KAYBOB SOUTH #3     | ALLIANCE       | 10  | 059 | 18  | W5  |
| 2076  | TEEPEE CREEK        | ALLIANCE       | 02  | 074 | 04  | W6  |
| 2087  | JOSEPHINE           | ALLIANCE       | 36  | 082 | 10  | W6  |
| 2118  | BURNT RIVER         | ALLIANCE       | 20  | 076 | 09  | W6  |
| 2119  | BLUEBERRY HILL      | ALLIANCE       | 24  | 079 | 11  | W6  |
| 2153  | PROGRESS            | ALLIANCE       | 36  | 077 | 10  | W6  |
| 2158  | WEMBLEY             | ALLIANCE       | 19  | 073 | 08  | W6  |
| 2164  | HENDERSON CREEK     | ALLIANCE       | 34  | 079 | 12  | W6  |
| 2190  | GORDONDALE RCPT     | ALLIANCE       | 12  | 079 | 12  | W6  |
| 2198  | FOURTH CREEK WEST   | ALLIANCE       | 11  | 082 | 09  | W6  |
| 2224  | TWO CREEKS          | ALLIANCE       | 04  | 063 | 16  | W5  |
| 2227  | VALHALLA #2         | ALLIANCE       | 29  | 075 | 09  | W6  |
| 2228  | MARSH HEAD CREEK    | ALLIANCE       | 28  | 059 | 22  | W5  |
| 2267  | JONES LAKE          | ALLIANCE       | 08  | 075 | 07  | W6  |
| 3001  | BOUNDARY LAKE SOUTH | ALLIANCE       | 14  | 085 | 13  | W6  |
| 1223  | TIDE LAKE SOUTH     | ALTAGAS        | 23  | 017 | 10  | W4  |
| 1277  | IDDESLEIGH SOUTH    | ALTAGAS        | 01  | 020 | 11  | W4  |
| 1327  | PRINCESS SOUTH      | ALTAGAS        | 03  | 020 | 12  | W4  |
| 1366  | LOUISIANA LAKE      | ALTAGAS        | 03  | 018 | 11  | W4  |
| 1639  | TIDE LAKE B         | ALTAGAS        | 14  | 018 | 10  | W4  |

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ATCO-NGTL-016(e)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

**Request:**

For each dually connected receipt meter station identified in response (d), please describe in detail how the adjustment was made to reserves and annual production to reflect gas flow onto an alternative pipeline system.

**Response:**

Please refer to the response to CAPP-NGTL-005(d).

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ATCO-NGTL-016(f)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

**Request:**

When did NGTL segregate the facilities data for which to apply the unit of production method?

**Response:**

Please refer to the response to ATCO-NGTL-016(g).

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ATCO-NGTL-016(g)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

**Request:**

Please provide the sequential procedures NGTL applied to the plant-in-service at December 31, 2002 to segregate the depletable assets from the depreciable assets for use in the depreciation study.

**Response:**

First, the data were extracted from the plant accounting system and stored in temporary work files. The records pertaining to depletable meter stations and pipes were marked as depletable in the temporary work files, by matching the asset data and the physical facilities data, through the use of the plant accounting location number. All records not marked as depletable in the previous step were then marked as depreciable. All of the asset records in the temporary work files, including the depletable/depreciable indicator described above, were then passed on to Gannett Fleming.

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ATCO-NGTL-016(h)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

**Request:**

Is NGTL aware of instances in which the EUB has approved use of a unit of production depletion method for a pipeline system. If yes, please provide details for each case.

**Response:**

Yes. For a number of years, the Canadian Western Natural Gas (CWNG) and ATCO Gas South systems had a number of accounts that were depleted using the unit of production method. The EUB recently reviewed the unit of production method for ATCO Gas South in its 2001/2002 General Rate Application -Phase 1. In Decision 2001-096, the Board accepted the continued use of unit of production for ATCO Gas South.

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**ATCO-NGTL-016(i)**

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 4-21; Section 4.0,  
Appendix A, Page 18 of 34, Lines 19 to 28

**Preamble:**

ATCO Pipelines wishes to understand NGTL's unit-of-production depreciation methodology.

**Request:**

Is NGTL aware of instances where a North American regulating board approved use of a unit of production depletion method for a pipeline system. If yes, please provide details for each case.

**Response:**

Yes. The unit of production method has been recommended by Gannett Fleming and approved by the regulator in the following cases.

| <b>Applicant</b>             | <b>Regulator</b>                         | <b>Docket</b> |
|------------------------------|--|---------------|
| Apollo Gas Company           | Pennsylvania Public Utilities Commission | R-811615      |
| Apollo Gas Company           | Pennsylvania Public Utilities Commission | R-842572      |
| Apollo Gas Company           | Pennsylvania Public Utilities Commission | R-922254      |
| Carnegie Natural Gas Company | Pennsylvania Public Utilities Commission | R-842620      |
| Carnegie Natural Gas Company | Pennsylvania Public Utilities Commission | R-891218      |

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**ATCO-NGTL-016(i)**


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|--|--|----------|
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R-822145 |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R-832469 |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R-850287 |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R871719  |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R-891218 |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R-901670 |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R-911912 |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R-932548 |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R-942991 |
| National Fuel Gas Distribution Corporation – Pennsylvania Division | Pennsylvania Public Utilities Commission | R953299  |
| The Peoples Natural Gas Company (now Dominion Peoples)             | Pennsylvania Public Utilities Commission | R-832315 |
| The Peoples Natural Gas Company (now Dominion Peoples)             | Pennsylvania Public Utilities Commission | R-850270 |
| The Peoples Natural Gas Company (now Dominion Peoples)             | Pennsylvania Public Utilities Commission | R-880961 |



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**ATCO-NGTL-016(i)**

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|--|--|----------|
| The Peoples Natural Gas Company (now Dominion Peoples) | Pennsylvania Public Utilities Commission | R-901607 |
| The Peoples Natural Gas Company (now Dominion Peoples) | Pennsylvania Public Utilities Commission | R-922180 |
| The Peoples Natural Gas Company (now Dominion Peoples) | Pennsylvania Public Utilities Commission | R-932886 |
| The Peoples Natural Gas Company (now Dominion Peoples) | Pennsylvania Public Utilities Commission | R-943252 |

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ATCO-NGTL-017

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Page 12 of 23, Lines 26-27 and Page 13 of 23, Line 1

**Preamble:**

ATCO Pipelines requires clarification of response A17.

**Request:**

Please explain the rationale for inclusion of unconnected gas in the unit of production depreciation calculation. In particular, please address the fact that NGTL cannot build laterals and that there is a risk of customer bypass to other pipelines.

**Response:**

Unconnected gas which is within the proximity of NGTL lateral facilities and has a likelihood of connecting to those NGTL facilities is included. NGTL does not need to build laterals to accept unconnected gas.

NGTL has not made any allowance for future throughput loss due to bypass as it is difficult to assess when, and where a bypass would occur and what volume may be involved. To the extent that realization of bypass risk would reduce throughput, NGTL's unit of production depreciation calculation is conservative.

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ATCO-NGTL-018(a)

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**Issue:**

Depreciation

**Reference:**

Sub-Section 4.7

**Preamble:**

Discussion of amortization method.

**Request:**

Please provide all factors supporting the use of the amortization periods stated on Table 4.7-1.

**Response:**

The amortization periods were recommended by Gannett Fleming based on the following:

- Consideration of the period over which the assets render most of their service.
- Discussions with NGTL. Please refer to the interview notes in Attachment ATCO-NGTL-012(b);
- The amortization periods for similar accounts of the TransCanada Mainline approved by the NEB;
- Gannett Fleming's experience in over 100 proceedings since 1992, which is a significant base upon which to draw in the development of appropriate parameters for general plant accounts; and
- A review of the amortization periods of other Board regulated utilities.

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ATCO-NGTL-018(b)

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**Issue:**

Depreciation

**Reference:**

Sub-Section 4.7

**Preamble:**

Discussion of amortization method.

**Request:**

For each account listed on Table 4.7-1, please indicate if all assets with a life greater than the proposed amortization period have been retired. If not, please explain.

**Response:**

By the end of 2004, all assets with a life greater than the proposed amortization period will have been retired.

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ATCO-NGTL-019(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix A, Page 8 of 34, Lines 4 to 11

**Preamble:**

ATCO Pipelines wishes to understand NGTL's supply forecast.

**Request:**

What is NGTL's rationale for including unconventional gas production in the supply forecast given ". most of this gas is not currently considered economically available within the forecast horizon with the use of current technology" (Lines 6 to 7 on page 7 of 34 of Appendix A in Section 4.0)?

**Response:**

NGTL has only included unconventional gas that could be economically recoverable over the forecast horizon. A small amount of unconventional gas is already flowing on the Alberta System. The majority of unconventional resource is not included as it is deemed to be uneconomic over the forecast horizon.

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ATCO-NGTL-019(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix A, Page 8 of 34, Lines 4 to 11

**Preamble:**

ATCO Pipelines wishes to understand NGTL's supply forecast.

**Request:**

What is the composite depreciation rate in the 2004 test year without unconventional gas? Please provide this response in the same format as in Table 4.9-2.

**Response:**

NGTL cannot provide the requested information since a depreciation study based on a gas supply case excluding unconventional gas was not done. The basis for the depreciation study is the base case from NGTL's Supply Study which includes unconventional gas. This is reasonable since some unconventional gas is already flowing on the Alberta System and more of this resource is expected to become available over the forecast period.

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ATCO-NGTL-020(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix A, Figure 5-2

**Preamble:**

ATCO Pipelines wishes to understand supply and demand in each Quadrant.

**Request:**

Please provide the annual forecast of supply onto the NGTL system for each Quadrant in tabular form over the same time period as provided in Figure 5-2.

**Response:**

Please refer to the response to CAPP-NGTL-005(c).

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ATCO-NGTL-020(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix A, Figure 5-2

**Preamble:**

ATCO Pipelines wishes to understand supply and demand in each Quadrant.

**Request:**

Please provide the annual forecast of demand off of the NGTL system for each Quadrant in tabular form over the same time period as provided in Figure 5-2.

**Response:**

Please refer to the response to CAPP-NGTL-005(c).



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**ATCO-NGTL-021**

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study, Pages III-226 to III-249; Section 4.0, Appendix A

**Preamble:**

ATCO Pipelines wishes to confirm ultimate resource potential on a provincial level, by quadrants within Alberta and by regions specific to the Alberta system.

**Request:**

In the depreciation study data, the ultimate reserve data are segregated by meter stations. Please reconcile the ultimate reserves by meter station to each reserve addition collector region as shown on Figure 7-4 on page of 23 of 34 in Appendix A of Section 4.0 and by Quadrant of the Alberta System as shown on Figure 5-2 on page 11 of 34 in Appendix A of Section 4.0.

**Response:**

Please refer to Attachment ATCO-NGTL-021.

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1811                      | 54                               | RAC53 | NW       | 72             |
| 2164                      | 114                              | RAC54 | NW       | 115            |
| 1719                      | 121                              | RAC41 | NE       | 23             |
| 1441                      | 131                              | RAC41 | NE       | 97             |
| 1011                      | 143                              | -     | -        | 188            |
| 1099                      | 145                              | RAC10 | SE       | 266            |
| 1098                      | 146                              | RAC10 | SE       | 48             |
| 2157                      | 155                              | RACBC | BC       | 1317           |
| 1223                      | 157                              | RAC10 | SE       | 273            |
| 1268                      | 158                              | RAC10 | SE       | 56             |
| 1010                      | 160                              | RAC10 | SE       | 76             |
| 2204                      | 168                              | RAC62 | NW       | 280            |
| 2199                      | 170                              | RACBC | BC       | 1199           |
| 1588                      | 179                              | -     | -        | 1              |
| 1823                      | 184                              | RAC43 | NE       | 18             |
| 2734                      | 186                              | RAC64 | NW       | 65             |
| 2733                      | 187                              | RAC45 | NW       | 10             |
| 1824                      | 188                              | RAC51 | NW       | 312            |
| 2206                      | 191                              | RAC54 | NW       | 24             |
| 1703                      | 193                              | RAC43 | NE       | 79             |
| 2240                      | 195                              | -     | -        | 1              |
| 1825                      | 196                              | RAC11 | SE       | 1306           |
| 1087                      | 197                              | RAC43 | NE       | 253            |
| 1655                      | 198                              | -     | -        | 1              |
| 1001                      | 210                              | RAC30 | SE       | 215            |
| 1048                      | 218                              | -     | -        | 1              |
| 1002                      | 220                              | RAC30 | SE       | 219            |
| 1444                      | 233                              | RAC32 | SE       | 145            |
| 1843                      | 234                              | RAC10 | SE       | 26             |
| 1464                      | 236                              | RAC43 | NE       | 169            |
| 1545                      | 239                              | RAC44 | NE       | 187            |
| 1175                      | 241                              | -     | -        | 1              |
| 1428                      | 242                              | RAC43 | NE       | 163            |
| 1008                      | 243                              | -     | -        | 1              |
| 1163                      | 244                              | RAC32 | SE       | 119            |
| 1036                      | 245                              | RAC30 | SE       | 145            |
| 1023                      | 246                              | RAC30 | SE       | 36             |
| 1038                      | 247                              | RAC30 | SE       | 456            |
| 1045                      | 248                              | RAC30 | SE       | 143            |
| 1102                      | 249                              | -     | -        | 1              |
| 1058                      | 251                              | RAC30 | SE       | 65             |
| 1110                      | 255                              | RAC32 | SE       | 246            |
| 1120                      | 256                              | RAC43 | NE       | 60             |
| 1118                      | 257                              | RAC43 | NE       | 208            |
| 1148                      | 258                              | RAC42 | NE       | 121            |
| 1126                      | 259                              | -     | -        | 1              |
| 1007                      | 260                              | RAC30 | SE       | 39             |
| 1124                      | 261                              | -     | -        | 1              |
| 1162                      | 262                              | RAC32 | SE       | 173            |
| 1132                      | 263                              | RAC32 | SE       | 170            |
| 1159                      | 264                              | RAC32 | SE       | 36             |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1114                      | 265                              | RAC32 | SE       | 208            |
| 1089                      | 267                              | RAC43 | NE       | 123            |
| 1003                      | 270                              | RAC30 | SE       | 503            |
| 1095                      | 271                              | RAC43 | NE       | 240            |
| 1474                      | 278                              | RAC30 | SE       | 69             |
| 1222                      | 279                              | RAC30 | SE       | 298            |
| 1013                      | 280                              | RAC30 | SE       | 394            |
| 1486                      | 282                              | -     | -        | 1              |
| 2146                      | 283                              | RAC21 | SW       | 271            |
| 1565                      | 286                              | RAC43 | NE       | 166            |
| 1566                      | 287                              | RAC43 | NE       | 111            |
| 1605                      | 289                              | RAC30 | SE       | 24             |
| 1768                      | 309                              | RAC14 | SE       | 63             |
| 1186                      | 312                              | RAC10 | SE       | 202            |
| 1205                      | 313                              | RAC10 | SE       | 157            |
| 1017                      | 314                              | RAC10 | SE       | 226            |
| 1209                      | 315                              | RAC10 | SE       | 367            |
| 1771                      | 317                              | RAC30 | SE       | 44             |
| 1630                      | 318                              | RAC43 | NE       | 43             |
| 1018                      | 320                              | RAC10 | SE       | 675            |
| 2754                      | 321                              | RAC50 | NW       | 247            |
| 1154                      | 323                              | RAC10 | SE       | 212            |
| 1201                      | 327                              | RAC10 | SE       | 7              |
| 2732                      | 335                              | RAC55 | NW       | 14             |
| 1826                      | 338                              | RAC10 | SE       | 125            |
| 1204                      | 351                              | RAC10 | SE       | 398            |
| 1216                      | 352                              | RAC10 | SE       | 338            |
| 2735                      | 372                              | RAC55 | NW       | 76             |
| 2736                      | 374                              | RAC53 | NW       | 209            |
| 2737                      | 379                              | RAC55 | NW       | 33             |
| 2738                      | 382                              | RAC51 | NW       | 86             |
| 1827                      | 383                              | RAC30 | SE       | 33             |
| 2739                      | 385                              | RAC45 | NW       | 16             |
| 2740                      | 388                              | RAC60 | NW       | 107            |
| 2742                      | 392                              | RACBC | BC       | 91             |
| 1507                      | 412                              | RAC32 | SE       | 58             |
| 1529                      | 421                              | RAC32 | SE       | 8              |
| 1650                      | 424                              | RAC31 | SE       | 37             |
| 1604                      | 425                              | RAC31 | SE       | 199            |
| 2271                      | 428                              | -     | -        | 1              |
| 2743                      | 430                              | RAC12 | SW       | 110            |
| 2159                      | 437                              | -     | -        | 1              |
| 1465                      | 438                              | RAC31 | SE       | 131            |
| 1236                      | 440                              | RAC31 | SE       | 361            |
| 1145                      | 442                              | RAC31 | SE       | 43             |
| 1004                      | 443                              | RAC31 | SE       | 200            |
| 1049                      | 444                              | -     | -        | 39             |
| 1085                      | 445                              | RAC31 | SE       | 74             |
| 1025                      | 446                              | RAC31 | SE       | 227            |
| 1131                      | 447                              | RAC31 | SE       | 215            |
| 1086                      | 449                              | RAC31 | SE       | 19             |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1012                      | 450                              | RAC31 | SE       | 1415           |
| 1079                      | 451                              | RAC31 | SE       | 92             |
| 1152                      | 452                              | RAC31 | SE       | 18             |
| 1136                      | 453                              | RAC31 | SE       | 50             |
| 1161                      | 454                              | RAC32 | SE       | 312            |
| 1168                      | 455                              | RAC32 | SE       | 153            |
| 1173                      | 456                              | RAC32 | SE       | 60             |
| 1179                      | 457                              | RAC32 | SE       | 300            |
| 1193                      | 458                              | RAC31 | SE       | 119            |
| 1156                      | 459                              | RAC31 | SE       | 201            |
| 1397                      | 461                              | RAC32 | SE       | 106            |
| 1520                      | 470                              | RAC43 | NE       | 33             |
| 1828                      | 473                              | RAC28 | SE       | 25             |
| 1829                      | 474                              | RAC51 | NW       | 1134           |
| 1442                      | 508                              | RAC14 | SE       | 203            |
| 2745                      | 519                              | RAC53 | NW       | 955            |
| 1835                      | 526                              | RAC32 | SE       | 32             |
| 1640                      | 527                              | -     | -        | 1              |
| 2746                      | 529                              | RACBC | BC       | 503            |
| 2296                      | 530                              | RAC14 | SE       | 283            |
| 1578                      | 532                              | RAC14 | SE       | 237            |
| 1601                      | 535                              | RAC14 | SE       | 414            |
| 1603                      | 537                              | RAC14 | SE       | 169            |
| 1834                      | 540                              | RAC32 | SE       | 75             |
| 1024                      | 542                              | RAC14 | SE       | 353            |
| 1057                      | 543                              | RAC14 | SE       | 156            |
| 1076                      | 544                              | RAC14 | SE       | 487            |
| 1169                      | 545                              | RAC14 | SE       | 323            |
| 1117                      | 546                              | -     | -        | 12308          |
| 1181                      | 547                              | RAC14 | SE       | 318            |
| 1140                      | 549                              | RAC14 | SE       | 13             |
| 1075                      | 551                              | RAC10 | SE       | 622            |
| 1155                      | 552                              | -     | -        | 1              |
| 1103                      | 553                              | RAC10 | SE       | 163            |
| 1106                      | 554                              | RAC14 | SE       | 231            |
| 1100                      | 555                              | RAC14 | SE       | 187            |
| 1122                      | 557                              | RAC14 | SE       | 40             |
| 1121                      | 558                              | -     | -        | 1              |
| 1133                      | 559                              | -     | -        | 1              |
| 1833                      | 565                              | RAC32 | SE       | 25             |
| 2748                      | 571                              | RAC64 | NW       | 30             |
| 2749                      | 574                              | RAC60 | NW       | 16             |
| 1837                      | 580                              | RAC24 | SW       | 98             |
| 1838                      | 581                              | RAC10 | SE       | 77             |
| 1839                      | 584                              | RAC10 | SE       | 191            |
| 2751                      | 586                              | RAC45 | NW       | 11             |
| 2750                      | 589                              | RAC51 | NW       | 662            |
| 1841                      | 591                              | RAC32 | SE       | 673            |
| 1621                      | 598                              | RAC27 | SW       | 29             |
| 1028                      | 641                              | RAC15 | SE       | 216            |
| 1015                      | 642                              | RAC15 | SE       | 733            |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1016                      | 643                              | RAC20 | SE       | 523            |
| 1021                      | 644                              | RAC20 | SE       | 303            |
| 1019                      | 646                              | RAC28 | SE       | 1878           |
| 1020                      | 647                              | RAC28 | SE       | 117            |
| 2017                      | 649                              | RAC22 | SW       | 48             |
| 1034                      | 653                              | RAC28 | SE       | 40             |
| 1035                      | 654                              | RAC28 | SE       | 126            |
| 1040                      | 655                              | RAC28 | SE       | 95             |
| 1039                      | 656                              | RAC20 | SE       | 597            |
| 1046                      | 657                              | RAC20 | SE       | 704            |
| 1066                      | 658                              | RAC20 | SE       | 156            |
| 1104                      | 659                              | RAC15 | SE       | 128            |
| 1436                      | 662                              | RAC20 | SE       | 224            |
| 1097                      | 673                              | RAC45 | NW       | 212            |
| 1096                      | 674                              | RAC25 | SW       | 1904           |
| 2115                      | 675                              | RAC24 | SW       | 239            |
| 1101                      | 676                              | RAC24 | SW       | 1473           |
| 1094                      | 680                              | RAC50 | NW       | 1341           |
| 1077                      | 682                              | RAC15 | SE       | 35             |
| 1083                      | 683                              | RAC25 | SW       | 2117           |
| 1093                      | 684                              | RAC50 | NW       | 258            |
| 1091                      | 686                              | RAC45 | NW       | 1090           |
| 1359                      | 687                              | RAC20 | SE       | 519            |
| 2078                      | 689                              | RAC21 | SW       | 941            |
| 1053                      | 691                              | RAC21 | SW       | 955            |
| 1069                      | 693                              | RAC21 | SW       | 88             |
| 1065                      | 698                              | RAC21 | SW       | 48             |
| 1064                      | 699                              | RAC25 | SW       | 6958           |
| 1448                      | 716                              | RAC24 | SW       | 408            |
| 1447                      | 721                              | RAC15 | SE       | 322            |
| 1842                      | 722                              | RAC10 | SE       | 51             |
| 1528                      | 724                              | RAC45 | NW       | 492            |
| 1586                      | 730                              | RAC20 | SE       | 86             |
| 1652                      | 734                              | RAC45 | NW       | 94             |
| 2181                      | 737                              | RAC26 | SW       | 43             |
| 1619                      | 740                              | RAC27 | SW       | 357            |
| 1191                      | 741                              | RAC27 | SW       | 278            |
| 1187                      | 742                              | RAC27 | SW       | 69             |
| 1054                      | 744                              | RAC27 | SW       | 435            |
| 1055                      | 745                              | RAC27 | SW       | 988            |
| 1041                      | 747                              | -     | -        | 1              |
| 1376                      | 749                              | RAC27 | SW       | 131            |
| 1597                      | 750                              | -     | -        | 1              |
| 1029                      | 752                              | RAC27 | SW       | 207            |
| 1033                      | 753                              | -     | -        | 4594           |
| 1180                      | 756                              | RAC27 | SW       | 62             |
| 1167                      | 758                              | RAC27 | SW       | 104            |
| 2179                      | 766                              | RAC26 | SW       | 99             |
| 1607                      | 767                              | RAC27 | SW       | 61             |
| 1662                      | 770                              | RAC32 | SE       | 87             |
| 1665                      | 774                              | RAC32 | SE       | 11             |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1722                      | 791                              | RAC20 | SE       | 167            |
| 1196                      | 822                              | RAC32 | SE       | 52             |
| 2234                      | 826                              | -     | -        | 1              |
| 2092                      | 831                              | -     | -        | 132            |
| 2202                      | 837                              | -     | -        | 1              |
| 1762                      | 839                              | -     | -        | 1              |
| 3001                      | 841                              | RAC61 | NW       | 193            |
| 2044                      | 842                              | RAC54 | NW       | 2379           |
| 2043                      | 844                              | RAC55 | NW       | 562            |
| 2105                      | 845                              | RAC54 | NW       | 196            |
| 2169                      | 851                              | RAC54 | NW       | 43             |
| 2113                      | 856                              | RAC24 | SW       | 709            |
| 2134                      | 859                              | RAC54 | NW       | 17             |
| 1199                      | 861                              | RAC32 | SE       | 21             |
| 1197                      | 862                              | RAC32 | SE       | 75             |
| 2147                      | 863                              | RAC26 | SW       | 100            |
| 1198                      | 866                              | RAC32 | SE       | 11             |
| 1202                      | 867                              | RAC10 | SE       | 47             |
| 1200                      | 868                              | RAC10 | SE       | 78             |
| 1510                      | 870                              | RAC32 | SE       | 67             |
| 2220                      | 888                              | RAC51 | NW       | 86             |
| 2188                      | 898                              | RAC51 | NW       | 88             |
| 2032                      | 930                              | RAC22 | SW       | 3476           |
| 2006                      | 933                              | RAC13 | SW       | 2420           |
| 2027                      | 934                              | RAC51 | NW       | 34             |
| 2031                      | 935                              | RAC53 | NW       | 568            |
| 2029                      | 936                              | RAC51 | NW       | 164            |
| 2030                      | 938                              | RAC51 | NW       | 297            |
| 2003                      | 940                              | RAC12 | SW       | 1747           |
| 2026                      | 942                              | RAC13 | SW       | 6200           |
| 2007                      | 944                              | RAC22 | SW       | 3215           |
| 2005                      | 945                              | RAC22 | SW       | 1450           |
| 2008                      | 946                              | RAC22 | SW       | 2744           |
| 2009                      | 948                              | -     | -        | 4594           |
| 2011                      | 950                              | -     | -        | 686            |
| 2016                      | 951                              | RAC24 | SW       | 150            |
| 2012                      | 952                              | RAC51 | NW       | 1915           |
| 2020                      | 955                              | RAC51 | NW       | 2621           |
| 2014                      | 960                              | RAC26 | SW       | 142            |
| 2231                      | 963                              | -     | -        | 1              |
| 2018                      | 964                              | RAC51 | NW       | 743            |
| 2022                      | 965                              | RAC51 | NW       | 264            |
| 2024                      | 966                              | RAC26 | SW       | 647            |
| 2019                      | 968                              | RAC26 | SW       | 439            |
| 2051                      | 977                              | -     | -        | 1              |
| 2160                      | 979                              | RAC22 | SW       | 42             |
| 2109                      | 984                              | -     | -        | 1              |
| 2010                      | 1004                             | RAC26 | SW       | 1374           |
| 2013                      | 1005                             | RAC51 | NW       | 1017           |
| 2152                      | 1008                             | RAC26 | SW       | 452            |
| 2185                      | 1009                             | RAC26 | SW       | 15             |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1658                      | 1011                             | RAC28 | SE       | 255            |
| 1111                      | 1015                             | RAC24 | SW       | 300            |
| 2200                      | 1016                             | RAC26 | SW       | 479            |
| 1541                      | 1021                             | RAC20 | SE       | 147            |
| 1583                      | 1024                             | RAC31 | SE       | 92             |
| 1714                      | 1061                             | RAC42 | NE       | 96             |
| 1767                      | 1069                             | RAC28 | SE       | 211            |
| 1747                      | 1074                             | RAC21 | SW       | 686            |
| 2242                      | 1076                             | RAC53 | NW       | 18             |
| 2107                      | 1084                             | RAC54 | NW       | 329            |
| 2189                      | 1086                             | RAC54 | NW       | 8861           |
| 2108                      | 1089                             | RAC62 | NW       | 577            |
| 2132                      | 1094                             | RAC54 | NW       | 60             |
| 2165                      | 1097                             | RAC54 | NW       | 212            |
| 2191                      | 1102                             | RAC54 | NW       | 425            |
| 2186                      | 1104                             | RAC54 | NW       | 25             |
| 2197                      | 1107                             | RAC54 | NW       | 122            |
| 2222                      | 1111                             | RAC61 | NW       | 444            |
| 2153                      | 1120                             | RAC54 | NW       | 719            |
| 1787                      | 1124                             | RAC46 | NE       | 107            |
| 2217                      | 1171                             | RAC62 | NW       | 74             |
| 2266                      | 1191                             | RAC62 | NW       | 128            |
| 1615                      | 1197                             | RAC53 | NW       | 2771           |
| 1641                      | 1208                             | -     | -        | 1              |
| 1781                      | 1214                             | RAC42 | NE       | 77             |
| 1327                      | 1429                             | RAC14 | SE       | 185            |
| 1022                      | 1430                             | RAC10 | SE       | 393            |
| 1289                      | 1432                             | RAC15 | SE       | 125            |
| 1277                      | 1433                             | RAC10 | SE       | 127            |
| 1278                      | 1434                             | RAC31 | SE       | 109            |
| 1360                      | 1435                             | RAC10 | SE       | 127            |
| 2178                      | 1436                             | RAC54 | NW       | 10             |
| 2198                      | 1437                             | RAC54 | NW       | 356            |
| 2103                      | 1438                             | RAC54 | NW       | 68             |
| 1351                      | 1440                             | RAC10 | SE       | 74             |
| 2273                      | 1442                             | RAC54 | NW       | 9              |
| 1385                      | 1450                             | RAC10 | SE       | 92             |
| 1229                      | 1460                             | RAC10 | SE       | 50             |
| 1228                      | 1470                             | RAC10 | SE       | 147            |
| 1366                      | 1475                             | RAC10 | SE       | 329            |
| 2705                      | 1493                             | RAC45 | NW       | 76             |
| 2286                      | 1495                             | RAC51 | NW       | 120            |
| 2287                      | 1497                             | RAC45 | NW       | 13             |
| 1803                      | 1498                             | RAC42 | NE       | 18             |
| 1802                      | 1500                             | RAC42 | NE       | 127            |
| 2291                      | 1503                             | RAC26 | SW       | 435            |
| 2297                      | 1515                             | RAC50 | NW       | 112            |
| 1805                      | 1522                             | RAC42 | NE       | 745            |
| 2700                      | 1524                             | RAC50 | NW       | 186            |
| 2701                      | 1525                             | RAC54 | NW       | 1183           |
| 2702                      | 1529                             | RAC50 | NW       | 226            |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 2704                      | 1532                             | RAC26 | SW       | 193            |
| 1806                      | 1533                             | RAC45 | NW       | 44             |
| 1812                      | 1535                             | RAC62 | NW       | 49             |
| 1807                      | 1536                             | RAC55 | NW       | 317            |
| 2706                      | 1538                             | RAC61 | NW       | 382            |
| 1814                      | 1546                             | RAC45 | NW       | 27             |
| 1817                      | 1552                             | RACBC | BC       | 347            |
| 2707                      | 1556                             | RAC55 | NW       | 389            |
| 1818                      | 1558                             | RAC31 | SE       | 82             |
| 2708                      | 1565                             | RAC64 | NW       | 19             |
| 1282                      | 1570                             | RAC10 | SE       | 131            |
| 2709                      | 1573                             | RACBC | BC       | 450            |
| 2710                      | 1576                             | RAC45 | NW       | 67             |
| 1348                      | 1579                             | RAC10 | SE       | 449            |
| 1331                      | 1580                             | RAC10 | SE       | 97             |
| 2713                      | 1587                             | RAC63 | NW       | 148            |
| 1821                      | 1589                             | -     | -        | 7              |
| 2711                      | 1590                             | RAC53 | NW       | 492            |
| 1819                      | 1597                             | RAC43 | NE       | 0              |
| 2712                      | 1601                             | RAC54 | NW       | 613            |
| 2161                      | 2006                             | -     | -        | 140            |
| 1612                      | 2053                             | RAC30 | SE       | 125            |
| 2272                      | 2092                             | RAC53 | NW       | 61             |
| 1673                      | 2097                             | RAC53 | NW       | 126            |
| 1424                      | 2111                             | RAC30 | SE       | 96             |
| 1613                      | 2114                             | RAC30 | SE       | 75             |
| 1631                      | 2116                             | RAC30 | SE       | 69             |
| 1467                      | 2120                             | RAC43 | NE       | 71             |
| 1716                      | 2143                             | RAC41 | NE       | 119            |
| 1523                      | 2166                             | RAC42 | NE       | 34             |
| 1746                      | 2178                             | RAC32 | SE       | 8              |
| 1763                      | 2180                             | RAC42 | NE       | 10             |
| 2247                      | 2185                             | RAC54 | NW       | 6              |
| 2280                      | 2187                             | RAC54 | NW       | 359            |
| 1692                      | 2200                             | RAC42 | NE       | 361            |
| 1646                      | 2206                             | RAC45 | NW       | 43             |
| 1521                      | 2215                             | RAC45 | NW       | 82             |
| 1511                      | 2217                             | RAC43 | NE       | 8              |
| 1599                      | 2218                             | -     | -        | 1              |
| 1443                      | 2229                             | RAC43 | NE       | 237            |
| 1501                      | 2235                             | -     | -        | 1              |
| 1414                      | 2255                             | RAC41 | NE       | 69             |
| 1416                      | 2256                             | RAC41 | NE       | 67             |
| 1415                      | 2257                             | RAC41 | NE       | 179            |
| 1456                      | 2270                             | RAC41 | NE       | 43             |
| 1504                      | 2273                             | RAC41 | NE       | 20             |
| 1483                      | 2274                             | RAC41 | NE       | 278            |
| 1602                      | 2277                             | RAC41 | NE       | 153            |
| 1660                      | 2283                             | RAC41 | NE       | 38             |
| 1536                      | 2301                             | RAC44 | NE       | 102            |
| 1543                      | 2311                             | -     | -        | 1              |



| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1760                      | 2314                             | RAC45 | NW       | 88             |
| 2714                      | 2315                             | RAC50 | NW       | 44             |
| 2715                      | 2316                             | RAC46 | NE       | 0              |
| 2716                      | 2325                             | RAC54 | NW       | 46             |
| 2718                      | 2331                             | RAC55 | NW       | 60             |
| 2719                      | 2332                             | RAC55 | NW       | 2              |
| 2721                      | 2335                             | RAC60 | NW       | 67             |
| 2720                      | 2336                             | RAC54 | NW       | 459            |
| 2722                      | 2338                             | RAC55 | NW       | 25             |
| 2723                      | 2339                             | RAC63 | NW       | 19             |
| 2724                      | 2340                             | RAC51 | NW       | 264            |
| 2727                      | 2342                             | RAC54 | NW       | 12             |
| 2725                      | 2343                             | RAC45 | NW       | 24             |
| 2729                      | 2344                             | RAC64 | NW       | 16             |
| 2726                      | 2345                             | -     | -        | 850            |
| 2728                      | 2346                             | RAC61 | NW       | 323            |
| 1822                      | 2348                             | RAC43 | NE       | 27             |
| 2731                      | 2350                             | RAC55 | NW       | 629            |
| 4001                      | 2372                             | -     | -        | 0              |
| 1694                      | 2390                             | RAC42 | NE       | 45             |
| 1680                      | 2400                             | RAC41 | NE       | 45             |
| 2158                      | 2409                             | RAC54 | NW       | 381            |
| 1274                      | 2410                             | RAC30 | SE       | 140            |
| 1656                      | 2414                             | -     | -        | 1              |
| 1281                      | 2440                             | RAC32 | SE       | 58             |
| 1207                      | 2451                             | RAC30 | SE       | 176            |
| 1294                      | 2452                             | -     | -        | 1              |
| 1413                      | 2454                             | RAC30 | SE       | 66             |
| 1143                      | 2458                             | RAC10 | SE       | 37             |
| 1221                      | 2460                             | RAC30 | SE       | 101            |
| 1009                      | 2462                             | RAC10 | SE       | 178            |
| 1116                      | 2466                             | RAC10 | SE       | 65             |
| 1713                      | 2492                             | RAC41 | NE       | 31             |
| 1206                      | 2521                             | RAC30 | SE       | 184            |
| 1242                      | 2530                             | RAC30 | SE       | 202            |
| 1742                      | 2534                             | RAC42 | NE       | 8              |
| 1581                      | 2536                             | -     | -        | 1              |
| 1495                      | 2539                             | RAC41 | NE       | 15             |
| 1241                      | 2540                             | RAC42 | NE       | 88             |
| 1343                      | 2541                             | RAC42 | NE       | 89             |
| 1256                      | 2542                             | RAC42 | NE       | 55             |
| 1357                      | 2543                             | RAC42 | NE       | 7              |
| 1519                      | 2545                             | RAC41 | NE       | 81             |
| 1230                      | 2550                             | RAC32 | SE       | 281            |
| 1675                      | 2556                             | RAC43 | NE       | 19             |
| 1743                      | 2558                             | -     | -        | 1              |
| 1317                      | 2559                             | -     | -        | 1              |
| 1188                      | 2560                             | RAC32 | SE       | 124            |
| 1257                      | 2561                             | RAC32 | SE       | 13             |
| 1347                      | 2562                             | RAC32 | SE       | 22             |
| 1353                      | 2564                             | RAC44 | NE       | 34             |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1503                      | 2566                             | -     | -        | 1              |
| 1468                      | 2567                             | RAC32 | SE       | 149            |
| 1311                      | 2570                             | RAC41 | NE       | 243            |
| 1310                      | 2571                             | RAC41 | NE       | 73             |
| 1354                      | 2572                             | RAC41 | NE       | 140            |
| 1291                      | 2573                             | RAC41 | NE       | 40             |
| 1429                      | 2574                             | -     | -        | 1              |
| 1497                      | 2575                             | RAC44 | NE       | 8              |
| 2123                      | 2577                             | RAC55 | NW       | 350            |
| 1632                      | 2579                             | RAC41 | NE       | 50             |
| 1320                      | 2580                             | RAC42 | NE       | 25             |
| 1585                      | 2581                             | RAC44 | NE       | 75             |
| 1374                      | 2585                             | RAC42 | NE       | 33             |
| 1725                      | 2601                             | RAC30 | SE       | 281            |
| 1298                      | 2620                             | RAC32 | SE       | 144            |
| 2267                      | 2629                             | RAC53 | NW       | 472            |
| 2241                      | 2631                             | RAC53 | NW       | 78             |
| 2279                      | 2634                             | RAC53 | NW       | 189            |
| 1476                      | 2638                             | RAC53 | NW       | 527            |
| 2233                      | 2641                             | RAC54 | NW       | 62             |
| 1395                      | 2650                             | RAC32 | SE       | 31             |
| 1322                      | 2652                             | RAC30 | SE       | 100            |
| 1403                      | 2653                             | RAC32 | SE       | 85             |
| 2270                      | 2666                             | -     | -        | 1              |
| 1345                      | 2669                             | RAC43 | NE       | 69             |
| 1213                      | 2670                             | RAC43 | NE       | 180            |
| 1292                      | 2671                             | RAC44 | NE       | 41             |
| 1355                      | 2673                             | RAC44 | NE       | 31             |
| 1723                      | 2685                             | RAC45 | NW       | 12             |
| 1780                      | 2686                             | RAC45 | NW       | 6              |
| 1297                      | 2690                             | RAC43 | NE       | 734            |
| 1338                      | 2691                             | RAC43 | NE       | 95             |
| 1418                      | 2697                             | RAC32 | SE       | 40             |
| 1361                      | 2698                             | -     | -        | 1              |
| 1302                      | 2699                             | RAC43 | NE       | 35             |
| 1387                      | 2701                             | RAC43 | NE       | 55             |
| 1371                      | 2702                             | RAC43 | NE       | 173            |
| 1370                      | 2703                             | RAC43 | NE       | 24             |
| 1522                      | 2704                             | RAC43 | NE       | 68             |
| 1339                      | 2705                             | RAC43 | NE       | 82             |
| 1336                      | 2706                             | RAC44 | NE       | 87             |
| 1368                      | 2707                             | RAC43 | NE       | 81             |
| 1326                      | 2708                             | RAC43 | NE       | 74             |
| 1398                      | 2709                             | RAC43 | NE       | 31             |
| 1580                      | 2714                             | RAC43 | NE       | 57             |
| 1679                      | 2717                             | RAC43 | NE       | 11             |
| 1396                      | 2718                             | RAC32 | SE       | 47             |
| 1164                      | 2719                             | RAC32 | SE       | 0              |
| 1373                      | 2720                             | RAC43 | NE       | 110            |
| 1165                      | 2721                             | RAC32 | SE       | 350            |
| 1189                      | 2722                             | RAC32 | SE       | 121            |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1440                      | 2723                             | RAC31 | SE       | 44             |
| 1579                      | 2726                             | RAC31 | SE       | 53             |
| 1608                      | 2728                             | RAC42 | NE       | 125            |
| 1386                      | 2732                             | RAC43 | NE       | 13             |
| 1721                      | 2734                             | RAC42 | NE       | 14             |
| 1772                      | 2738                             | RAC42 | NE       | 23             |
| 2276                      | 2750                             | RACBC | BC       | 373            |
| 1469                      | 2752                             | RAC43 | NE       | 23             |
| 1088                      | 2758                             | -     | -        | 90             |
| 1211                      | 2800                             | RAC30 | SE       | 64             |
| 5080                      | 2833                             | RAC30 | SE       | 40             |
| 2253                      | 2881                             | RAC51 | NW       | 75             |
| 1304                      | 2888                             | RAC43 | NE       | 25             |
| 1306                      | 2889                             | RAC43 | NE       | 6              |
| 2260                      | 2901                             | RAC45 | NW       | 102            |
| 1037                      | 3008                             | RAC27 | SW       | 1887           |
| 1402                      | 3101                             | RAC10 | SE       | 30             |
| 1219                      | 3200                             | RAC10 | SE       | 10             |
| 1431                      | 3201                             | RAC10 | SE       | 0              |
| 1433                      | 3202                             | RAC10 | SE       | 287            |
| 1390                      | 3204                             | RAC10 | SE       | 324            |
| 1346                      | 3205                             | RAC10 | SE       | 51             |
| 1426                      | 3209                             | RAC10 | SE       | 108            |
| 1473                      | 3210                             | RAC10 | SE       | 136            |
| 1533                      | 3212                             | RAC10 | SE       | 513            |
| 1423                      | 3219                             | RAC10 | SE       | 165            |
| 1318                      | 3221                             | RAC10 | SE       | 131            |
| 1381                      | 3223                             | RAC10 | SE       | 319            |
| 1212                      | 3230                             | RAC10 | SE       | 713            |
| 1220                      | 3240                             | RAC10 | SE       | 206            |
| 1263                      | 3241                             | RAC10 | SE       | 31             |
| 1237                      | 3510                             | RAC10 | SE       | 167            |
| 2221                      | 3616                             | RAC60 | NW       | 697            |
| 2246                      | 3617                             | -     | -        | 1              |
| 2282                      | 3920                             | -     | -        | 1              |
| 1797                      | 3930                             | RAC42 | NE       | 66             |
| 1794                      | 3935                             | RAC15 | SE       | 91             |
| 2284                      | 3940                             | RAC63 | NW       | 476            |
| 1801                      | 3942                             | RAC45 | NW       | 69             |
| 2288                      | 3944                             | RAC45 | NW       | 52             |
| 1796                      | 3949                             | RAC27 | SW       | 1141           |
| 1793                      | 3951                             | RAC14 | SE       | 17             |
| 2283                      | 3954                             | -     | -        | 1              |
| 2285                      | 3958                             | -     | -        | 1              |
| 1800                      | 3959                             | RAC50 | NW       | 68             |
| 2289                      | 3961                             | RAC45 | NW       | 112            |
| 1798                      | 3966                             | RAC28 | SE       | 64             |
| 1799                      | 3968                             | RAC44 | NE       | 13             |
| 1676                      | 4136                             | RAC43 | NE       | 63             |
| 1420                      | 4143                             | -     | -        | 1              |
| 1710                      | 4148                             | RAC43 | NE       | 7              |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1697                      | 4151                             | RAC43 | NE       | 417            |
| 1774                      | 4202                             | RAC20 | SE       | 19             |
| 2218                      | 4301                             | RAC60 | NW       | 88             |
| 2213                      | 4310                             | RAC60 | NW       | 46             |
| 1340                      | 4431                             | RAC31 | SE       | 146            |
| 1388                      | 4432                             | RAC31 | SE       | 183            |
| 1027                      | 4440                             | RAC31 | SE       | 129            |
| 1312                      | 4459                             | RAC31 | SE       | 32             |
| 1717                      | 4460                             | RAC14 | SE       | 147            |
| 1505                      | 4465                             | RAC31 | SE       | 31             |
| 1616                      | 4466                             | RAC31 | SE       | 53             |
| 1779                      | 4468                             | RAC31 | SE       | 152            |
| 1342                      | 4470                             | RAC31 | SE       | 108            |
| 1537                      | 4475                             | RAC31 | SE       | 18             |
| 1706                      | 4535                             | RAC44 | NE       | 92             |
| 1407                      | 4538                             | RAC43 | NE       | 66             |
| 1215                      | 4540                             | RAC32 | SE       | 34             |
| 1299                      | 4561                             | RAC32 | SE       | 28             |
| 1293                      | 4562                             | -     | -        | 1              |
| 1300                      | 4563                             | RAC32 | SE       | 26             |
| 1391                      | 4564                             | RAC32 | SE       | 97             |
| 1635                      | 4570                             | RAC31 | SE       | 42             |
| 1614                      | 4574                             | RAC31 | SE       | 44             |
| 1563                      | 4577                             | -     | -        | 1              |
| 1560                      | 4578                             | RAC32 | SE       | 64             |
| 1365                      | 4579                             | RAC15 | SE       | 129            |
| 1182                      | 4580                             | RAC31 | SE       | 94             |
| 1273                      | 4581                             | RAC32 | SE       | 384            |
| 1272                      | 4582                             | RAC32 | SE       | 48             |
| 1401                      | 4585                             | RAC31 | SE       | 42             |
| 1538                      | 4588                             | RAC32 | SE       | 70             |
| 1561                      | 4589                             | RAC32 | SE       | 52             |
| 1439                      | 4592                             | RAC32 | SE       | 184            |
| 1570                      | 4596                             | RAC31 | SE       | 67             |
| 1775                      | 4599                             | RAC14 | SE       | 29             |
| 1525                      | 4611                             | -     | -        | 1              |
| 3601                      | 4699                             | -     | -        | 0              |
| 1693                      | 4701                             | RAC25 | SW       | 914            |
| 2244                      | 4811                             | RAC51 | NW       | 410            |
| 1699                      | 5026                             | RAC10 | SE       | 173            |
| 1287                      | 5300                             | RAC15 | SE       | 49             |
| 1224                      | 5420                             | RAC14 | SE       | 14             |
| 1218                      | 5430                             | RAC14 | SE       | 415            |
| 5401                      | 5433                             | -     | -        | 1              |
| 1313                      | 5437                             | -     | -        | 12             |
| 1593                      | 5439                             | RAC14 | SE       | 1              |
| 1610                      | 5443                             | RAC14 | SE       | 11             |
| 1405                      | 5450                             | -     | -        | 1              |
| 1296                      | 5461                             | RAC14 | SE       | 263            |
| 1315                      | 5462                             | RAC14 | SE       | 157            |
| 1314                      | 5471                             | RAC14 | SE       | 97             |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1644                      | 5472                             | RAC14 | SE       | 124            |
| 1275                      | 5481                             | RAC14 | SE       | 15             |
| 1649                      | 5485                             | RAC14 | SE       | 261            |
| 1782                      | 5487                             | RAC11 | SE       | 132            |
| 1208                      | 5510                             | RAC14 | SE       | 441            |
| 1380                      | 5540                             | RAC14 | SE       | 11             |
| 1378                      | 5541                             | RAC14 | SE       | 253            |
| 1210                      | 5561                             | RAC14 | SE       | 152            |
| 2281                      | 5600                             | RAC25 | SW       | 1822           |
| 1789                      | 5602                             | -     | -        | 1              |
| 1788                      | 5607                             | -     | -        | 1              |
| 1480                      | 6022                             | RAC15 | SE       | 347            |
| 1773                      | 6039                             | RAC42 | NE       | 76             |
| 1496                      | 6071                             | RAC28 | SE       | 100            |
| 1659                      | 6145                             | RAC28 | SE       | 236            |
| 1591                      | 6172                             | RAC28 | SE       | 85             |
| 1769                      | 6194                             | RAC43 | NE       | 30             |
| 1759                      | 6226                             | RAC45 | NW       | 66             |
| 1715                      | 6231                             | RAC42 | NE       | 16             |
| 1672                      | 6241                             | RAC45 | NW       | 63             |
| 1724                      | 6243                             | RAC45 | NW       | 23             |
| 2254                      | 6265                             | -     | -        | 1              |
| 1411                      | 6273                             | RAC24 | SW       | 17             |
| 1419                      | 6343                             | RAC15 | SE       | 96             |
| 1499                      | 6398                             | RAC25 | SW       | 8533           |
| 1587                      | 6403                             | RAC45 | NW       | 71             |
| 1090                      | 6405                             | RAC45 | NW       | 418            |
| 1515                      | 6409                             | -     | -        | 1              |
| 1330                      | 6412                             | RAC15 | SE       | 509            |
| 1107                      | 6441                             | RAC20 | SE       | 136            |
| 1134                      | 6443                             | RAC21 | SW       | 29             |
| 1737                      | 6444                             | RAC21 | SW       | 530            |
| 1146                      | 6461                             | RAC28 | SE       | 340            |
| 1144                      | 6462                             | RAC28 | SE       | 158            |
| 1427                      | 6463                             | RAC28 | SE       | 179            |
| 1531                      | 6466                             | -     | -        | 1              |
| 1530                      | 6468                             | RAC20 | SE       | 77             |
| 1598                      | 6471                             | -     | -        | 1              |
| 1600                      | 6473                             | RAC20 | SE       | 159            |
| 1709                      | 6490                             | RAC32 | SE       | 101            |
| 1720                      | 6520                             | RAC32 | SE       | 109            |
| 1147                      | 6521                             | RAC28 | SE       | 193            |
| 1232                      | 6522                             | RAC28 | SE       | 35             |
| 1308                      | 6523                             | RAC28 | SE       | 490            |
| 1508                      | 6526                             | RAC20 | SE       | 187            |
| 1073                      | 6531                             | RAC20 | SE       | 1131           |
| 1567                      | 6539                             | RAC28 | SE       | 84             |
| 1329                      | 6541                             | RAC28 | SE       | 104            |
| 1393                      | 6544                             | RAC28 | SE       | 95             |
| 1475                      | 6547                             | -     | -        | 1              |
| 1399                      | 6551                             | -     | -        | 1              |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1500                      | 6553                             | RAC28 | SE       | 332            |
| 1532                      | 6557                             | -     | -        | 1              |
| 1542                      | 6560                             | -     | -        | 0              |
| 1574                      | 6567                             | RAC20 | SE       | 159            |
| 1562                      | 6568                             | RAC28 | SE       | 14             |
| 1234                      | 6570                             | RAC27 | SW       | 126            |
| 1142                      | 6571                             | RAC28 | SE       | 405            |
| 1568                      | 6576                             | RAC28 | SE       | 85             |
| 1623                      | 6577                             | RAC20 | SE       | 276            |
| 1645                      | 6578                             | RAC30 | SE       | 21             |
| 1070                      | 6591                             | RAC15 | SE       | 343            |
| 1738                      | 6716                             | RAC44 | NE       | 58             |
| 1629                      | 6719                             | -     | -        | 1              |
| 1609                      | 6721                             | RAC50 | NW       | 28             |
| 1321                      | 6724                             | RAC44 | NE       | 194            |
| 1389                      | 6726                             | RAC45 | NW       | 20             |
| 1341                      | 6727                             | RAC44 | NE       | 215            |
| 1412                      | 6728                             | RAC44 | NE       | 132            |
| 1434                      | 6729                             | RAC44 | NE       | 68             |
| 1227                      | 6730                             | RAC44 | NE       | 218            |
| 1157                      | 6731                             | RAC44 | NE       | 453            |
| 1225                      | 6732                             | RAC44 | NE       | 55             |
| 1328                      | 6733                             | -     | -        | 1              |
| 1337                      | 6734                             | RAC44 | NE       | 97             |
| 1276                      | 6735                             | RAC44 | NE       | 103            |
| 1377                      | 6736                             | RAC44 | NE       | 97             |
| 1290                      | 6738                             | RAC44 | NE       | 89             |
| 1279                      | 6739                             | RAC44 | NE       | 27             |
| 1324                      | 6740                             | RAC44 | NE       | 33             |
| 1394                      | 6742                             | RAC44 | NE       | 39             |
| 1695                      | 6743                             | RAC44 | NE       | 220            |
| 1430                      | 6746                             | RAC44 | NE       | 55             |
| 1527                      | 6752                             | RAC44 | NE       | 92             |
| 1564                      | 6756                             | RAC44 | NE       | 71             |
| 1770                      | 6757                             | RAC44 | NE       | 56             |
| 1502                      | 6759                             | RAC44 | NE       | 46             |
| 1677                      | 6766                             | RAC44 | NE       | 73             |
| 1681                      | 6776                             | RAC50 | NW       | 74             |
| 1526                      | 6779                             | RAC50 | NW       | 70             |
| 1307                      | 6800                             | RAC50 | NW       | 535            |
| 1270                      | 6802                             | RAC31 | SE       | 185            |
| 1284                      | 6803                             | RAC15 | SE       | 101            |
| 1288                      | 6805                             | RAC15 | SE       | 1              |
| 1350                      | 6806                             | RAC31 | SE       | 49             |
| 1379                      | 6807                             | RAC15 | SE       | 154            |
| 1409                      | 6808                             | RAC31 | SE       | 596            |
| 1259                      | 6810                             | RAC15 | SE       | 79             |
| 1056                      | 6811                             | RAC15 | SE       | 119            |
| 1203                      | 6812                             | RAC15 | SE       | 72             |
| 1267                      | 6813                             | RAC15 | SE       | 98             |
| 1634                      | 6816                             | RAC42 | NE       | 17             |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1624                      | 6818                             | RAC42 | NE       | 265            |
| 1684                      | 6819                             | RAC42 | NE       | 40             |
| 1461                      | 6820                             | RAC15 | SE       | 95             |
| 1466                      | 6821                             | RAC15 | SE       | 546            |
| 1734                      | 6824                             | RAC42 | NE       | 26             |
| 1711                      | 6825                             | RAC42 | NE       | 0              |
| 1733                      | 6826                             | RAC42 | NE       | 50             |
| 1691                      | 6830                             | -     | -        | 1              |
| 1777                      | 6831                             | RAC42 | NE       | 35             |
| 1718                      | 6837                             | RAC41 | NE       | 55             |
| 1783                      | 6838                             | RAC41 | NE       | 55             |
| 1158                      | 6841                             | -     | -        | 1              |
| 1589                      | 6843                             | RAC50 | NW       | 377            |
| 1194                      | 6850                             | RAC45 | NW       | 32             |
| 1362                      | 6852                             | RAC44 | NE       | 98             |
| 1375                      | 6853                             | RAC45 | NW       | 102            |
| 1620                      | 6856                             | -     | -        | 1              |
| 1576                      | 6857                             | RAC50 | NW       | 377            |
| 2099                      | 6859                             | RAC26 | SW       | 520            |
| 2077                      | 6860                             | -     | -        | 1              |
| 1636                      | 6866                             | RAC50 | NW       | 213            |
| 1190                      | 6871                             | RAC20 | SE       | 245            |
| 1753                      | 6881                             | RAC45 | NW       | 86             |
| 2081                      | 6892                             | RAC21 | SW       | 133            |
| 2080                      | 6893                             | -     | -        | 1              |
| 1686                      | 6897                             | RAC21 | SW       | 1714           |
| 1150                      | 6901                             | RAC15 | SE       | 233            |
| 1435                      | 6905                             | RAC15 | SE       | 175            |
| 1490                      | 6907                             | RAC15 | SE       | 62             |
| 1139                      | 6931                             | RAC21 | SW       | 525            |
| 1358                      | 6932                             | -     | -        | 1              |
| 1840                      | 6933                             | RAC21 | SW       | 204            |
| 1534                      | 6935                             | RAC21 | SW       | 721            |
| 1170                      | 6949                             | -     | -        | 4499           |
| 1622                      | 6950                             | RAC20 | SE       | 146            |
| 1352                      | 6951                             | RAC20 | SE       | 341            |
| 1539                      | 6957                             | RAC20 | SE       | 70             |
| 1606                      | 6959                             | RAC20 | SE       | 76             |
| 1115                      | 6961                             | RAC24 | SW       | 3827           |
| 1135                      | 6971                             | RAC24 | SW       | 7585           |
| 1372                      | 6972                             | RAC21 | SW       | 657            |
| 1437                      | 6973                             | RAC24 | SW       | 2142           |
| 1654                      | 6976                             | -     | -        | 34             |
| 1558                      | 6980                             | RAC25 | SW       | 1782           |
| 1166                      | 6982                             | RAC21 | SW       | 2225           |
| 1400                      | 6984                             | RAC45 | NW       | 100            |
| 1185                      | 6985                             | RAC25 | SW       | 1133           |
| 1367                      | 6988                             | -     | -        | 1              |
| 1663                      | 6990                             | RAC51 | NW       | 108            |
| 1572                      | 6993                             | RAC51 | NW       | 435            |
| 1573                      | 6994                             | RAC50 | NW       | 151            |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 2177                      | 6995                             | RAC51 | NW       | 269            |
| 1422                      | 6999                             | -     | -        | 1              |
| 1516                      | 7002                             | RAC51 | NW       | 81             |
| 1494                      | 7005                             | RAC51 | NW       | 172            |
| 1595                      | 7007                             | RAC51 | NW       | 70             |
| 1626                      | 7008                             | -     | -        | 1              |
| 1683                      | 7018                             | -     | -        | 1              |
| 1661                      | 7020                             | RAC51 | NW       | 1499           |
| 2228                      | 7022                             | RAC51 | NW       | 440            |
| 1754                      | 7134                             | RAC27 | SW       | 17             |
| 2237                      | 7201                             | RAC51 | NW       | 261            |
| 1264                      | 7441                             | RAC27 | SW       | 38             |
| 1243                      | 7470                             | -     | -        | 1              |
| 1261                      | 7480                             | RAC27 | SW       | 11             |
| 1335                      | 7520                             | RAC27 | SW       | 52             |
| 1316                      | 7540                             | RAC21 | SW       | 9              |
| 1689                      | 7560                             | RAC42 | NE       | 17             |
| 2264                      | 7601                             | RACBC | BC       | 42             |
| 2251                      | 7611                             | RAC62 | NW       | 94             |
| 2145                      | 7999                             | RAC64 | NW       | 56             |
| 2086                      | 8002                             | RAC64 | NW       | 54             |
| 2085                      | 8004                             | RAC64 | NW       | 58             |
| 2138                      | 8008                             | RAC64 | NW       | 45             |
| 2098                      | 8009                             | RAC64 | NW       | 108            |
| 2093                      | 8011                             | RAC64 | NW       | 308            |
| 2114                      | 8012                             | -     | -        | 1              |
| 2064                      | 8013                             | RAC64 | NW       | 50             |
| 2066                      | 8015                             | RAC64 | NW       | 373            |
| 2068                      | 8016                             | RAC64 | NW       | 26             |
| 2082                      | 8032                             | RAC55 | NW       | 44             |
| 2121                      | 8034                             | RAC55 | NW       | 276            |
| 2063                      | 8035                             | RAC60 | NW       | 113            |
| 2065                      | 8038                             | RAC60 | NW       | 36             |
| 2054                      | 8039                             | RAC60 | NW       | 237            |
| 2047                      | 8041                             | RAC60 | NW       | 83             |
| 2097                      | 8042                             | RAC54 | NW       | 72             |
| 2053                      | 8043                             | RAC64 | NW       | 32             |
| 2060                      | 8044                             | RAC64 | NW       | 130            |
| 2072                      | 8048                             | -     | -        | 301            |
| 2083                      | 8053                             | RAC54 | NW       | 55             |
| 2087                      | 8054                             | RAC54 | NW       | 216            |
| 2148                      | 8056                             | RAC60 | NW       | 51             |
| 2140                      | 8058                             | RAC55 | NW       | 58             |
| 2184                      | 8061                             | -     | -        | 1              |
| 1479                      | 8063                             | RAC53 | NW       | 349            |
| 2139                      | 8064                             | RAC55 | NW       | 93             |
| 2144                      | 8067                             | RAC55 | NW       | 31             |
| 2192                      | 8073                             | RAC60 | NW       | 130            |
| 2201                      | 8077                             | RAC64 | NW       | 262            |
| 2133                      | 8079                             | RAC60 | NW       | 24             |
| 1647                      | 8080                             | RAC42 | NE       | 301            |



| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 2127                      | 8084                             | RAC64 | NW       | 363            |
| 2216                      | 8088                             | RAC64 | NW       | 59             |
| 2249                      | 8092                             | RAC64 | NW       | 58             |
| 2236                      | 8096                             | RAC64 | NW       | 883            |
| 1785                      | 8097                             | RAC45 | NW       | 94             |
| 2126                      | 8101                             | RAC64 | NW       | 56             |
| 1728                      | 8115                             | RAC32 | SE       | 7              |
| 2268                      | 8297                             | RAC51 | NW       | 516            |
| 2263                      | 8375                             | RAC63 | NW       | 1121           |
| 2050                      | 8400                             | RAC61 | NW       | 262            |
| 2057                      | 8403                             | RAC61 | NW       | 110            |
| 2055                      | 8405                             | RAC61 | NW       | 120            |
| 2110                      | 8409                             | RAC60 | NW       | 60             |
| 3009                      | 8410                             | RAC61 | NW       | 197            |
| 2059                      | 8411                             | RAC60 | NW       | 381            |
| 3008                      | 8412                             | RAC61 | NW       | 8              |
| 2166                      | 8413                             | RAC61 | NW       | 207            |
| 2193                      | 8414                             | RAC61 | NW       | 897            |
| 2250                      | 8415                             | RAC60 | NW       | 5              |
| 2175                      | 8419                             | RAC55 | NW       | 319            |
| 2084                      | 8422                             | RAC54 | NW       | 167            |
| 1784                      | 8424                             | -     | -        | 1              |
| 2235                      | 8431                             | RAC61 | NW       | 168            |
| 2256                      | 8442                             | RAC45 | NW       | 22             |
| 2259                      | 8444                             | RACBC | BC       | 372            |
| 2208                      | 8451                             | RAC55 | NW       | 111            |
| 2219                      | 8456                             | RAC60 | NW       | 53             |
| 2210                      | 8460                             | RAC60 | NW       | 19             |
| 2214                      | 8466                             | RAC45 | NW       | 85             |
| 2261                      | 8471                             | RAC45 | NW       | 25             |
| 1383                      | 8615                             | RAC32 | SE       | 38             |
| 1231                      | 8620                             | RAC32 | SE       | 11             |
| 1334                      | 8621                             | RAC32 | SE       | 73             |
| 1265                      | 8630                             | RAC32 | SE       | 25             |
| 1392                      | 8640                             | RAC32 | SE       | 46             |
| 1266                      | 8650                             | RAC32 | SE       | 41             |
| 1382                      | 8660                             | RAC32 | SE       | 77             |
| 1752                      | 8787                             | -     | -        | 1              |
| 1739                      | 8969                             | RAC27 | SW       | 140            |
| 2120                      | 9010                             | RAC26 | SW       | 275            |
| 2136                      | 9043                             | RAC51 | NW       | 64             |
| 1452                      | 9046                             | RAC53 | NW       | 332            |
| 2207                      | 9048                             | RAC54 | NW       | 51             |
| 2248                      | 9064                             | RAC54 | NW       | 25             |
| 2129                      | 9143                             | RAC26 | SW       | 375            |
| 2088                      | 9167                             | RAC26 | SW       | 75             |
| 2173                      | 9169                             | RAC26 | SW       | 169            |
| 2122                      | 9235                             | -     | -        | 1              |
| 1776                      | 9257                             | RAC47 | NE       | 94             |
| 2104                      | 9262                             | RAC26 | SW       | 53             |
| 2209                      | 9266                             | RAC26 | SW       | 187            |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 2252                      | 9268                             | RAC26 | SW       | 1121           |
| 2265                      | 9269                             | RAC26 | SW       | 186            |
| 1214                      | 9320                             | RAC27 | SW       | 115            |
| 2070                      | 9340                             | RAC51 | NW       | 178            |
| 1569                      | 9344                             | RAC53 | NW       | 3327           |
| 2076                      | 9349                             | RAC54 | NW       | 224            |
| 1462                      | 9355                             | RAC51 | NW       | 625            |
| 2257                      | 9357                             | -     | -        | 1              |
| 2062                      | 9360                             | -     | -        | 1              |
| 2096                      | 9361                             | RAC51 | NW       | 87             |
| 1701                      | 9365                             | RAC51 | NW       | 89             |
| 2277                      | 9393                             | RAC45 | NW       | 295            |
| 5009                      | 9411                             | -     | -        | 193            |
| 5021                      | 9423                             | RAC46 | NE       | 52             |
| 2036                      | 9432                             | RAC22 | SW       | 1531           |
| 1792                      | 9451                             | RAC20 | SE       | 161            |
| 2150                      | 9480                             | RAC26 | SW       | 24             |
| 2037                      | 9481                             | RAC27 | SW       | 820            |
| 2040                      | 9482                             | RAC26 | SW       | 96             |
| 2151                      | 9483                             | RAC26 | SW       | 8              |
| 2211                      | 9524                             | RAC51 | NW       | 283            |
| 2229                      | 9527                             | RAC51 | NW       | 105            |
| 2089                      | 9550                             | RAC51 | NW       | 330            |
| 2168                      | 9551                             | RAC51 | NW       | 133            |
| 2049                      | 9580                             | RAC26 | SW       | 276            |
| 2071                      | 9582                             | RAC26 | SW       | 314            |
| 2111                      | 9583                             | RAC26 | SW       | 43             |
| 2172                      | 9586                             | RAC26 | SW       | 20             |
| 2046                      | 9590                             | RAC26 | SW       | 37             |
| 2112                      | 9601                             | RAC26 | SW       | 464            |
| 2035                      | 9611                             | RAC51 | NW       | 5413           |
| 2245                      | 9620                             | -     | -        | 1              |
| 2067                      | 9630                             | -     | -        | 1              |
| 2075                      | 9631                             | RAC54 | NW       | 113            |
| 2223                      | 9638                             | RAC60 | NW       | 81             |
| 2034                      | 9651                             | RAC51 | NW       | 83             |
| 2073                      | 9652                             | -     | -        | 1              |
| 2224                      | 9665                             | RAC51 | NW       | 30             |
| 2028                      | 9672                             | RAC51 | NW       | 368            |
| 2194                      | 9674                             | RAC51 | NW       | 50             |
| 2171                      | 9682                             | RAC26 | SW       | 70             |
| 2278                      | 9769                             | RAC64 | NW       | 136            |
| 2239                      | 9772                             | RAC54 | NW       | 51             |
| 2274                      | 9775                             | -     | -        | 1              |
| 1633                      | 9781                             | RAC42 | NE       | 132            |
| 1628                      | 9788                             | RAC47 | NE       | 39             |
| 2182                      | 9791                             | RAC64 | NW       | 159            |
| 2170                      | 9792                             | RAC54 | NW       | 67             |
| 1484                      | 9798                             | RAC41 | NE       | 81             |
| 2117                      | 9802                             | RAC62 | NW       | 231            |
| 1454                      | 9808                             | RAC42 | NE       | 101            |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 2124                      | 9810                             | -     | -        | 1              |
| 1577                      | 9813                             | RAC47 | NE       | 101            |
| 1446                      | 9814                             | RAC47 | NE       | 440            |
| 1491                      | 9819                             | RAC43 | NE       | 2              |
| 2119                      | 9820                             | RAC54 | NW       | 121            |
| 2118                      | 9824                             | RAC54 | NW       | 179            |
| 1460                      | 9830                             | RAC41 | NE       | 85             |
| 1459                      | 9832                             | -     | -        | 1              |
| 1514                      | 9835                             | RAC41 | NE       | 32             |
| 1730                      | 9836                             | RAC41 | NE       | 16             |
| 1524                      | 9838                             | RAC42 | NE       | 29             |
| 1458                      | 9841                             | RAC20 | SE       | 133            |
| 1517                      | 9843                             | RAC41 | NE       | 97             |
| 1485                      | 9845                             | RAC47 | NE       | 56             |
| 1482                      | 9847                             | RAC47 | NE       | 203            |
| 1489                      | 9851                             | RAC53 | NW       | 838            |
| 2128                      | 9853                             | RAC60 | NW       | 86             |
| 5004                      | 9858                             | RAC46 | NE       | 70             |
| 5005                      | 9860                             | RAC46 | NE       | 134            |
| 5012                      | 9862                             | RAC46 | NE       | 43             |
| 1487                      | 9866                             | RAC45 | NW       | 143            |
| 1492                      | 9868                             | RAC43 | NE       | 67             |
| 1535                      | 9870                             | RAC41 | NE       | 36             |
| 2137                      | 9871                             | RAC62 | NW       | 945            |
| 1550                      | 9876                             | -     | -        | 1              |
| 2143                      | 9879                             | RAC54 | NW       | 23             |
| 5003                      | 9881                             | RAC46 | NE       | 151            |
| 1547                      | 9882                             | RAC10 | SE       | 124            |
| 1548                      | 9883                             | RAC10 | SE       | 38             |
| 1549                      | 9884                             | -     | -        | 1              |
| 1551                      | 9885                             | RAC10 | SE       | 77             |
| 1555                      | 9889                             | RAC10 | SE       | 60             |
| 1556                      | 9890                             | RAC10 | SE       | 256            |
| 5025                      | 9894                             | RAC46 | NE       | 85             |
| 1557                      | 9899                             | RAC10 | SE       | 35             |
| 1540                      | 9900                             | RAC20 | SE       | 99             |
| 2135                      | 9903                             | -     | -        | 276            |
| 5027                      | 9913                             | RAC46 | NE       | 73             |
| 5022                      | 9915                             | RAC46 | NE       | 398            |
| 5026                      | 9919                             | RAC46 | NE       | 98             |
| 5082                      | 9923                             | -     | -        | 1              |
| 1590                      | 9927                             | RAC47 | NE       | 147            |
| 5028                      | 9928                             | RAC46 | NE       | 17             |
| 2174                      | 9930                             | RAC54 | NW       | 92             |
| 5081                      | 9934                             | -     | -        | 1              |
| 1625                      | 9938                             | -     | -        | 1              |
| 5083                      | 9939                             | RAC46 | NE       | 85             |
| 1627                      | 9942                             | RAC47 | NE       | 136            |
| 1651                      | 9947                             | RAC28 | SE       | 222            |
| 1748                      | 9951                             | -     | -        | 1              |
| 1708                      | 9952                             | RAC46 | NE       | 160            |

| Meter Station Node Number | Plant Accounting Location Number | RAC   | Quadrant | Ultimate (bcf) |
|---------------------------|----------------------------------|-------|----------|----------------|
| 1704                      | 9956                             | RAC42 | NE       | 124            |
| 1705                      | 9958                             | RAC42 | NE       | 166            |
| 1707                      | 9959                             | RAC42 | NE       | 36             |
| 1671                      | 9963                             | RAC47 | NE       | 68             |
| 1670                      | 9964                             | RAC47 | NE       | 30             |
| 1685                      | 9967                             | RAC42 | NE       | 54             |
| 1741                      | 9968                             | RAC46 | NE       | 193            |
| 1669                      | 9969                             | RAC47 | NE       | 60             |
| 1449                      | 9971                             | RAC47 | NE       | 433            |
| 1736                      | 9973                             | RAC42 | NE       | 166            |
| 1668                      | 9974                             | -     | -        | 1              |
| 1666                      | 9979                             | RAC47 | NE       | 99             |
| 1667                      | 9983                             | RAC47 | NE       | 228            |
| 1674                      | 9985                             | RAC47 | NE       | 29             |
| 1696                      | 9987                             | RAC47 | NE       | 89             |
| 1682                      | 9990                             | RAC47 | NE       | 71             |
| 1712                      | 9992                             | RAC47 | NE       | 33             |

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ATCO-NGTL-022

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix A, Depreciation Study, Pages III-142 to III-202

**Preamble:**

NGTL identified the following accounts for which unit of production depreciation is applied: meter station accounts 4611, 4630, 4631, 4670, 4671, 4672, and 4673, and pipeline accounts 4610, 4651 and 4652. Of all the accounts noted, only the pipeline account 4651 was shown in detail by specific lateral, vintage year and original costs.

**Request:**

Please provide data by account in the same format as shown on pages III-142 to III-202 for each account noted above, except 4651.

**Response:**

The requested data are being provided on a CD-ROM to ATCO and the Board. The data will also be made available to other interveners on request.

Placeholder for Attachment ATCO-NGTL-022

Provided in CD format only due to document size limitations

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ATCO-NGTL-023(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study Data

**Preamble:**

Depreciation Data Request.

**Request:**

Please provide a copy of the Company's December 31 Plant-in-Service statements for the years 1990 through 2002.

**Response:**

Please refer to Attachment ATCO-NGTL-023(a).

|                             | 2002             | 2001             | 2000             | 1999             | 1998             | 1997             | 1996             | 1995             | 1994             | 1993             | 1992             | 1991             | 1990             |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| MS Land                     | 11,916           | 12,874           | 16,277           | 16,763           | 16,217           | 15,996           | 1,173            | 1,180            | 1,179            | 1,142            | 1,143            | 1,136            | 1,146            |
| MS Landrights               | 1,065            | 1,036            | 1,025            | 1,006            | 972              | 897              | 872              | 837              | 676              | 594              | 582              | 527              | 488              |
| MS Site                     | 17,239           | 17,302           | 16,606           | 16,599           | 13,497           | 12,557           | 12,192           | 11,394           | 10,482           | 9,801            | 9,717            | 9,303            | 8,007            |
| MS Fencing                  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                |
| MS Buildings                | 71,594           | 70,916           | 68,584           | 65,451           | 64,889           | 64,037           | 61,656           | 59,500           | 51,223           | 45,025           | 41,114           | 38,834           | 33,796           |
| MS Piping                   | 217,777          | 214,905          | 213,500          | 202,093          | 197,658          | 194,277          | 187,820          | 179,735          | 170,023          | 156,474          | 144,748          | 133,553          | 114,096          |
| MS Instrumentation          | 60,670           | 57,284           | 54,539           | 51,212           | 44,024           | 38,463           | 35,475           | 34,662           | 37,447           | 39,998           | 38,608           | 39,243           | 36,841           |
| MS Electrical               | 52,286           | 51,555           | 50,834           | 48,504           | 46,651           | 45,226           | 43,703           | 40,734           | 36,205           | 32,525           | 32,559           | 27,677           | 23,027           |
| MS Automation               | 56,301           | 55,932           | 54,566           | 53,277           | 53,166           | 51,219           | 52,021           | 46,664           | 37,233           | 31,356           | 23,749           | 20,919           | 18,187           |
| CS Land                     | 0                | 0                | 0                | 0                | 0                | 0                | 2,101            | 1,904            | 1,850            | 1,179            | 785              | 417              | 347              |
| CS Landrights               | 868              | 323              | 316              | 306              | 228              | 226              | 227              | 218              | 189              | 185              | 180              | 178              | 137              |
| CS Site                     | 46,741           | 46,149           | 46,080           | 45,485           | 44,424           | 43,477           | 43,156           | 41,249           | 36,827           | 35,324           | 31,902           | 29,960           | 22,382           |
| CS Buildings                | 166,904          | 164,125          | 161,218          | 147,239          | 140,802          | 138,868          | 132,825          | 125,168          | 114,411          | 110,143          | 99,161           | 88,837           | 74,700           |
| CS Compressor Unit          | 720,378          | 704,067          | 713,383          | 686,671          | 636,414          | 629,391          | 620,682          | 603,034          | 540,266          | 513,332          | 430,027          | 354,626          | 302,681          |
| CS Piping and Valves        | 414,917          | 409,290          | 398,852          | 388,622          | 360,470          | 346,455          | 339,587          | 332,267          | 305,343          | 297,152          | 244,886          | 209,453          | 172,297          |
| CS Instrumentation          | 28,778           | 28,401           | 28,349           | 27,364           | 22,867           | 19,771           | 17,697           | 16,470           | 15,384           | 14,793           | 13,938           | 12,551           | 11,256           |
| CS Electric System          | 94,312           | 93,511           | 86,939           | 83,633           | 80,049           | 79,388           | 79,131           | 78,155           | 70,438           | 69,559           | 63,624           | 53,051           | 46,164           |
| CS Automation               | 42,003           | 40,313           | 35,044           | 30,700           | 28,999           | 27,410           | 26,741           | 25,321           | 26,171           | 26,036           | 24,816           | 20,963           | 17,361           |
| PL Land                     | 0                | 0                | 0                | 0                | 0                | 0                | 3,342            | 3,359            | 2,914            | 2,726            | 2,243            | 1,588            | 1,538            |
| PL Landrights               | 53,188           | 53,314           | 53,773           | 51,762           | 50,166           | 47,037           | 46,735           | 44,246           | 41,293           | 37,182           | 39,881           | 35,691           | 32,406           |
| PL Pipe                     | 4,569,424        | 4,464,258        | 4,391,866        | 4,249,530        | 3,990,236        | 3,780,532        | 3,607,622        | 3,515,519        | 2,985,986        | 2,537,440        | 2,314,800        | 2,080,366        | 1,789,247        |
| PL Valve Assemblies         | 295,485          | 289,276          | 280,247          | 254,982          | 233,979          | 221,835          | 205,378          | 197,728          | 170,469          | 144,224          | 124,332          | 106,533          | 87,675           |
| GP Land                     | 0                | 0                | 0                | 0                | 0                | 0                | 13,569           | 13,686           | 13,689           | 14,227           | 14,309           | 13,120           | 9,305            |
| GP Land Rights              | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 0                | 0                | 6                | 6                | 7                |
| GP Office Buildings Struct. | 82,355           | 84,739           | 122,852          | 119,552          | 118,222          | 118,690          | 128,390          | 123,152          | 122,264          | 113,499          | 107,572          | 96,637           | 66,201           |
| GP Furniture                | 27,151           | 28,157           | 24,877           | 29,827           | 29,797           | 30,477           | 31,011           | 33,342           | 34,885           | 31,843           | 31,713           | 27,236           | 20,638           |
| GP Office Equipment         | 4,419            | 4,419            | 4,419            | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                |
| GP Tools and Work Equipment | 34,094           | 34,927           | 32,960           | 33,266           | 31,757           | 30,576           | 29,751           | 31,220           | 30,188           | 28,371           | 25,235           | 22,163           | 19,362           |
| GP Employee Housing         | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 51               | 1,257            | 1,256            | 1,242            | 893              |
| GP Aircraft                 | 2,597            | 2,597            | 2,597            | 4,686            | 7,193            | 7,177            | 5,159            | 5,159            | 5,159            | 4,978            | 4,965            | 4,965            | 3,308            |
| GP Leasehold Improvements   | 10,341           | 37,683           | 29,357           | 27,497           | 27,097           | 27,069           | 29,307           | 31,490           | 36,856           | 35,357           | 29,413           | 23,915           | 21,643           |
| GP Transportation Equipment | 28,431           | 25,966           | 25,705           | 28,106           | 23,959           | 26,315           | 22,022           | 26,934           | 27,219           | 25,780           | 25,608           | 25,952           | 23,417           |
| GP Heavy Work Equipment     | 10,157           | 9,907            | 9,907            | 9,897            | 9,657            | 11,324           | 11,262           | 14,062           | 14,513           | 14,391           | 13,654           | 12,983           | 12,235           |
| GP Artwork                  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | -3               | -3               | 30               | 30               | 14               |
| GP Computer Equipment       | 189,366          | 217,687          | 246,995          | 175,709          | 162,511          | 144,283          | 140,097          | 162,705          | 124,251          | 94,441           | 79,756           | 63,314           | 52,088           |
| GP Communication Equipment  | 22,557           | 22,480           | 20,478           | 12,668           | 7,638            | 3,829            | 0                | 0                | 0                | 0                | 0                | 0                | 0                |
| AFUDC                       | 128              | 128              | 128              | 227,937          | 215,760          | 195,435          | 190,055          | 185,382          | 167,816          | 153,326          | 139,313          | 122,621          | 102,217          |
| Intangible Assets           | 6,678            | 6,678            | 6,678            | 6,672            | 6,672            | 6,738            | 6,738            | 7,408            | 7,408            | 7,408            | 7,408            | 7,408            | 7,342            |
| <b>Total GPIS</b>           | <b>7,340,122</b> | <b>7,250,201</b> | <b>7,198,954</b> | <b>7,097,016</b> | <b>6,665,971</b> | <b>6,358,977</b> | <b>6,127,498</b> | <b>5,993,882</b> | <b>5,240,306</b> | <b>4,631,065</b> | <b>4,163,034</b> | <b>3,686,997</b> | <b>3,132,452</b> |



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ATCO-NGTL-023(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study Data

**Preamble:**

Depreciation Data Request.

**Request:**

Please provide a copy of the December 31 Depreciation Reserve schedules for the years 1990 through 2002

**Response:**

Please refer to Attachment ATCO-NGTL-023(b).

|                                | 2002      | 2001      | 2000      | 1999      | 1998      | 1997      | 1996      | 1995      | 1994      | 1993      | 1992      | 1991    | 1990    |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|
| MS Land                        | -72       | -72       | -72       | -68       | -64       | -64       | -64       | 0         | 0         | 0         | 0         | 0       | 0       |
| MS Landrights                  | 352       | 326       | 312       | 277       | 250       | 236       | 211       | 200       | 182       | 161       | 141       | 125     | 111     |
| MS Site                        | 3,516     | 3,789     | 3,256     | 3,831     | 3,578     | 3,464     | 3,176     | 2,995     | 2,755     | 2,574     | 2,307     | 2,097   | 1,888   |
| MS Buildings                   | 18,385    | 16,448    | 14,099    | 13,684    | 12,886    | 11,976    | 10,256    | 8,922     | 7,884     | 6,841     | 5,586     | 4,539   | 4,114   |
| MS Piping                      | 61,725    | 57,342    | 50,482    | 47,809    | 44,122    | 41,368    | 40,200    | 36,683    | 34,143    | 32,319    | 30,398    | 28,375  | 25,270  |
| MS Instrumentation             | 3,062     | 1,707     | 1,116     | 786       | -91       | -229      | -564      | 506       | 4,290     | 5,605     | 5,898     | 6,349   | 6,797   |
| MS Electrical                  | 12,228    | 11,011    | 10,089    | 9,540     | 8,532     | 7,746     | 6,538     | 5,663     | 5,151     | 4,253     | 3,256     | 2,786   | 2,725   |
| MS Automation                  | 6,743     | 5,342     | 3,748     | 3,283     | 2,207     | 1,906     | 2,433     | 1,844     | 3,336     | 2,968     | 2,457     | 2,342   | 2,563   |
| CS Land                        | -473      | -473      | -473      | -473      | -472      | -325      | -3        | 0         | 0         | 0         | 0         | 0       | 0       |
| CS Landrights                  | 123       | 98        | 84        | 70        | 61        | 54        | 47        | 41        | 34        | 27        | 20        | 14      | 8       |
| CS Site                        | 8,641     | 5,903     | 3,111     | 2,204     | 1,220     | 27        | -1,130    | -1,634    | -881      | 319       | 984       | 3,957   | 3,503   |
| CS Buildings                   | 52,809    | 43,526    | 34,291    | 30,089    | 26,453    | 22,302    | 18,411    | 15,397    | 13,237    | 13,622    | 11,391    | 12,342  | 10,379  |
| CS Compressor Unit             | 231,242   | 204,852   | 173,725   | 154,506   | 136,164   | 115,107   | 97,683    | 79,405    | 72,878    | 74,543    | 64,438    | 65,317  | 57,026  |
| CS Piping and Valves           | 131,554   | 112,662   | 93,236    | 82,394    | 75,754    | 65,143    | 55,808    | 47,770    | 42,916    | 41,342    | 34,547    | 31,614  | 26,483  |
| CS Instrumentation             | 8,992     | 7,486     | 6,159     | 5,364     | 4,563     | 4,076     | 3,564     | 3,134     | 2,915     | 3,345     | 3,158     | 2,987   | 2,669   |
| CS Electric System             | 36,794    | 31,648    | 26,707    | 24,032    | 20,926    | 17,769    | 14,774    | 12,768    | 11,394    | 11,856    | 9,734     | 8,230   | 6,929   |
| CS Automation                  | 9,250     | 6,863     | 4,380     | 4,182     | 3,418     | 2,616     | 1,890     | 1,423     | 3,062     | 4,453     | 4,416     | 4,262   | 3,723   |
| PL Land                        | 519       | 519       | 519       | 43        | 43        | 43        | 60        | 0         | 0         | 0         | 0         | 0       | 0       |
| PL Landrights                  | 22,263    | 20,897    | 19,557    | 17,713    | 16,170    | 15,038    | 13,594    | 12,409    | 11,251    | 9,995     | 8,638     | 7,456   | 6,430   |
| PL Pipe                        | 1,651,849 | 1,514,847 | 1,382,934 | 1,237,830 | 1,123,221 | 1,027,556 | 925,983   | 839,963   | 762,476   | 689,167   | 622,491   | 563,002 | 510,592 |
| PL Valve Assemblies            | 80,133    | 70,735    | 64,390    | 56,305    | 49,857    | 44,367    | 37,030    | 32,418    | 29,702    | 26,618    | 23,287    | 20,286  | 17,818  |
| GP Land                        | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       | 0       |
| GP Land Rights                 | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 2         | 2       | 2       |
| GP Office Buildings Struct.    | 3,432     | 3,566     | 27,649    | 26,026    | 23,653    | 21,642    | 32,979    | 29,868    | 31,842    | 28,508    | 25,080    | 21,183  | 10,031  |
| GP Furniture                   | 14,719    | 14,979    | 14,249    | 13,859    | 19,872    | 20,930    | 20,934    | 22,174    | 21,878    | 20,384    | 18,974    | 15,366  | 13,554  |
| GP Office Equipment            | 5,298     | 5,298     | 5,298     | 5,829     | 0         | 0         | 0         | 0         | 0         | 0         | 0         | 0       | 0       |
| Tools and Work Equipment       | 17,177    | 15,637    | 14,113    | 14,010    | 12,678    | 13,405    | 12,760    | 14,222    | 14,664    | 13,242    | 12,175    | 11,103  | 9,999   |
| GP Employee Housing            | 0         | 0         | 0         | -763      | -763      | -763      | -796      | -796      | -823      | -83       | -141      | -195    | -253    |
| GP Aircraft                    | 1,151     | 1,080     | 1,007     | 260       | 1,516     | 1,031     | 1,069     | 720       | 720       | 720       | 720       | 720     | 896     |
| GP Leasehold Improvements      | -148      | 25,066    | 24,277    | 21,160    | 19,784    | 18,474    | 19,702    | 20,915    | 22,806    | 19,580    | 16,251    | 10,063  | 6,315   |
| GP Transportation Equipment    | 14,134    | 11,964    | 9,452     | 11,596    | 9,906     | 13,351    | 15,197    | 17,590    | 16,306    | 14,930    | 12,732    | 11,941  | 9,493   |
| GP Heavy Work Equipment        | 7,786     | 7,814     | 7,814     | 7,820     | 7,598     | 9,605     | 7,631     | 10,001    | 9,540     | 8,964     | 7,689     | 7,345   | 6,605   |
| GP Computer Equipment          | 59,343    | 69,892    | 82,516    | 50,987    | 50,361    | 56,117    | 53,226    | 98,113    | 81,081    | 67,832    | 52,269    | 30,738  | 19,467  |
| GP Communication Equipment     | 4,039     | 2,547     | 1,126     | 602       | 241       | 63        | 0         | 0         | 0         | 0         | 0         | 0       | 0       |
| AFUDC                          | 13        | 9         | 4         | 59,306    | 52,317    | 46,388    | 43,798    | 39,498    | 36,606    | 34,046    | 30,305    | 27,480  | 24,456  |
| Intangible Assets              | 4,647     | 4,346     | 4,046     | 3,697     | 3,378     | 1,677     | 1,486     | 1,947     | 1,738     | 1,491     | 1,231     | 952     | 985     |
| Total Accumulated Depreciation | 2,471,229 | 2,277,657 | 2,083,200 | 1,907,791 | 1,729,339 | 1,582,097 | 1,437,883 | 1,354,159 | 1,243,088 | 1,139,623 | 1,010,436 | 902,779 | 790,576 |

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ATCO-NGTL-24 I(a) and (b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study Data

**Preamble:**

Depreciation Data Request.

**Request:**

Please provide in electronic format:

I. Plant-In-Service

- (a) Plant-in-service surviving balances as of December 31, 2002 for each of the accounts analyzed.
  - (i) By Original In Service Year;
  - (ii) For Units of Production Investment Categories, By Location (Site) and Vintage
- (b) A summary of adjustments made to eliminate any credit surviving in service year balances.

**Response:**

- (a) Please refer to the response to CAPP-NGTL-001.
- (b) While some adjustments were required to eliminate credits in service year balances, a listing of the adjustments was not maintained. Generally the adjustment made was to identify the credit transaction that caused the credit surviving balance and to move the credit transactions either one year forward or one year back to a year that had sufficient surviving balance to accommodate the amount of the credit transaction.

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ATCO-NGTL-024 II(a) and (b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study Data

**Preamble:**

Depreciation Data Request.

**Request:**

II. Depreciation Reserve

- (a) Accumulated depreciation account balances as at December 31, 2002.
- (b) December 31, 2002 account balances for any other accumulated amortization accounts including those used for the amortization of previous accumulated depreciation surpluses or deficiencies.

**Response:**

- (a) Please refer to the Depreciation Study, Pages III-7 and III-8. All accumulated depreciation account balances are listed as at December 31, 2002.
- (b) There are no other accumulated depreciation balances.

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**ATCO-NGTL-025**

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study Data

**Preamble:**

Continuing Property Records (CPR) Request.

**Request:**

Please provide a detailed electronic file of the Company's CPR containing a listing of the depletion and depreciable 12-31-2002 surviving investments (by vintage), broken out as below, along with applicable descriptions. Please show depreciable and depleted assets separately.

- (a) Meter Receipt Stations (Each Station)
- (b) Gathering Systems (Each System)
- (c) Compressor Stations (Each Station)
- (d) Delivery Stations (Each Station)
- (e) Transmission Piping (By Route and Size)

**Response:**

(a) to (e)

Maintenance of a continuing property record is not a regulatory requirement of utilities in Alberta. The December 31, 2002 surviving investments for each depletable meter station and pipeline were provided in the data files made available to interveners. The surviving investments at the account level for all depreciable assets (including compressor stations, delivery stations and transmission pipes) were also in the data files made available to interveners (refer to the response to CAPP-NGTL-001). The data for the depletable assets are in the file called DEplete.BAL, at the plant accounting location level. The data for the depreciable assets are in the file called DEPRATE.BAL, at the utility account level.

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ATCO-NGTL-026

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study Data

**Preamble:**

Depreciation Data Request.

**Request:**

Please provide the work papers and detailed information underlying the Units of Production estimates and calculations for each of the depletion asset groups.

**Response:**

Please refer to the response to ATCO-NGTL-022. Please also refer to the response to ATCO-NGTL-028.

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ATCO-NGTL-027(a)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study Data

**Preamble:**

Depreciation Data Request.

**Request:**

Please provide the detailed work papers underlying the net salvage estimates for each of the applicable property groups.

**Response:**

The detailed work papers to support the net salvage recommendations were provided in the depreciation study from pages III-54 through page III-74.

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ATCO-NGTL-027(b)

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study Data

**Preamble:**

Depreciation Data Request.

**Request:**

Please provide a narrative explaining the criteria and/or assumptions used in selecting the net salvage factors for each property group's proposed depreciation rates.

**Response:**

The narrative explaining the criteria and/or assumption used in the development of the net salvage factors is presented in the depreciation study at page I-10, and described in detail at pages II-10 through II-13.

As indicated in the depreciation study, Gannett Fleming relied upon the statistical analysis of the retirement data. Any adjustments to the data were also discussed in the depreciation study at the above referenced pages. In making these adjustments, consideration was given to conversations with company representatives as summarized in the depreciation study and as documented in the interview notes provided in the response to ATCO-NGTL-012(b). Gannett Fleming also relied on its experience in the development of net salvage parameters for NGTL and other utilities.

Specifically, Account 4610 – Land Rights- Pipelines, Account 4611-Land Rights-Meter Stations, and Account 4612-Land Rights-Compression Stations were all assigned a net salvage percentage of 0%. While these accounts have experienced a minor amount of salvage activity, the statistical review was based on a limited amount of retirements. It is the experience of Gannett Fleming that, absent a significant indication otherwise, a 0% net salvage rate for these types of accounts is appropriate.



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**ATCO-NGTL-027(b)**

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As indicated at page II-11 and II-12 of the depreciation study, the net salvage percentages as selected for Account 4620-Compressor Station Buildings, Account 4621-Compressor Station-Site, and Account 4661- Compressor Units, were modified to recognize that the costs of the physical removal of a number of units that have been retired have not yet been incurred. These modifications were based on staff interviews and Gannett Fleming's judgment.

Account 4664-Compression-Electric Systems, Account 4665-Compression-Control System, Account 4670-Meter Station-Automation, Account 4671-Meter Station Instrumentation, and Account 4673-Meter Station Electrical, had all historically exhibited only minor amounts of either positive or negative salvage. This historic experience is consistent with the experience of Gannett Fleming that these types of accounts do not normally experience significant salvage amounts. As such these accounts were all assigned a net salvage percentage of 0%.

As discussed at page II-12 of the depreciation study, the statistical review presented for Account 4630-Meter Station Buildings was moderated to reflect the expectation that the pace of reuse of buildings will not continue into the future. This expectation was based on the staff interviews conducted by Gannett Fleming. The increase in the statistical indication of -4% to -15% reflects the expectation that the salvage levels witnessed prior to 2001 will be more common in the future. This moderation in the salvage percentages was based on the staff interviews and on the judgment of Gannett Fleming.

In the circumstance of Account 4631-Meter Station Sites, the statistical indications of a net salvage percentage of -64% were largely influenced by two instances of cost of removal in the years 2000 and 2002. In order to not over-react to these two specific instances of cost of removal, Gannett Fleming assigned a net salvage percentage of -50% to this account, with the intention of closely monitoring this account in the future.

Gannett Fleming generally relied on the statistical analysis for the net salvage recommendations for Accounts 4662-Compression Piping, Account 4663-Compression Instrumentation, Account 4821-General Plant-Buildings, and Account 4841- Vehicles. In the circumstances where any one year of salvage indications appeared to be out of scope to the remaining years, less emphasis was placed on the one specific indication of either positive or negative salvage.

In the circumstances of Account 4672-Meter Station Piping, Account 4850-Heavy Work Equipment, and for Pipe accounts, the net salvage percentage was developed primarily from the statistical analysis. In particular the 3 and 5 year rolling bands were reviewed in the analysis of these accounts, since these accounts tend to have spikes of retirement activity.

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**ATCO-NGTL-028**

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study

**Preamble:**

Depreciation Data Request.

**Request:**

Please provide the basis and detailed work papers supporting the 2025 truncation year for the Company's transmission pipe.

**Response:**

The basis for the retirement analysis that led to the 2025 truncation date has already been provided. It is the Base Case described in the Supply Study (Appendix A of section 4.0 of NGTL's written evidence). Please refer to the response to CAPP-NGTL-005(a).

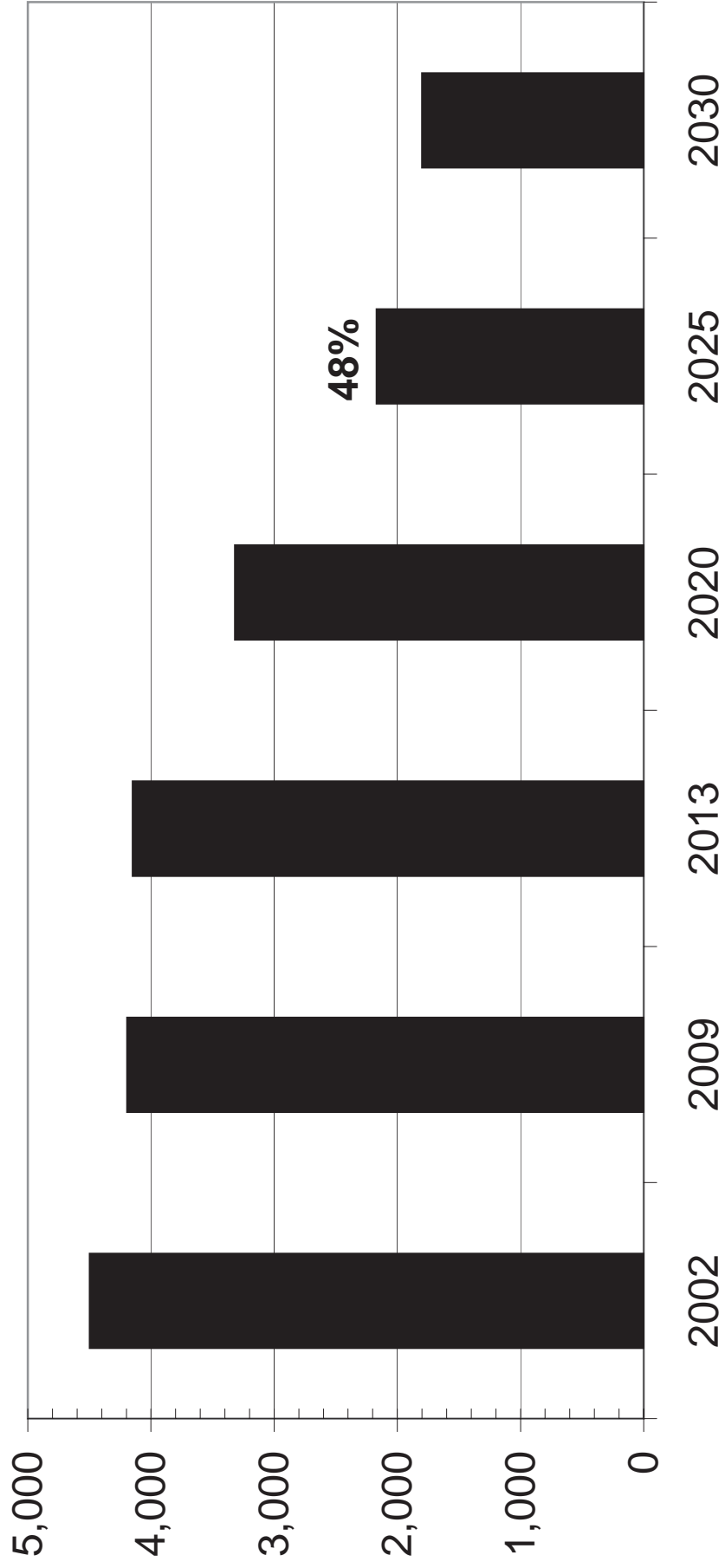
The output of NGTL's hydraulic simulation of the Base Case is the basis for the determination of the truncation date. The following information provides the following from the retirement analysis:

- Attachment 1, ATCO-NGTL-028 lists the calculations that were used to derive table 1 and figure 1 of the Retirement Analysis Report (Appendix B of Section 4.0).
- Attachment 2, ATCO-NGTL-028, lists retired depreciable pipes and compressor stations along with the year of retirement. This is the list from NGTL's hydraulic simulator.
- Attachment 3, ATCO-NGTL-028, lists the original book cost of all depreciable pipes and compressor stations at December 31, 2002.

Total est. orig. book cost (all depreciable pipes and compression): 4,495,099,346 Book costs in millions of \$ as of December 31, 2002

| Year of retirement | Estimated Original Book Cost at Dec. 31, 2002 | Year analyzed | Retired      | Remaining at end of period | Remaining as % of total at end of 2002 |
|--------------------|---|---------------|--------------|----------------------------|--|
| 2009               | 302,676,423                                   | 2002          | 0            | 4,495                      | 100%                                   |
| 2013               | 46,124,201                                    | 2009          | 303          | 4,192                      | 93%                                    |
| 2020               | 828,373,233                                   | 2013          | 46           | 4,146                      | 92%                                    |
| 2025               | 1,151,437,635                                 | 2020          | 828          | 3,318                      | 74%                                    |
| 2030               | 367,713,474                                   | 2025          | 1,151        | 2,166                      | 48%                                    |
| <b>Total</b>       | <b>2,696,324,966</b>                          | 2030          | <u>368</u>   | 1,799                      | 40%                                    |
|                    |   | <b>Total</b>  | <b>2,696</b> |                            |  |

## Remaining Depreciable Pipes & Compression \$ million, original book cost



**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 45                 | 2020                      | 9,995,131  | yes  |
| 45                 | 2025                      | 9,602,921  | yes  |
| 88                 | 2025                      | 5,236,891  |  |
| 327                | 2020                      | 29,042,462   |  |
| 336                | 2020                      | 25,143,365   |  |
| 680                | 2030                      | 2,408,365  |  |
| 690                | 2020                      | 16,833,009   | yes  |
| 690                | 2025                      | 15,248,520   | yes  |
| 715                | 2030                      | 492,056  |  |
| 717                | 2030                      | 815,832  |  |
| 726                | 2025                      | 3,186,174  |  |
| 819                | 2013                      | 1,503,949  | yes  |
| 819                | 2013                      | 1,503,949  | yes  |
| 819                | 2013                      | 1,503,949  | yes  |
| 819                | 2020                      | 1,503,949  | yes  |
| 844                | 2009                      | 20,260,202   |  |
| 854                | 2030                      | 89,634   |  |
| 875                | 2009                      | 32,223,260   |  |
| 894                | 2030                      | 416,102  |  |
| 924                | 2020                      | 243,788  |  |
| 932                | 2020                      | 408,556  |  |
| 933                | 2020                      | 298,943  |  |
| 959                | 2020                      | 328,943  |  |
| 960                | 2020                      | 70,072   |  |
| 962                | 2020                      | 55,844   |  |
| 967                | 2025                      | 1,759,194  |  |
| 968                | 2025                      | 355,202  |  |
| 995                | 2020                      | 28,266   |  |
| 1154               | 2009                      | 14,839,714   |  |
| 1173               | 2025                      | 291,407  |  |
| 1211               | 2025                      | 964,893  |  |
| 1868               | 2013                      | 17,279,328   |  |
| 1924               | 2013                      | 19,447,978   |  |
| 2015               | 2025                      | 560,511  |  |
| 2029               | 2025                      | 553,523  |  |
| 2729               | 2030                      | 3,164,713  |  |
| 2815               | 2020                      | 27,798,272   |  |
| 2919               | 2025                      | 24,876,003   |  |
| 2920               | 2009                      | 9,934,059  |  |
| 2925               | 2030                      | 23,561,237   |  |
| 2929               | 2025                      | 33,639,053   |  |
| 2939               | 2020                      | 22,470,013   |  |
| 2944               | 2009                      | 22,470,013   |  |
| 2950               | 2020                      | 33,198,886   |  |
| 2955               | 2025                      | 32,705,943   |  |
| 2965               | 2025                      | 21,595,873   |  |
| 2973               | 2025                      | 26,017,118   |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 3036               | 2009                      | 19,630,158   |  |
| 3144               | 2030                      | 203  |  |
| 3165               | 2013                      | 4,663,348  |  |
| 3165               | 2025                      | 6,627,288  | yes  |
| 3199               | 2025                      | 1,281  |  |
| 3200               | 2025                      | 778  |  |
| 3202               | 2025                      | 5,774  |  |
| 3203               | 2025                      | 604  |  |
| 3205               | 2025                      | 2,136  |  |
| 3206               | 2025                      | 1,408  |  |
| 3214               | 2025                      | 1,619,752  |  |
| 3216               | 2025                      | 1,701,750  |  |
| 3380               | 2020                      | 15,149,178   |  |
| 3455               | 2020                      | 25,616   |  |
| 3484               | 2020                      | 9,183  |  |
| 3487               | 2020                      | 9,183  |  |
| 3698               | 2020                      | 2,878,153  |  |
| 3875               | 2025                      | 9,978,381  |  |
| 4054               | 2025                      | 5,456  |  |
| 4063               | 2025                      | 1,974  |  |
| 4070               | 2025                      | 2,243,300  |  |
| 4075               | 2025                      | 1,628  |  |
| 4096               | 2020                      | 1,574  |  |
| 4111               | 2030                      | 1,253  |  |
| 4112               | 2030                      | 2,826,799  |  |
| 4113               | 2030                      | 1,307  |  |
| 4114               | 2030                      | 1,560,406  |  |
| 4115               | 2030                      | 4,409  |  |
| 4254               | 2020                      | 102,421  |  |
| 4255               | 2020                      | 838,001  |  |
| 4350               | 2020                      | 725,010  |  |
| 4351               | 2020                      | 5,238  |  |
| 4368               | 2020                      | 45,100   |  |
| 4370               | 2030                      | 102,011  |  |
| 4371               | 2020                      | 1,348  |  |
| 4373               | 2030                      | 10,706   |  |
| 4473               | 2030                      | 13,653   |  |
| 4477               | 2030                      | 10,839   |  |
| 4579               | 2009                      | 9,934,059  |  |
| 4580               | 2020                      | 9,934,059  |  |
| 4936               | 2025                      | 87,628   |  |
| 4937               | 2025                      | 2,947,752  |  |
| 4941               | 2025                      | 1,949,413  |  |
| 4967               | 2030                      | 27,381   |  |
| 4969               | 2030                      | 13,690   |  |
| 4974               | 2025                      | 4,673,582  |  |
| 4979               | 2030                      | 56,507   |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 4980               | 2025                      | 44,907   |  |
| 5019               | 2030                      | 25,150,255   |  |
| 5021               | 2030                      | 2,898,602  |  |
| 5109               | 2020                      | 1,246,152  |  |
| 5112               | 2020                      | 2,349,585  |  |
| 5113               | 2020                      | 6,478  |  |
| 5126               | 2030                      | 197,087  |  |
| 5127               | 2030                      | 4,148,505  |  |
| 5128               | 2030                      | 1,253  |  |
| 5133               | 2030                      | 1,307  |  |
| 5134               | 2030                      | 16,899   |  |
| 5137               | 2030                      | 11,914,785   |  |
| 5138               | 2030                      | 8,450  |  |
| 5140               | 2030                      | 3,306  |  |
| 5154               | 2030                      | 5,767,176  |  |
| 5158               | 2030                      | 3,498  |  |
| 5159               | 2030                      | 3,498  |  |
| 5162               | 2030                      | 2,211  |  |
| 5166               | 2025                      | 8,973,637  |  |
| 5276               | 2030                      | 3,106  |  |
| 5277               | 2030                      | 160  |  |
| 5278               | 2030                      | 4,732  |  |
| 5279               | 2030                      | 3,208  |  |
| 5313               | 2030                      | 446,095  |  |
| 5319               | 2025                      | 403,685  |  |
| 5324               | 2030                      | 12,470   |  |
| 5325               | 2030                      | 111,419  |  |
| 5335               | 2030                      | 11,298,056   |  |
| 5370               | 2025                      | 1,319,273  |  |
| 5371               | 2025                      | 432,073  |  |
| 5372               | 2025                      | 692,569  |  |
| 5373               | 2025                      | 2,053,995  |  |
| 5561               | 2030                      | 2,424,973  |  |
| 5566               | 2030                      | 3,071  |  |
| 5567               | 2030                      | 11,168   |  |
| 5735               | 2030                      | 4,350,086  |  |
| 5898               | 2020                      | 4,291  |  |
| 5903               | 2020                      | 12,733,155   |  |
| 5909               | 2020                      | 12,782,725   |  |
| 5919               | 2020                      | 8,113  |  |
| 5922               | 2020                      | 13,076   |  |
| 5923               | 2020                      | 8,113  |  |
| 5929               | 2030                      | 1,307  |  |
| 5932               | 2030                      | 2,478  |  |
| 5935               | 2030                      | 4,193  |  |
| 5941               | 2030                      | 1,634  |  |
| 6273               | 2009                      | 16,679,962   |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 6467               | 2025                      | 9,336,966  |  |
| 6593               | 2020                      | 3,514,444  |  |
| 6594               | 2020                      | 1,842,026  |  |
| 6615               | 2025                      | 308,873  |  |
| 6637               | 2025                      | 17,572   |  |
| 6714               | 2025                      | 2,415  |  |
| 6715               | 2025                      | 1,545  |  |
| 6716               | 2030                      | 608  |  |
| 6763               | 2025                      | 14,142   |  |
| 6781               | 2025                      | 13,362   |  |
| 6785               | 2025                      | 2,319  |  |
| 6876               | 2020                      | 15,501   |  |
| 6877               | 2030                      | 14,200   |  |
| 6879               | 2030                      | 37,662   |  |
| 6881               | 2030                      | 354,572  |  |
| 6963               | 2025                      | 270,812  |  |
| 6964               | 2025                      | 215,003  |  |
| 6995               | 2025                      | 52,573   |  |
| 7026               | 2025                      | 5,719,086  |  |
| 7028               | 2025                      | 2,386,552  |  |
| 7056               | 2025                      | 1,411,311  |  |
| 7122               | 2020                      | 1,306  |  |
| 7123               | 2020                      | 640,669  |  |
| 7135               | 2025                      | 1,041,977  |  |
| 7155               | 2025                      | 748,500  |  |
| 7157               | 2025                      | 45,224   |  |
| 7159               | 2025                      | 2,550  |  |
| 7170               | 2025                      | 808  |  |
| 7174               | 2009                      | 24,876,003   |  |
| 7314               | 2025                      | 3,034  |  |
| 7315               | 2025                      | 1,601  |  |
| 7323               | 2020                      | 1,198  |  |
| 7324               | 2020                      | 803  |  |
| 7325               | 2030                      | 4,517  |  |
| 7331               | 2025                      | 1,609  |  |
| 7451               | 2020                      | 9,609  |  |
| 7453               | 2020                      | 13,192,274   |  |
| 7456               | 2020                      | 19,653   |  |
| 7457               | 2020                      | 20,229   |  |
| 7483               | 2030                      | 13,653   |  |
| 7484               | 2030                      | 1,264,656  |  |
| 7485               | 2030                      | 341,705  |  |
| 7494               | 2030                      | 12,465   |  |
| 7506               | 2030                      | 1,154  |  |
| 7507               | 2030                      | 1,532,254  |  |
| 7535               | 2020                      | 1,240  |  |
| 7537               | 2020                      | 859,066  |  |



**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 7546               | 2030                      | 3,995  |  |
| 7560               | 2020                      | 4,581  |  |
| 7574               | 2020                      | 2,971  |  |
| 7575               | 2020                      | 2,228  |  |
| 7576               | 2025                      | 338  |  |
| 7588               | 2020                      | 2,507,797  |  |
| 7594               | 2020                      | 3,546  |  |
| 7599               | 2020                      | 417  |  |
| 7604               | 2020                      | 1,666  |  |
| 7627               | 2020                      | 463  |  |
| 7632               | 2020                      | 848  |  |
| 7633               | 2030                      | 754,209  |  |
| 7634               | 2030                      | 2,064,740  |  |
| 7635               | 2025                      | 10,059,030   |  |
| 7636               | 2025                      | 252,103  |  |
| 7637               | 2025                      | 173,118  |  |
| 7638               | 2025                      | 810,950  |  |
| 7639               | 2025                      | 882,520  |  |
| 7640               | 2025                      | 1,560,546  |  |
| 7641               | 2025                      | 35,011   |  |
| 7642               | 2025                      | 24,787   |  |
| 7643               | 2025                      | 115,645  |  |
| 7644               | 2025                      | 134,312  |  |
| 7647               | 2025                      | 797,757  |  |
| 7648               | 2025                      | 21,555   |  |
| 7649               | 2025                      | 95,422   |  |
| 7650               | 2025                      | 46,020   |  |
| 7651               | 2025                      | 311,009  |  |
| 7652               | 2025                      | 382,932  |  |
| 7660               | 2020                      | 890,915  |  |
| 7663               | 2020                      | 1,098,992  |  |
| 7667               | 2020                      | 7,923  |  |
| 7682               | 2025                      | 714  |  |
| 7684               | 2020                      | 1,028  |  |
| 7685               | 2020                      | 849  |  |
| 7702               | 2030                      | 1,055,783  |  |
| 7726               | 2025                      | 776  |  |
| 7727               | 2025                      | 173  |  |
| 7728               | 2030                      | 967  |  |
| 7738               | 2025                      | 39,553,413   |  |
| 7757               | 2025                      | 375,385  |  |
| 7793               | 2030                      | 423  |  |
| 7795               | 2025                      | 22,492   |  |
| 7814               | 2025                      | 2,863  |  |
| 7816               | 2025                      | 235,186  |  |
| 7824               | 2025                      | 2,272,850  |  |
| 7825               | 2025                      | 4,196,871  |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 7826               | 2030                      | 31,262,560   |  |
| 7831               | 2025                      | 81,148   |  |
| 7840               | 2025                      | 4,131  |  |
| 7841               | 2025                      | 916,498  |  |
| 7845               | 2025                      | 113,175  |  |
| 7857               | 2025                      | 24,619,613   |  |
| 7861               | 2025                      | 1,180,812  |  |
| 7884               | 2030                      | 52,605   |  |
| 7885               | 2030                      | 4,692  |  |
| 7892               | 2030                      | 66,494   |  |
| 7893               | 2025                      | 1,421,871  |  |
| 7896               | 2030                      | 2,211  |  |
| 7898               | 2030                      | 3,707,316  |  |
| 7899               | 2030                      | 1,127,089  |  |
| 7910               | 2025                      | 6,834  |  |
| 7911               | 2025                      | 4,271  |  |
| 7912               | 2025                      | 2,291,360  |  |
| 7913               | 2025                      | 1,553,465  |  |
| 7914               | 2025                      | 3,106,929  |  |
| 7915               | 2025                      | 1,553,465  |  |
| 7916               | 2025                      | 503,323  |  |
| 7917               | 2025                      | 1,842,409  |  |
| 7918               | 2025                      | 503,323  |  |
| 7930               | 2030                      | 9,570,018  |  |
| 7932               | 2030                      | 68,007   |  |
| 7933               | 2030                      | 47,697   |  |
| 7955               | 2025                      | 0  |  |
| 8021               | 2025                      | 1,352  |  |
| 8024               | 2025                      | 10,797   |  |
| 8025               | 2025                      | 752  |  |
| 8026               | 2025                      | 35,289   |  |
| 8034               | 2030                      | 16,058,205   |  |
| 8035               | 2030                      | 39,197   |  |
| 8036               | 2030                      | 12,032,604   |  |
| 8040               | 2030                      | 240,858  |  |
| 8041               | 2030                      | 6,215  |  |
| 8042               | 2030                      | 976,161  |  |
| 8043               | 2030                      | 1,366  |  |
| 8044               | 2030                      | 13,610   |  |
| 8060               | 2020                      | 3,049,803  |  |
| 8090               | 2025                      | 5,519  |  |
| 8093               | 2025                      | 4,114  |  |
| 8100               | 2020                      | 2,542,628  |  |
| 8101               | 2020                      | 9,690  |  |
| 8102               | 2020                      | 1,574  |  |
| 8103               | 2020                      | 46,651   |  |
| 8104               | 2020                      | 7,296  |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 8115               | 2025                      | 28,285,630   |  |
| 8189               | 2030                      | 3,786,184  |  |
| 8190               | 2030                      | 6,732,893  |  |
| 8267               | 2030                      | 9,499,573  |  |
| 8284               | 2020                      | 8,131  |  |
| 8286               | 2020                      | 30,592,985   |  |
| 8293               | 2020                      | 688,516  |  |
| 8315               | 2025                      | 73,928   |  |
| 8316               | 2013                      | 24,614   |  |
| 8317               | 2025                      | 527,875  |  |
| 8318               | 2025                      | 300,807  |  |
| 8334               | 2025                      | 12,712   |  |
| 8356               | 2009                      | 16,679,962   |  |
| 8377               | 2020                      | 49,391,756   |  |
| 8392               | 2025                      | 2,143  |  |
| 8398               | 2025                      | 174,697  |  |
| 8442               | 2025                      | 1,664  |  |
| 8443               | 2025                      | 1,031,181  |  |
| 8444               | 2025                      | 1,205,873  |  |
| 8445               | 2025                      | 1,088,912  |  |
| 8480               | 2013                      | 30,261   |  |
| 8481               | 2020                      | 888  |  |
| 8550               | 2020                      | 48,960,655   |  |
| 8821               | 2025                      | 18,119   |  |
| 8822               | 2025                      | 18,437   |  |
| 8838               | 2025                      | 31,824,876   |  |
| 8925               | 2025                      | 7,497,570  |  |
| 9207               | 2025                      | 1,722,278  |  |
| 9211               | 2025                      | 741  |  |
| 9212               | 2025                      | 576  |  |
| 9213               | 2025                      | 3,293  |  |
| 9215               | 2025                      | 1,098  |  |
| 9217               | 2025                      | 6,805  |  |
| 9220               | 2025                      | 988  |  |
| 9221               | 2025                      | 49,728   |  |
| 9225               | 2030                      | 149,473  |  |
| 9268               | 2025                      | 5,101,462  |  |
| 9269               | 2025                      | 14,986   |  |
| 9270               | 2025                      | 14,986   |  |
| 9271               | 2025                      | 9,382,323  |  |
| 9273               | 2025                      | 11,725   |  |
| 9284               | 2020                      | 6,202,654  |  |
| 9285               | 2020                      | 4,535,109  |  |
| 9286               | 2020                      | 3,463,194  |  |
| 9287               | 2020                      | 9,971  |  |
| 9289               | 2020                      | 2,491  |  |
| 9290               | 2020                      | 405,649  |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 9308               | 2020                      | 8,839,680  |  |
| 9309               | 2020                      | 4,398,319  |  |
| 9363               | 2025                      | 30,119   |  |
| 9380               | 2025                      | 10,262   |  |
| 9381               | 2025                      | 7,847  |  |
| 9390               | 2025                      | 78,475   |  |
| 9396               | 2030                      | 129,237  |  |
| 9403               | 2025                      | 16,763,999   |  |
| 9404               | 2025                      | 6,037  |  |
| 9638               | 2025                      | 83,729   |  |
| 9641               | 2025                      | 8,506,804  |  |
| 9771               | 2025                      | 3,782,561  |  |
| 9772               | 2025                      | 15,716,536   |  |
| 9823               | 2020                      | 7,156,397  |  |
| 9893               | 2020                      | 19,264   |  |
| 9896               | 2020                      | 12,578   |  |
| 9897               | 2020                      | 12,578   |  |
| 9903               | 2020                      | 10,098,336   |  |
| 9904               | 2020                      | 3,414,194  |  |
| 9908               | 2020                      | 11,254   |  |
| 9909               | 2020                      | 9,930  |  |
| 9911               | 2020                      | 1,890,124  |  |
| 9920               | 2020                      | 11,992,012   |  |
| 9921               | 2020                      | 2,028,382  |  |
| 9922               | 2020                      | 3,447,340  |  |
| 9923               | 2020                      | 4,346,013  |  |
| 9924               | 2020                      | 5,206,483  |  |
| 9925               | 2020                      | 5,175,557  |  |
| 9926               | 2020                      | 3,662,003  |  |
| 9927               | 2020                      | 4,586,144  |  |
| 9928               | 2020                      | 3,194,474  |  |
| 9932               | 2020                      | 10,594   |  |
| 9941               | 2020                      | 1,520,166  |  |
| 9946               | 2020                      | 1,564,083  |  |
| 9948               | 2020                      | 15,377   |  |
| 9961               | 2020                      | 3,836,430  |  |
| 9964               | 2020                      | 5,800,553  |  |
| 10056              | 2025                      | 2,564,376  |  |
| 10057              | 2025                      | 13,623,190   |  |
| 10177              | 2025                      | 1,381,900  |  |
| 10199              | 2030                      | 21,170,874   |  |
| 10213              | 2020                      | 17,761   |  |
| 10247              | 2020                      | 244,262  |  |
| 10384              | 2020                      | 4,154,999  |  |
| 10483              | 2030                      | 2,171,795  |  |
| 10484              | 2030                      | 125,675  |  |
| 10515              | 2020                      | 4,374,984  |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 10517              | 2020                      | 5,331  |  |
| 10519              | 2020                      | 1,430  |  |
| 10520              | 2020                      | 1,349,180  |  |
| 10521              | 2020                      | 17,592   |  |
| 10522              | 2020                      | 1,598  |  |
| 10523              | 2020                      | 10,384   |  |
| 10528              | 2020                      | 5,373,018  |  |
| 10529              | 2020                      | 3,347,789  |  |
| 10531              | 2020                      | 7,441,518  |  |
| 10554              | 2020                      | 5,088,356  |  |
| 10567              | 2020                      | 10,580   |  |
| 10569              | 2020                      | 19,770   |  |
| 10570              | 2020                      | 5,649  |  |
| 10693              | 2030                      | 84,845   |  |
| 10712              | 2020                      | 1,950  |  |
| 10715              | 2020                      | 1,976  |  |
| 10731              | 2025                      | 9,283,131  |  |
| 10735              | 2025                      | 8,516,031  |  |
| 10739              | 2025                      | 4,071,307  |  |
| 10747              | 2030                      | 77,023   |  |
| 10748              | 2030                      | 62,417   |  |
| 10749              | 2030                      | 136,087  |  |
| 10750              | 2030                      | 223,327  |  |
| 10751              | 2030                      | 77,981   |  |
| 10752              | 2030                      | 130,979  |  |
| 10753              | 2030                      | 1,291,114  |  |
| 10754              | 2030                      | 32,725   |  |
| 10755              | 2030                      | 472,834  |  |
| 10756              | 2030                      | 254,296  |  |
| 10757              | 2030                      | 131,618  |  |
| 10769              | 2020                      | 1,487,402  |  |
| 10770              | 2020                      | 556,801  |  |
| 10771              | 2020                      | 1,214,322  |  |
| 10772              | 2020                      | 1,986,040  |  |
| 10773              | 2020                      | 692,986  |  |
| 10774              | 2020                      | 1,168,217  |  |
| 10775              | 2020                      | 11,463,709   |  |
| 10776              | 2020                      | 4,499,800  |  |
| 10777              | 2020                      | 2,273,307  |  |
| 10778              | 2020                      | 1,161,834  |  |
| 10779              | 2025                      | 2,057,795  |  |
| 10780              | 2025                      | 770,292  |  |
| 10781              | 2025                      | 1,680,181  |  |
| 10782              | 2025                      | 2,834,112  |  |
| 10783              | 2025                      | 989,228  |  |
| 10784              | 2025                      | 1,662,104  |  |
| 10785              | 2025                      | 16,311,713   |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 10786              | 2025                      | 6,420,440  |  |
| 10787              | 2025                      | 3,242,859  |  |
| 10867              | 2025                      | 10,273,310   |  |
| 10874              | 2009                      | 28,752,835   |  |
| 10883              | 2020                      | 5,505,751  |  |
| 10884              | 2020                      | 57,696   |  |
| 10885              | 2020                      | 2,038,047  |  |
| 10925              | 2025                      | 3,265,792  |  |
| 10930              | 2020                      | 40,766   |  |
| 10977              | 2030                      | 1,913  |  |
| 11061              | 2025                      | 10,433,935   |  |
| 11066              | 2030                      | 13,941   |  |
| 11077              | 2025                      | 16,092,310   |  |
| 11143              | 2025                      | 3,539,079  |  |
| 11144              | 2025                      | 1,560,072  |  |
| 11160              | 2030                      | 11,484   |  |
| 11161              | 2030                      | 31,743   |  |
| 11162              | 2025                      | 16,614   |  |
| 11163              | 2025                      | 1,296,381  |  |
| 11164              | 2025                      | 11,096   |  |
| 11165              | 2025                      | 49,934   |  |
| 11168              | 2020                      | 6,645  |  |
| 11182              | 2013                      | 3,469  |  |
| 11183              | 2025                      | 473  |  |
| 11185              | 2025                      | 2,281,933  |  |
| 11198              | 2025                      | -856,681   |  |
| 11203              | 2025                      | 27,938,101   |  |
| 11219              | 2025                      | 79,910   |  |
| 11223              | 2025                      | 847,754  |  |
| 11275              | 2025                      | 9,923,753  |  |
| 11393              | 2020                      | 9,318,809  |  |
| 11434              | 2009                      | 12,924,960   |  |
| 11472              | 2020                      | 32,273,714   |  |
| 11476              | 2030                      | 19,020   |  |
| 11483              | 2030                      | 16,605   |  |
| 11486              | 2030                      | 1,348,325  |  |
| 11491              | 2030                      | 1,998,184  |  |
| 11492              | 2030                      | 14,794   |  |
| 11493              | 2030                      | 7,220,302  |  |
| 11494              | 2030                      | 9,113,875  |  |
| 11495              | 2030                      | 3,069,659  |  |
| 11496              | 2030                      | 4,032,295  |  |
| 11507              | 2030                      | 26,299   |  |
| 11516              | 2030                      | 43,324   |  |
| 11517              | 2030                      | 12,105   |  |
| 11518              | 2030                      | 4,237  |  |
| 11679              | 2020                      | 349,282  |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 11755              | 2030                      | 8,098,597  |  |
| 11894              | 2020                      | 4,142  |  |
| 12077              | 2025                      | 23,847   |  |
| 12079              | 2025                      | 55,360   |  |
| 12081              | 2025                      | 7,699  |  |
| 12082              | 2025                      | 9,410  |  |
| 12117              | 2025                      | 2,743,546  |  |
| 12118              | 2025                      | 9,181,047  |  |
| 12132              | 2020                      | 24,005   |  |
| 12133              | 2020                      | 3,043  |  |
| 12257              | 2025                      | 262,077  |  |
| 12307              | 2025                      | 994,508  |  |
| 12309              | 2025                      | 1,406,659  |  |
| 12352              | 2030                      | 3,463  |  |
| 12436              | 2020                      | 2,008,962  |  |
| 12437              | 2020                      | 514,702  |  |
| 12438              | 2020                      | 2,874,744  |  |
| 12439              | 2020                      | 2,571,341  |  |
| 12440              | 2020                      | 1,849,675  |  |
| 12452              | 2030                      | 368,310  |  |
| 12479              | 2030                      | 7,624  |  |
| 12495              | 2025                      | 8,846,032  |  |
| 12496              | 2025                      | 3,095  |  |
| 12498              | 2025                      | 1,563  |  |
| 12538              | 2025                      | 7,376  |  |
| 12539              | 2025                      | 13,528   |  |
| 12548              | 2030                      | 91,151   |  |
| 12549              | 2030                      | 1,922,623  |  |
| 12553              | 2025                      | 19,225,510   |  |
| 12557              | 2025                      | 18,002,238   |  |
| 12564              | 2025                      | 102,363  |  |
| 12570              | 2013                      | 22,354   |  |
| 12571              | 2013                      | 11,568   |  |
| 12572              | 2013                      | 10,990   |  |
| 12576              | 2013                      | 11,153   |  |
| 12597              | 2020                      | 7,387,485  |  |
| 12612              | 2025                      | 2,669,441  |  |
| 12613              | 2025                      | 585,638  |  |
| 12620              | 2025                      | 358,217  |  |
| 12621              | 2025                      | 635,458  |  |
| 12754              | 2030                      | 31,448   |  |
| 12755              | 2030                      | 2,866,748  |  |
| 12800              | 2025                      | 25,790,603   |  |
| 12801              | 2025                      | 37,858,370   |  |
| 12804              | 2025                      | 281,765  |  |
| 12845              | 2030                      | 9,332,045  |  |
| 12846              | 2030                      | 1,413,158  |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 12847              | 2030                      | 452,095  |  |
| 12848              | 2030                      | 8,688,605  |  |
| 12849              | 2020                      | 2,403  |  |
| 12850              | 2020                      | 1,924  |  |
| 12980              | 2025                      | 32,272,236   |  |
| 13064              | 2020                      | 232  |  |
| 13098              | 2025                      | 684,996  |  |
| 13099              | 2025                      | 2,407,114  |  |
| 13135              | 2025                      | 1,201,815  |  |
| 13175              | 2030                      | 1,905,303  |  |
| 13176              | 2030                      | 83,249   |  |
| 13237              | 2025                      | 643,845  |  |
| 13238              | 2025                      | 1,768,892  |  |
| 13584              | 2025                      | 6,018,860  |  |
| 13604              | 2025                      | 1,867  |  |
| 13605              | 2025                      | 393  |  |
| 13618              | 2025                      | 28,901   |  |
| 13636              | 2025                      | 2,892,964  |  |
| 13637              | 2025                      | 62,110   |  |
| 13639              | 2030                      | 1,917,980  |  |
| 13641              | 2030                      | 48,461   |  |
| 13642              | 2030                      | 4,519  |  |
| 13643              | 2030                      | 12,480,763   |  |
| 13648              | 2030                      | 12,882   |  |
| 13651              | 2030                      | 491,370  |  |
| 13652              | 2030                      | 221,948  |  |
| 13653              | 2030                      | 1,056  |  |
| 13655              | 2030                      | 1,320  |  |
| 13656              | 2030                      | 905,053  |  |
| 13660              | 2030                      | 18,951   |  |
| 13661              | 2030                      | 978  |  |
| 13662              | 2030                      | 855  |  |
| 13664              | 2025                      | 86,724   |  |
| 13667              | 2030                      | 1,693  |  |
| 13668              | 2030                      | 48,752   |  |
| 13669              | 2030                      | 8,849  |  |
| 13670              | 2030                      | 785  |  |
| 13671              | 2030                      | 14,184   |  |
| 13672              | 2030                      | 885  |  |
| 13677              | 2020                      | 1,701,611  |  |
| 13678              | 2020                      | 5,665  |  |
| 13679              | 2020                      | 12,719   |  |
| 13680              | 2020                      | 16,587   |  |
| 13688              | 2030                      | 189,006  |  |
| 13689              | 2030                      | 13,135   |  |
| 13690              | 2030                      | 535  |  |
| 13692              | 2030                      | 880  |  |



**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 13694              | 2020                      | 15,579   |  |
| 13695              | 2030                      | 3,658  |  |
| 13756              | 2020                      | 99,504   |  |
| 13758              | 2020                      | 42,322   |  |
| 13759              | 2020                      | 9,031,519  |  |
| 13766              | 2030                      | 788  |  |
| 13767              | 2030                      | 1,024  |  |
| 13768              | 2030                      | 3,309  |  |
| 13776              | 2020                      | 40,766   |  |
| 13777              | 2020                      | 7,619  |  |
| 13791              | 2020                      | 55,637   |  |
| 13792              | 2020                      | 6,594  |  |
| 13793              | 2020                      | 15,043   |  |
| 13794              | 2020                      | 3,091  |  |
| 13795              | 2020                      | 14,671   |  |
| 13806              | 2025                      | 21,052   |  |
| 13807              | 2025                      | 52,756   |  |
| 13808              | 2025                      | 52,771   |  |
| 13825              | 2030                      | 2,278  |  |
| 13835              | 2030                      | 19,328,369   |  |
| 13836              | 2020                      | 18,570   |  |
| 13853              | 2020                      | 168,222  |  |
| 13854              | 2020                      | 10,765   |  |
| 13855              | 2020                      | 1,119  |  |
| 13856              | 2020                      | 1,359  |  |
| 13857              | 2020                      | 1,042  |  |
| 13859              | 2020                      | 8,612  |  |
| 13860              | 2020                      | 29,004   |  |
| 13873              | 2030                      | 12,380,282   |  |
| 13876              | 2025                      | 2,582,446  |  |
| 13877              | 2025                      | 3,028,166  |  |
| 13878              | 2025                      | 2,232,326  |  |
| 13879              | 2025                      | 5,280,357  |  |
| 13880              | 2020                      | 2,935,364  |  |
| 13881              | 2020                      | 6,977,927  |  |
| 13882              | 2020                      | 5,144,040  |  |
| 13883              | 2020                      | 12,167,742   |  |
| 13888              | 2030                      | 83,249   |  |
| 13889              | 2030                      | 194,673  |  |
| 13890              | 2030                      | 143,510  |  |
| 13891              | 2030                      | 339,460  |  |
| 13918              | 2020                      | 7,296,232  |  |
| 13919              | 2020                      | 13,573,253   |  |
| 13935              | 2020                      | 62,083   |  |
| 13937              | 2020                      | 6,674,884  |  |
| 13941              | 2020                      | 27,974   |  |
| 13946              | 2020                      | 27,974   |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 13947              | 2009                      | 27,179,816   |  |
| 13952              | 2025                      | 274,126  |  |
| 13998              | 2020                      | 714,867  |  |
| 14003              | 2025                      | 53,687   |  |
| 14077              | 2025                      | 38,441   |  |
| 14078              | 2025                      | 40,512,253   |  |
| 14079              | 2013                      | 11,022   |  |
| 14080              | 2020                      | 34,813   |  |
| 14082              | 2020                      | 378,205  |  |
| 14341              | 2025                      | 41,208,114   |  |
| 14342              | 2025                      | 34,843   |  |
| 14343              | 2025                      | 30,011,098   |  |
| 14345              | 2025                      | 20,906   |  |
| 14346              | 2013                      | 10,990   |  |
| 14347              | 2025                      | 13,425,441   |  |
| 14348              | 2025                      | 1,904,009  |  |
| 14349              | 2025                      | 17,749,822   |  |
| 14350              | 2013                      | 12,124   |  |
| 14351              | 2013                      | 12,124   |  |
| 14352              | 2013                      | 61,030   |  |
| 14355              | 2025                      | 94,773   |  |
| 14374              | 2025                      | 3,970  |  |
| 14375              | 2025                      | 1,229  |  |
| 14454              | 2020                      | 5,646,548  |  |
| 14455              | 2020                      | 508,200  |  |
| 14457              | 2020                      | 1,057,507  |  |
| 14458              | 2020                      | 4,285,105  |  |
| 14459              | 2020                      | 2,146,224  |  |
| 14460              | 2020                      | 2,928,338  |  |
| 14461              | 2020                      | 2,500,562  |  |
| 14462              | 2020                      | 6,644,299  |  |
| 14574              | 2025                      | 3,977,077  |  |
| 14575              | 2025                      | 6,759,755  |  |
| 14576              | 2025                      | 5,991,827  |  |
| 14577              | 2025                      | 14,814,504   |  |
| 14578              | 2025                      | 932,282  |  |
| 14579              | 2025                      | 1,524,522  |  |
| 14580              | 2025                      | 4,618,906  |  |
| 14581              | 2025                      | 2,700,502  |  |
| 14582              | 2020                      | 2,345,140  |  |
| 14583              | 2020                      | 3,978,065  |  |
| 14584              | 2020                      | 3,524,382  |  |
| 14585              | 2020                      | 8,714,214  |  |
| 14586              | 2020                      | 551,258  |  |
| 14587              | 2020                      | 900,694  |  |
| 14588              | 2020                      | 2,722,097  |  |
| 14589              | 2020                      | 1,591,226  |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 14598              | 2030                      | 234,910  |  |
| 14599              | 2030                      | 452,865  |  |
| 14600              | 2030                      | 411,265  |  |
| 14601              | 2030                      | 1,016,891  |  |
| 14602              | 2030                      | 58,861   |  |
| 14603              | 2030                      | 96,237   |  |
| 14604              | 2030                      | 316,841  |  |
| 14605              | 2030                      | 169,835  |  |
| 14611              | 2020                      | 26,370   |  |
| 14612              | 2020                      | 977,669  |  |
| 14623              | 2020                      | 11,495   |  |
| 14625              | 2020                      | 3,480,754  |  |
| 14644              | 2030                      | 180,274  |  |
| 14677              | 2030                      | 491,351  |  |
| 14678              | 2030                      | 561  |  |
| 14772              | 2025                      | 53,284   |  |
| 14773              | 2025                      | 10,995   |  |
| 14982              | 2025                      | 4,535,209  |  |
| 17100              | 2020                      | 15,106,757   |  |
| 17101              | 2020                      | 2,293,671  |  |
| 17102              | 2020                      | 1,435,333  |  |
| 17133              | 2020                      | 2,913,240  |  |
| 17134              | 2020                      | 695,828  |  |
| 17135              | 2020                      | 1,413,401  |  |
| 17136              | 2020                      | 3,245,783  |  |
| 17137              | 2020                      | 2,787,789  |  |
| 17138              | 2020                      | 16,786,474   |  |
| 17147              | 2009                      | 20,583,661   |  |
| 17171              | 2025                      | 34,382,503   |  |
| 17177              | 2030                      | 293,429  |  |
| 17215              | 2025                      | 2,991,688  |  |
| 17216              | 2025                      | 5,203  |  |
| 17277              | 2030                      | 1,640  |  |
| 17431              | 2030                      | 102,194  |  |
| 17432              | 2030                      | 87,149   |  |
| 17433              | 2025                      | 56,982   |  |
| 17434              | 2025                      | 28,641   |  |
| 17460              | 2025                      | 3,174  |  |
| 17462              | 2025                      | 3,007  |  |
| 17474              | 2025                      | 1,670  |  |
| 17538              | 2025                      | 4,094,499  |  |
| 17539              | 2025                      | 10,043   |  |
| 17587              | 2025                      | 842,514  |  |
| 17588              | 2025                      | 1,664  |  |
| 17607              | 2025                      | 32,897   |  |
| 17656              | 2025                      | 395,259  |  |
| 17657              | 2025                      | 1,005,092  |  |

**List of Retired Depreciable Pipes and Compressor Stations**

| <b>Link Number</b> | <b>Year of retirement</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> | <b>Partial Retirement of compressor station?</b> |
|--------------------|---------------------------|--|--|
| 17661              | 2025                      | 9,637,731  |  |
| 17662              | 2025                      | 17,524,005   |  |
| 17663              | 2020                      | 613,863  |  |
| 17664              | 2020                      | 425,756  |  |
| 17669              | 2025                      | 1,473,759  |  |
| 17670              | 2025                      | 18,920,895   |  |
| 17686              | 2025                      | 473,619  |  |
| 17687              | 2030                      | 396,463  |  |
| 17688              | 2030                      | 713  |  |
| 17730              | 2020                      | 38,464   |  |
| 17778              | 2030                      | 2,749,659  |  |
| 17779              | 2030                      | 2,548,587  |  |
| 17781              | 2020                      | 1,053,945  |  |
| 17782              | 2020                      | 888  |  |
| 17783              | 2020                      | 1,238  |  |
| 17784              | 2020                      | 1,469,660  |  |
| 41829              | 2030                      | 4,832,891  |  |
| 41830              | 2030                      | 4,697,154  |  |
| 41833              | 2025                      | 5,402,075  |  |
| 41834              | 2025                      | 8,188,529  |  |
| 41858              | 2020                      | 13,890,933   |  |
| 41883              | 2030                      | 1,093,923  |  |
| 41884              | 2030                      | 1,303,121  |  |
| 41887              | 2025                      | 16,684,832   |  |
| 41888              | 2025                      | 1,517,505  |  |
| 41889              | 2025                      | 1,681,943  |  |
| 41907              | 2030                      | 888  |  |
| 41909              | 2030                      | 888  |  |
| 41951              | 2020                      | 13,429,117   |  |
| 41952              | 2020                      | 10,991,211   |  |
| 41960              | 2009                      | 13,649,120   |  |
| 42007              | 2009                      | 12,058,637   |  |
| 47697              | 2020                      | 5,445  |  |
| 47699              | 2030                      | 1,217,503  |  |
| 47700              | 2030                      | 1,906  |  |
| 49567              | 2025                      | 2,830,876  |  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 45                 | 19,598,052   |
| 88                 | 5,236,891  |
| 126                | 811,202  |
| 128                | 777,374  |
| 131                | 613,295  |
| 137                | 69,436   |
| 144                | 6,478,264  |
| 191                | 1,820,734  |
| 194                | 899,967  |
| 198                | 4,504,768  |
| 327                | 39,783,582   |
| 329                | 4,060,544  |
| 336                | 25,143,365   |
| 345                | 1,553,000  |
| 346                | 6,086,418  |
| 360                | 3,492,931  |
| 365                | 2,275,792  |
| 366                | 2,159  |
| 372                | 114,221  |
| 383                | 1,090,503  |
| 385                | 471,252  |
| 387                | 683,571  |
| 391                | 1,294,543  |
| 468                | 217,683  |
| 489                | 5,152  |
| 496                | 823,497  |
| 511                | 1,028,393  |
| 513                | 682,217  |
| 514                | 736,702  |
| 546                | 118,785  |
| 547                | 143,942  |
| 549                | 2,384,176  |
| 552                | 10,442,029   |
| 555                | 545,778  |
| 582                | 1,921,544  |
| 591                | 2,187,212  |
| 592                | 1,245,895  |
| 594                | 294,888  |
| 597                | 306,368  |
| 620                | 1,721,324  |
| 622                | 2,087  |
| 664                | 49,943   |
| 665                | 2,235,217  |
| 668                | 75,138   |
| 678                | 5,627,023  |
| 680                | 2,408,365  |
| 682                | 1,230,092  |
| 690                | 32,081,529   |
| 693                | 1,349,598  |
| 715                | 492,056  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 716                | 183,460  |
| 717                | 815,832  |
| 718                | 302,780  |
| 726                | 3,186,174  |
| 727                | 97,019   |
| 729                | 83,581   |
| 793                | 5,627,023  |
| 819                | 7,519,746  |
| 844                | 20,260,202   |
| 853                | 476,202  |
| 854                | 89,634   |
| 875                | 32,223,260   |
| 894                | 416,102  |
| 911                | 62,295,291   |
| 924                | 243,788  |
| 932                | 408,556  |
| 933                | 298,943  |
| 959                | 328,943  |
| 960                | 70,072   |
| 962                | 55,844   |
| 967                | 1,759,194  |
| 968                | 355,202  |
| 985                | 19,418,933   |
| 995                | 28,266   |
| 999                | 24,876,003   |
| 1020               | 13,201   |
| 1031               | 731,605  |
| 1033               | 524,450  |
| 1035               | 135,370  |
| 1056               | 553,742  |
| 1060               | 1,015  |
| 1154               | 14,839,714   |
| 1173               | 291,407  |
| 1211               | 964,893  |
| 1232               | 1,661,181  |
| 1251               | 115,626  |
| 1256               | 810,425  |
| 1258               | 19,530   |
| 1272               | 507,772  |
| 1281               | 1,040,621  |
| 1285               | 306,120  |
| 1287               | 926,217  |
| 1289               | 700,181  |
| 1296               | 3,037,771  |
| 1297               | 2,184,848  |
| 1305               | 197,873  |
| 1307               | 933,859  |
| 1309               | 112,039  |
| 1317               | 382,686  |
| 1319               | 590,611  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 1320               | 452,195  |
| 1457               | 7,706,703  |
| 1583               | 11,868,759   |
| 1632               | 7,004,511  |
| 1833               | 9,934,059  |
| 1852               | 361,418  |
| 1868               | 35,871,407   |
| 1893               | 10,972   |
| 1924               | 39,430,076   |
| 1959               | 787,598  |
| 2015               | 560,511  |
| 2029               | 553,523  |
| 2033               | 20,583,661   |
| 2087               | 91,193   |
| 2090               | 197,796  |
| 2092               | 90,861   |
| 2181               | 25,946,067   |
| 2267               | 21,813,891   |
| 2700               | 7,731,436  |
| 2729               | 3,164,713  |
| 2815               | 55,823,266   |
| 2913               | 20,583,661   |
| 2919               | 24,876,003   |
| 2920               | 9,934,059  |
| 2925               | 23,561,237   |
| 2929               | 33,639,053   |
| 2933               | 33,639,053   |
| 2939               | 22,470,013   |
| 2944               | 22,470,013   |
| 2950               | 33,198,886   |
| 2955               | 32,705,943   |
| 2962               | 22,743,958   |
| 2965               | 21,595,873   |
| 2973               | 26,017,118   |
| 3004               | 16,679,962   |
| 3036               | 38,022,187   |
| 3141               | 1,973  |
| 3142               | 242  |
| 3143               | 2,029  |
| 3144               | 203  |
| 3145               | 3,452  |
| 3146               | 370  |
| 3153               | 14,015   |
| 3165               | 11,290,636   |
| 3199               | 1,281  |
| 3200               | 778  |
| 3201               | 998  |
| 3202               | 5,774  |
| 3203               | 604  |
| 3205               | 2,136  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 3206               | 1,408  |
| 3214               | 1,619,752  |
| 3215               | 313,697  |
| 3216               | 1,701,750  |
| 3224               | 115,835  |
| 3238               | 212,618  |
| 3239               | 22,242   |
| 3240               | 219,868  |
| 3245               | 24,279   |
| 3248               | 4,053  |
| 3256               | 945,486  |
| 3257               | 142,523  |
| 3295               | 2,447,694  |
| 3297               | 81,955   |
| 3298               | 12,703   |
| 3299               | 439  |
| 3300               | 439  |
| 3322               | 351  |
| 3326               | 934  |
| 3327               | 335  |
| 3331               | 21,415   |
| 3332               | 13,658   |
| 3333               | 60,897   |
| 3335               | 4,044  |
| 3336               | 1,886  |
| 3340               | 12,057   |
| 3341               | 444,758  |
| 3343               | 40,244   |
| 3378               | 165,382  |
| 3380               | 15,149,178   |
| 3394               | 6,740  |
| 3396               | 1,548  |
| 3403               | 2,576  |
| 3455               | 25,616   |
| 3476               | 439,502  |
| 3477               | 439,502  |
| 3483               | 5,780  |
| 3484               | 9,183  |
| 3486               | 5,780  |
| 3487               | 9,183  |
| 3490               | 2,960,789  |
| 3538               | 67,592   |
| 3690               | 50,658   |
| 3694               | 133,229  |
| 3698               | 2,878,153  |
| 3799               | 7,004,511  |
| 3875               | 9,978,381  |
| 3885               | 234,125  |
| 3906               | 15,653   |
| 4054               | 5,456  |



**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 4057               | 48,837   |
| 4058               | 4,658  |
| 4062               | 381,747  |
| 4063               | 1,974  |
| 4064               | 852  |
| 4066               | 887  |
| 4070               | 2,243,300  |
| 4075               | 1,628  |
| 4096               | 1,574  |
| 4111               | 1,253  |
| 4112               | 2,826,799  |
| 4113               | 1,307  |
| 4114               | 1,560,406  |
| 4115               | 4,409  |
| 4254               | 102,421  |
| 4255               | 838,001  |
| 4257               | 5,516  |
| 4261               | 104,733  |
| 4262               | 862,302  |
| 4264               | 1,436,424  |
| 4265               | 781,647  |
| 4313               | 348,810  |
| 4314               | 66,464   |
| 4316               | 10,534   |
| 4317               | 8,900  |
| 4319               | 29,850   |
| 4339               | 1,789  |
| 4343               | 16,996   |
| 4350               | 725,010  |
| 4351               | 5,238  |
| 4367               | 1,722,967  |
| 4368               | 45,100   |
| 4369               | 334,222  |
| 4370               | 102,011  |
| 4371               | 1,348  |
| 4372               | 5,373  |
| 4373               | 10,706   |
| 4375               | 2,709,617  |
| 4377               | 938  |
| 4378               | 449  |
| 4464               | 6,937,346  |
| 4467               | 2,314,416  |
| 4469               | 502,011  |
| 4470               | 629,508  |
| 4473               | 13,653   |
| 4477               | 10,839   |
| 4492               | 390,589  |
| 4493               | 931,996  |
| 4579               | 9,934,059  |
| 4580               | 9,934,059  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 4687               | 1,457,324  |
| 4689               | 332,100  |
| 4693               | 9,110  |
| 4746               | 11,868,759   |
| 4863               | 56,464   |
| 4901               | 102,245  |
| 4902               | 664,639  |
| 4903               | 87,540   |
| 4904               | 290,382  |
| 4908               | 1,472  |
| 4909               | 7,996  |
| 4910               | 778  |
| 4911               | 15,056   |
| 4912               | 6,996  |
| 4913               | 1,084  |
| 4914               | 1,006  |
| 4925               | 785,092  |
| 4927               | 774,093  |
| 4929               | 5,898  |
| 4932               | 659,209  |
| 4936               | 87,628   |
| 4937               | 2,947,752  |
| 4938               | 16,605   |
| 4939               | 576,318  |
| 4940               | 3,163  |
| 4941               | 1,949,413  |
| 4950               | 1,328  |
| 4951               | 3,748  |
| 4952               | 160,413  |
| 4953               | 24,012   |
| 4954               | 20,023   |
| 4955               | 66,944   |
| 4967               | 27,381   |
| 4969               | 13,690   |
| 4974               | 4,673,582  |
| 4978               | 42,181   |
| 4979               | 56,507   |
| 4980               | 44,907   |
| 4981               | 27,861   |
| 5019               | 25,150,255   |
| 5021               | 2,898,602  |
| 5038               | 19,989   |
| 5039               | 65,964   |
| 5040               | 32,532   |
| 5049               | 10,731   |
| 5059               | 11,526   |
| 5061               | 8,233  |
| 5062               | 12,185   |
| 5083               | 782,171  |
| 5087               | 1,030,264  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 5099               | 519,516  |
| 5109               | 1,246,152  |
| 5112               | 2,349,585  |
| 5113               | 6,478  |
| 5120               | 2,833  |
| 5126               | 197,087  |
| 5127               | 4,148,505  |
| 5128               | 1,253  |
| 5133               | 1,307  |
| 5134               | 16,899   |
| 5137               | 11,914,785   |
| 5138               | 8,450  |
| 5140               | 3,306  |
| 5154               | 5,767,176  |
| 5158               | 3,498  |
| 5159               | 3,498  |
| 5162               | 2,211  |
| 5163               | 11,124   |
| 5166               | 8,973,637  |
| 5227               | 162,054  |
| 5240               | 1,480,319  |
| 5241               | 2,172,177  |
| 5242               | 6,035,357  |
| 5260               | 301,768  |
| 5269               | 9,758  |
| 5270               | 9,260  |
| 5271               | 8,707  |
| 5274               | 620  |
| 5275               | 621  |
| 5276               | 3,106  |
| 5277               | 160  |
| 5278               | 4,732  |
| 5279               | 3,208  |
| 5290               | 8,707  |
| 5295               | 10,776   |
| 5296               | 2,155  |
| 5297               | 862  |
| 5298               | 6,465  |
| 5305               | 10,580   |
| 5311               | 9,144  |
| 5313               | 446,095  |
| 5319               | 403,685  |
| 5324               | 12,470   |
| 5325               | 111,419  |
| 5326               | 12,737   |
| 5334               | 637  |
| 5335               | 11,298,056   |
| 5362               | 738,345  |
| 5363               | 1,567,913  |
| 5364               | 449,528  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 5365               | 1,134,193  |
| 5366               | 410,997  |
| 5367               | 400,788  |
| 5369               | 226,904  |
| 5370               | 1,319,273  |
| 5371               | 432,073  |
| 5372               | 692,569  |
| 5373               | 2,053,995  |
| 5375               | 1,951,186  |
| 5376               | 3,327,203  |
| 5377               | 3,816,627  |
| 5378               | 1,696,679  |
| 5379               | 921,120  |
| 5380               | 2,173,870  |
| 5381               | 3,554,318  |
| 5382               | 1,710,206  |
| 5486               | 1,033,652  |
| 5487               | 38,033   |
| 5488               | 1,299,724  |
| 5489               | 5,130  |
| 5490               | 1,677  |
| 5520               | 1,943  |
| 5521               | 2,687,335  |
| 5546               | 9,213  |
| 5547               | 1,149  |
| 5548               | 1,651,137  |
| 5551               | 10,799   |
| 5553               | 427,089  |
| 5554               | 326,183  |
| 5559               | 7,238,017  |
| 5560               | 16,056   |
| 5561               | 2,424,973  |
| 5566               | 3,071  |
| 5567               | 11,168   |
| 5699               | 55,948   |
| 5725               | 29,642   |
| 5735               | 4,350,086  |
| 5736               | 2,826  |
| 5737               | 10,179   |
| 5741               | 1,772  |
| 5756               | 1,551  |
| 5769               | 717  |
| 5777               | 4,136  |
| 5846               | 4,123,090  |
| 5854               | 1,862,542  |
| 5878               | 2,025,436  |
| 5893               | 1,652  |
| 5894               | 3,761,062  |
| 5898               | 4,291  |
| 5903               | 12,733,155   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 5904               | 7,173,985  |
| 5909               | 12,782,725   |
| 5916               | 9,500  |
| 5917               | 2,891  |
| 5919               | 8,113  |
| 5920               | 826  |
| 5921               | 1,548  |
| 5922               | 13,076   |
| 5923               | 8,113  |
| 5927               | 9,224,565  |
| 5929               | 1,307  |
| 5930               | 3,383,014  |
| 5932               | 2,478  |
| 5935               | 4,193  |
| 5937               | 28,028   |
| 5941               | 1,634  |
| 6273               | 16,679,962   |
| 6467               | 9,336,966  |
| 6470               | 4,236,216  |
| 6477               | 6,092,406  |
| 6480               | 977,494  |
| 6481               | 443,114  |
| 6482               | 1,952,001  |
| 6486               | 156,431  |
| 6487               | 428,254  |
| 6490               | 128,637  |
| 6516               | 1,383,629  |
| 6524               | 378,628  |
| 6525               | 9,202,551  |
| 6536               | 11,270   |
| 6557               | 254,862  |
| 6558               | 2,125  |
| 6560               | 2,103,172  |
| 6562               | 522,685  |
| 6585               | 729,138  |
| 6593               | 3,514,444  |
| 6594               | 1,842,026  |
| 6614               | 1,295  |
| 6615               | 308,873  |
| 6636               | 3,726  |
| 6637               | 17,572   |
| 6659               | 710  |
| 6669               | 1,520,940  |
| 6679               | 336,350  |
| 6680               | 662,224  |
| 6681               | 13,426,899   |
| 6699               | 202,127  |
| 6714               | 2,415  |
| 6715               | 1,545  |
| 6716               | 608  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 6748               | 154,116  |
| 6751               | 11,699,875   |
| 6763               | 14,142   |
| 6773               | 961,449  |
| 6775               | 6,225  |
| 6776               | 41,748   |
| 6777               | 17,997   |
| 6778               | 1,497  |
| 6779               | 2,820  |
| 6781               | 13,362   |
| 6782               | 4,326  |
| 6784               | 90,397   |
| 6785               | 2,319  |
| 6786               | 321  |
| 6787               | 21,001   |
| 6849               | 54,989   |
| 6851               | 92,752   |
| 6858               | 1,382  |
| 6859               | 1,042,671  |
| 6861               | 579,027  |
| 6862               | 6,088  |
| 6875               | 2,840,498  |
| 6876               | 15,501   |
| 6877               | 14,200   |
| 6879               | 37,662   |
| 6881               | 354,572  |
| 6963               | 270,812  |
| 6964               | 215,003  |
| 6965               | 752,530  |
| 6966               | 895,329  |
| 6967               | 187,429  |
| 6978               | 33,266   |
| 6980               | 19,959   |
| 6981               | 62,096   |
| 6984               | 337,448  |
| 6995               | 52,573   |
| 7026               | 5,719,086  |
| 7028               | 2,386,552  |
| 7029               | 433,839  |
| 7032               | 4,168  |
| 7053               | 2,968  |
| 7054               | 2,656  |
| 7056               | 1,411,311  |
| 7060               | 138  |
| 7092               | 484,165  |
| 7122               | 1,306  |
| 7123               | 640,669  |
| 7135               | 1,041,977  |
| 7136               | 1,148,531  |
| 7140               | 1,097,927  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 7141               | 590  |
| 7155               | 748,500  |
| 7156               | 825,185  |
| 7157               | 45,224   |
| 7158               | 51,670   |
| 7159               | 2,550  |
| 7161               | 2,499  |
| 7162               | 4,582  |
| 7163               | 1,160  |
| 7164               | 4,729  |
| 7168               | 29,914   |
| 7170               | 808  |
| 7174               | 24,876,003   |
| 7312               | 2,081  |
| 7313               | 4,399  |
| 7314               | 3,034  |
| 7315               | 1,601  |
| 7323               | 1,198  |
| 7324               | 803  |
| 7325               | 4,517  |
| 7329               | 1,460  |
| 7331               | 1,609  |
| 7336               | 1,121  |
| 7451               | 9,609  |
| 7453               | 13,192,274   |
| 7456               | 19,653   |
| 7457               | 20,229   |
| 7483               | 13,653   |
| 7484               | 1,264,656  |
| 7485               | 341,705  |
| 7494               | 12,465   |
| 7506               | 1,154  |
| 7507               | 1,532,254  |
| 7508               | 2,002  |
| 7518               | 972,651  |
| 7529               | 3,401,866  |
| 7530               | 2,100,611  |
| 7531               | 8,893  |
| 7532               | 23,013   |
| 7535               | 1,240  |
| 7536               | 1,572  |
| 7537               | 859,066  |
| 7545               | 6,121  |
| 7546               | 3,995  |
| 7547               | 26,269   |
| 7551               | 2,637,084  |
| 7558               | 5,503  |
| 7560               | 4,581  |
| 7568               | 632  |
| 7573               | 3,145  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 7574               | 2,971  |
| 7575               | 2,228  |
| 7576               | 338  |
| 7586               | 505,444  |
| 7587               | 2,572,127  |
| 7588               | 2,507,797  |
| 7594               | 3,546  |
| 7595               | 3,519  |
| 7599               | 417  |
| 7600               | 627  |
| 7604               | 1,666  |
| 7612               | 5,343,053  |
| 7627               | 463  |
| 7628               | 1,181  |
| 7632               | 848  |
| 7633               | 754,209  |
| 7634               | 2,064,740  |
| 7635               | 10,059,030   |
| 7636               | 252,103  |
| 7637               | 173,118  |
| 7638               | 810,950  |
| 7639               | 882,520  |
| 7640               | 1,560,546  |
| 7641               | 35,011   |
| 7642               | 24,787   |
| 7643               | 115,645  |
| 7644               | 134,312  |
| 7645               | 40,178   |
| 7646               | 109,993  |
| 7647               | 797,757  |
| 7648               | 21,555   |
| 7649               | 95,422   |
| 7650               | 46,020   |
| 7651               | 311,009  |
| 7652               | 382,932  |
| 7658               | 3,542  |
| 7660               | 890,915  |
| 7661               | 3,639,124  |
| 7663               | 1,098,992  |
| 7667               | 7,923  |
| 7668               | 1,043,671  |
| 7679               | 19,955   |
| 7680               | 6,268  |
| 7682               | 714  |
| 7684               | 1,028  |
| 7685               | 849  |
| 7687               | 115,329  |
| 7702               | 1,055,783  |
| 7703               | 641,707  |
| 7704               | 1,156  |



**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 7724               | 232  |
| 7725               | 232  |
| 7726               | 776  |
| 7727               | 173  |
| 7728               | 967  |
| 7731               | 16,388   |
| 7737               | 567,264  |
| 7738               | 39,553,413   |
| 7755               | 16,717   |
| 7756               | 18,815   |
| 7757               | 375,385  |
| 7758               | 1,732,431  |
| 7773               | 1,209  |
| 7774               | 16,960   |
| 7786               | 693  |
| 7787               | 2,720  |
| 7788               | 1,089  |
| 7789               | 771  |
| 7790               | 2,056  |
| 7791               | 927  |
| 7792               | 742  |
| 7793               | 423  |
| 7795               | 22,492   |
| 7802               | 643,444  |
| 7803               | 3,954  |
| 7804               | 1,966,706  |
| 7813               | 1,137  |
| 7814               | 2,863  |
| 7815               | 451  |
| 7816               | 235,186  |
| 7817               | 745,399  |
| 7824               | 2,272,850  |
| 7825               | 4,196,871  |
| 7826               | 31,262,560   |
| 7829               | 39,785   |
| 7831               | 81,148   |
| 7834               | 26,084   |
| 7835               | 488  |
| 7838               | 2,734  |
| 7839               | 2,767  |
| 7840               | 4,131  |
| 7841               | 916,498  |
| 7845               | 113,175  |
| 7846               | 287,575  |
| 7851               | 1,549  |
| 7852               | 1,546  |
| 7857               | 24,619,613   |
| 7858               | 33,572   |
| 7859               | 29,375   |
| 7860               | 28,536   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 7861               | 1,180,812  |
| 7884               | 52,605   |
| 7885               | 4,692  |
| 7891               | 25,923   |
| 7892               | 66,494   |
| 7893               | 1,421,871  |
| 7895               | 13,905   |
| 7896               | 2,211  |
| 7898               | 3,707,316  |
| 7899               | 1,127,089  |
| 7902               | 842,677  |
| 7903               | 254,557  |
| 7904               | 77,482   |
| 7905               | 535,417  |
| 7910               | 6,834  |
| 7911               | 4,271  |
| 7912               | 2,291,360  |
| 7913               | 1,553,465  |
| 7914               | 3,106,929  |
| 7915               | 1,553,465  |
| 7916               | 503,323  |
| 7917               | 1,842,409  |
| 7918               | 503,323  |
| 7919               | 2,392,715  |
| 7920               | 1,609,089  |
| 7921               | 3,190,824  |
| 7922               | 1,609,089  |
| 7923               | 521,345  |
| 7924               | 1,758,734  |
| 7925               | 658,117  |
| 7926               | 16,072   |
| 7927               | 14,542   |
| 7930               | 9,570,018  |
| 7932               | 68,007   |
| 7933               | 47,697   |
| 7946               | 1,797  |
| 7950               | 1,640  |
| 7955               | 0  |
| 7968               | 1,048  |
| 8005               | 3,268  |
| 8006               | 6,537  |
| 8007               | 8,866,688  |
| 8008               | 151  |
| 8012               | 16,516   |
| 8021               | 1,352  |
| 8022               | 289,132  |
| 8024               | 10,797   |
| 8025               | 752  |
| 8026               | 35,289   |
| 8032               | 15,056   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 8033               | 778  |
| 8034               | 16,058,205   |
| 8035               | 39,197   |
| 8036               | 12,032,604   |
| 8037               | 2,683,070  |
| 8038               | 36,777   |
| 8039               | 5,294,234  |
| 8040               | 240,858  |
| 8041               | 6,215  |
| 8042               | 976,161  |
| 8043               | 1,366  |
| 8044               | 13,610   |
| 8060               | 3,049,803  |
| 8090               | 5,519  |
| 8093               | 4,114  |
| 8095               | 404,018  |
| 8096               | 12,523   |
| 8099               | 2,633,867  |
| 8100               | 2,542,628  |
| 8101               | 9,690  |
| 8102               | 1,574  |
| 8103               | 46,651   |
| 8104               | 7,296  |
| 8105               | 6,490  |
| 8106               | 32,948   |
| 8115               | 28,285,630   |
| 8189               | 3,786,184  |
| 8190               | 6,732,893  |
| 8193               | 540,728  |
| 8194               | 929,539  |
| 8209               | 2,469,572  |
| 8211               | 2,756,493  |
| 8212               | 2,169,506  |
| 8213               | 1,400,787  |
| 8214               | 3,553,857  |
| 8215               | 1,724,334  |
| 8220               | 875,785  |
| 8221               | 1,112,459  |
| 8222               | 1,332,696  |
| 8223               | 1,316,261  |
| 8224               | 931,666  |
| 8225               | 1,197,454  |
| 8226               | 833,992  |
| 8228               | 2,658,349  |
| 8229               | 1,936,119  |
| 8240               | 1,423,737  |
| 8241               | 281,067  |
| 8246               | 525,471  |
| 8247               | 808,634  |
| 8251               | 16,436   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 8267               | 9,499,573  |
| 8274               | 1,315  |
| 8284               | 8,131  |
| 8286               | 30,592,985   |
| 8293               | 688,516  |
| 8296               | 8,869  |
| 8297               | 4,208,562  |
| 8299               | 15,312   |
| 8302               | 90,818   |
| 8304               | 17,982   |
| 8305               | 17,340   |
| 8306               | 14,840   |
| 8307               | 14,840   |
| 8315               | 73,928   |
| 8316               | 24,614   |
| 8317               | 527,875  |
| 8318               | 300,807  |
| 8324               | 5,370  |
| 8334               | 12,712   |
| 8336               | 2,183  |
| 8356               | 16,679,962   |
| 8357               | 1,490,478  |
| 8377               | 49,391,756   |
| 8379               | 26,538   |
| 8380               | 8,470  |
| 8381               | 24,811   |
| 8386               | 7,004,511  |
| 8388               | 222  |
| 8391               | 2,679  |
| 8392               | 2,143  |
| 8393               | 5,060  |
| 8395               | 3,630,195  |
| 8396               | 276,495  |
| 8398               | 174,697  |
| 8409               | 9,989  |
| 8421               | 2,207  |
| 8436               | 1,003  |
| 8437               | 1,242,219  |
| 8442               | 1,664  |
| 8443               | 1,031,181  |
| 8444               | 1,205,873  |
| 8445               | 1,088,912  |
| 8446               | 8,928  |
| 8447               | 387,386  |
| 8448               | 1,744  |
| 8449               | 717,724  |
| 8450               | 840,050  |
| 8480               | 30,261   |
| 8481               | 888  |
| 8493               | 1,631,069  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 8516               | 927,540  |
| 8517               | 5,210  |
| 8534               | 16,346   |
| 8539               | 6,881  |
| 8550               | 48,960,655   |
| 8551               | 515,780  |
| 8552               | 448,320  |
| 8711               | 1,058,490  |
| 8712               | 1,104,902  |
| 8736               | 5,590  |
| 8821               | 18,119   |
| 8822               | 18,437   |
| 8838               | 31,824,876   |
| 8844               | 675,890  |
| 8845               | 2,239,763  |
| 8893               | 13,855   |
| 8925               | 7,497,570  |
| 9007               | 39,652   |
| 9050               | 337,519  |
| 9107               | 1,828,644  |
| 9163               | 144,032  |
| 9164               | 74,957   |
| 9165               | 1,389,869  |
| 9201               | 132,085  |
| 9203               | 2,735  |
| 9205               | 2,735  |
| 9207               | 1,722,278  |
| 9208               | 3,548,775  |
| 9210               | 41,908   |
| 9211               | 741  |
| 9212               | 576  |
| 9213               | 3,293  |
| 9214               | 16,492   |
| 9215               | 1,098  |
| 9216               | 101,551  |
| 9217               | 6,805  |
| 9218               | 1,756  |
| 9219               | 1,355  |
| 9220               | 988  |
| 9221               | 49,728   |
| 9223               | 23,544   |
| 9224               | 3,459  |
| 9225               | 149,473  |
| 9226               | 4,523  |
| 9228               | 3,698  |
| 9229               | 6,453  |
| 9250               | 420,490  |
| 9259               | 356,273  |
| 9268               | 5,101,462  |
| 9269               | 14,986   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 9270               | 14,986   |
| 9271               | 9,382,323  |
| 9273               | 11,725   |
| 9284               | 6,202,654  |
| 9285               | 4,535,109  |
| 9286               | 3,463,194  |
| 9287               | 9,971  |
| 9289               | 2,491  |
| 9290               | 405,649  |
| 9292               | 4,554  |
| 9293               | 401,609  |
| 9294               | 9,288  |
| 9295               | 5,066  |
| 9308               | 8,839,680  |
| 9309               | 4,398,319  |
| 9349               | 470,918  |
| 9352               | 588,262  |
| 9353               | 470,918  |
| 9356               | 2,570,221  |
| 9363               | 30,119   |
| 9367               | 9,230  |
| 9380               | 10,262   |
| 9381               | 7,847  |
| 9388               | 5,296,148  |
| 9390               | 78,475   |
| 9395               | 118,595  |
| 9396               | 129,237  |
| 9399               | 588,262  |
| 9400               | 25,189   |
| 9403               | 16,763,999   |
| 9404               | 6,037  |
| 9440               | 17,681,361   |
| 9441               | 2,475,465  |
| 9442               | 5,501,772  |
| 9443               | 6,912,807  |
| 9444               | 1,308,583  |
| 9451               | 16,188,648   |
| 9459               | 2,827,084  |
| 9508               | 2,351  |
| 9529               | 965,249  |
| 9530               | 6,348,799  |
| 9613               | 750,152  |
| 9628               | 19,825   |
| 9629               | 4,010  |
| 9637               | 16,221   |
| 9638               | 83,729   |
| 9640               | 564,968  |
| 9641               | 8,506,804  |
| 9770               | 2,855  |
| 9771               | 3,782,561  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 9772               | 15,716,536   |
| 9822               | 223,320  |
| 9823               | 7,156,397  |
| 9837               | 704,593  |
| 9838               | 113,285  |
| 9868               | 2,670,088  |
| 9872               | 3,105,868  |
| 9893               | 19,264   |
| 9896               | 12,578   |
| 9897               | 12,578   |
| 9903               | 10,098,336   |
| 9904               | 3,414,194  |
| 9908               | 11,254   |
| 9909               | 9,930  |
| 9911               | 1,890,124  |
| 9916               | 8,750,432  |
| 9920               | 11,992,012   |
| 9921               | 2,028,382  |
| 9922               | 3,447,340  |
| 9923               | 4,346,013  |
| 9924               | 5,206,483  |
| 9925               | 5,175,557  |
| 9926               | 3,662,003  |
| 9927               | 4,586,144  |
| 9928               | 3,194,474  |
| 9932               | 10,594   |
| 9941               | 1,520,166  |
| 9946               | 1,564,083  |
| 9948               | 15,377   |
| 9961               | 3,836,430  |
| 9964               | 5,800,553  |
| 9986               | 8,119,340  |
| 10008              | 273,420  |
| 10042              | 657,594  |
| 10043              | 445,335  |
| 10044              | 2,525  |
| 10056              | 2,564,376  |
| 10057              | 13,623,190   |
| 10122              | 1,745,021  |
| 10177              | 1,381,900  |
| 10179              | 953,836  |
| 10199              | 21,170,874   |
| 10204              | 17,644   |
| 10205              | 7,982  |
| 10207              | 22,994,069   |
| 10208              | 83,473   |
| 10213              | 17,761   |
| 10229              | 3,226,289  |
| 10230              | 1,381,460  |
| 10247              | 244,262  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 10248              | 1,120  |
| 10251              | 8,525,903  |
| 10306              | 16,260,158   |
| 10366              | 110,063  |
| 10383              | 1,085,222  |
| 10384              | 4,154,999  |
| 10391              | 18,821   |
| 10402              | 16,939,206   |
| 10483              | 2,171,795  |
| 10484              | 125,675  |
| 10515              | 4,374,984  |
| 10517              | 5,331  |
| 10519              | 1,430  |
| 10520              | 1,349,180  |
| 10521              | 17,592   |
| 10522              | 1,598  |
| 10523              | 10,384   |
| 10524              | 2,477,604  |
| 10526              | 3,219,801  |
| 10527              | 3,345,957  |
| 10528              | 5,373,018  |
| 10529              | 3,347,789  |
| 10531              | 7,441,518  |
| 10552              | 1,564,961  |
| 10553              | 598,476  |
| 10554              | 5,088,356  |
| 10567              | 10,580   |
| 10568              | 6,348  |
| 10569              | 19,770   |
| 10570              | 5,649  |
| 10606              | 591,990  |
| 10607              | 5,115,163  |
| 10693              | 84,845   |
| 10711              | 9,385  |
| 10712              | 1,950  |
| 10713              | 1,013,421  |
| 10714              | 1,190,883  |
| 10715              | 1,976  |
| 10716              | 9,937  |
| 10720              | 3,811,989  |
| 10721              | 8,423,632  |
| 10722              | 4,289,652  |
| 10723              | 188,862  |
| 10725              | 696  |
| 10726              | 870  |
| 10727              | 1,218  |
| 10728              | 10,296   |
| 10731              | 9,283,131  |
| 10735              | 8,516,031  |
| 10739              | 4,071,307  |



**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 10742              | 259,683  |
| 10743              | 1,999,984  |
| 10746              | 9,003  |
| 10747              | 77,023   |
| 10748              | 62,417   |
| 10749              | 136,087  |
| 10750              | 223,327  |
| 10751              | 77,981   |
| 10752              | 130,979  |
| 10753              | 1,291,114  |
| 10754              | 32,725   |
| 10755              | 472,834  |
| 10756              | 254,296  |
| 10757              | 131,618  |
| 10758              | 902,754  |
| 10759              | 338,047  |
| 10760              | 737,400  |
| 10761              | 1,206,694  |
| 10762              | 421,372  |
| 10763              | 707,611  |
| 10764              | 7,156,154  |
| 10765              | 61,064   |
| 10766              | 968,572  |
| 10767              | 522,168  |
| 10768              | 265,420  |
| 10769              | 1,487,402  |
| 10770              | 556,801  |
| 10771              | 1,214,322  |
| 10772              | 1,986,040  |
| 10773              | 692,986  |
| 10774              | 1,168,217  |
| 10775              | 11,463,709   |
| 10776              | 4,499,800  |
| 10777              | 2,273,307  |
| 10778              | 1,161,834  |
| 10779              | 2,057,795  |
| 10780              | 770,292  |
| 10781              | 1,680,181  |
| 10782              | 2,834,112  |
| 10783              | 989,228  |
| 10784              | 1,662,104  |
| 10785              | 16,311,713   |
| 10786              | 6,420,440  |
| 10787              | 3,242,859  |
| 10791              | 2,853,545  |
| 10812              | 45,203   |
| 10813              | 1,322,838  |
| 10815              | 633,700  |
| 10823              | 850  |
| 10837              | 5,873,453  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 10838              | 2,543,329  |
| 10867              | 10,273,310   |
| 10870              | 1,253,170  |
| 10874              | 28,752,835   |
| 10875              | 42,072   |
| 10876              | 42,072   |
| 10883              | 5,505,751  |
| 10884              | 57,696   |
| 10885              | 2,038,047  |
| 10901              | 1,276  |
| 10903              | 1,276  |
| 10925              | 3,265,792  |
| 10930              | 40,766   |
| 10977              | 1,913  |
| 10978              | 2,232  |
| 10979              | 4,442  |
| 10980              | 10,400   |
| 10984              | 143,101  |
| 10985              | 10,015   |
| 11008              | 2,592,482  |
| 11010              | 772,521  |
| 11061              | 10,433,935   |
| 11066              | 13,941   |
| 11071              | 35,927   |
| 11077              | 16,092,310   |
| 11100              | 3,830  |
| 11143              | 3,539,079  |
| 11144              | 1,560,072  |
| 11145              | 242,150  |
| 11160              | 11,484   |
| 11161              | 31,743   |
| 11162              | 16,614   |
| 11163              | 1,296,381  |
| 11164              | 11,096   |
| 11165              | 49,934   |
| 11166              | 19,955   |
| 11167              | 6,818  |
| 11168              | 6,645  |
| 11169              | 260,918  |
| 11170              | 2,720  |
| 11171              | 2,434  |
| 11172              | 77,007   |
| 11178              | 2,908,409  |
| 11179              | 3,753,071  |
| 11180              | 2,102,074  |
| 11181              | 2,716,864  |
| 11182              | 3,469  |
| 11183              | 473  |
| 11185              | 2,281,933  |
| 11198              | -856,681   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 11203              | 27,938,101   |
| 11219              | 79,910   |
| 11222              | 608,868  |
| 11223              | 847,754  |
| 11275              | 9,923,753  |
| 11286              | 6,517,814  |
| 11287              | 2,242,274  |
| 11362              | 1,647  |
| 11371              | 715,385  |
| 11372              | 5,031  |
| 11373              | 3,048  |
| 11393              | 9,318,809  |
| 11409              | 15,706,314   |
| 11434              | 12,924,960   |
| 11441              | 35,122   |
| 11471              | 1,175,378  |
| 11472              | 32,273,714   |
| 11473              | 2,534  |
| 11474              | 158,823  |
| 11475              | 1,491  |
| 11476              | 19,020   |
| 11483              | 16,605   |
| 11485              | 187,697  |
| 11486              | 1,348,325  |
| 11487              | 1,011,684  |
| 11488              | 1,285,402  |
| 11489              | 432,791  |
| 11490              | 562,792  |
| 11491              | 1,998,184  |
| 11492              | 14,794   |
| 11493              | 7,220,302  |
| 11494              | 9,113,875  |
| 11495              | 3,069,659  |
| 11496              | 4,032,295  |
| 11503              | 898  |
| 11505              | 1,491  |
| 11506              | 763  |
| 11507              | 26,299   |
| 11511              | 898  |
| 11512              | 1,938  |
| 11516              | 43,324   |
| 11517              | 12,105   |
| 11518              | 4,237  |
| 11524              | 3,502,478  |
| 11585              | 655,967  |
| 11586              | 914,678  |
| 11606              | 6,587  |
| 11607              | 828,455  |
| 11608              | 9,617,821  |
| 11609              | 11,689   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 11615              | 19,459   |
| 11678              | 90,631   |
| 11679              | 349,282  |
| 11755              | 8,098,597  |
| 11756              | 951,038  |
| 11787              | 795,803  |
| 11802              | 1,779,480  |
| 11854              | 23,958   |
| 11891              | 9,815  |
| 11894              | 4,142  |
| 12016              | 3,629,436  |
| 12018              | 1,617  |
| 12022              | 16,846   |
| 12023              | 7,977  |
| 12024              | 8,086  |
| 12077              | 23,847   |
| 12079              | 55,360   |
| 12081              | 7,699  |
| 12082              | 9,410  |
| 12083              | 2,121  |
| 12086              | 1,514  |
| 12087              | 479  |
| 12088              | 2,885  |
| 12089              | 1,041  |
| 12095              | 1,988  |
| 12114              | 1,915,194  |
| 12115              | 16,334   |
| 12116              | 9,424  |
| 12117              | 2,743,546  |
| 12118              | 9,181,047  |
| 12119              | 537,601  |
| 12120              | 3,287  |
| 12121              | 1,915,995  |
| 12132              | 24,005   |
| 12133              | 3,043  |
| 12151              | 549,602  |
| 12152              | 315  |
| 12200              | 2,009,995  |
| 12243              | 5,394,037  |
| 12244              | 2,553,028  |
| 12245              | 11,027,400   |
| 12255              | 562,521  |
| 12256              | 3,223,549  |
| 12257              | 262,077  |
| 12259              | 140,520  |
| 12260              | 1,728,397  |
| 12261              | 436,858  |
| 12300              | 23,508   |
| 12301              | 5,359  |
| 12303              | 13,281   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 12307              | 994,508  |
| 12308              | 17,641   |
| 12309              | 1,406,659  |
| 12317              | 8,402,705  |
| 12318              | 10,716,111   |
| 12329              | 0  |
| 12352              | 3,463  |
| 12353              | 4,848  |
| 12395              | 8,153,017  |
| 12396              | 7,295  |
| 12412              | 1,408,727  |
| 12413              | 472,205  |
| 12414              | 556,187  |
| 12415              | 1,342,738  |
| 12416              | 271,568  |
| 12417              | 3,611,977  |
| 12418              | 9,358,457  |
| 12419              | 8,226,967  |
| 12420              | 7,520,913  |
| 12421              | 3,633,953  |
| 12423              | 1,701,179  |
| 12424              | 4,127,007  |
| 12427              | 1,030,625  |
| 12428              | 823,824  |
| 12434              | 1,246,761  |
| 12435              | 3,958,403  |
| 12436              | 2,008,962  |
| 12437              | 514,702  |
| 12438              | 2,874,744  |
| 12439              | 2,571,341  |
| 12440              | 1,849,675  |
| 12442              | 853,027  |
| 12443              | 261  |
| 12444              | 2,033,511  |
| 12447              | 4,961  |
| 12452              | 368,310  |
| 12458              | 1,069,499  |
| 12464              | 4,317  |
| 12468              | 10,679,773   |
| 12479              | 7,624  |
| 12480              | 7,752  |
| 12481              | 2,252,203  |
| 12482              | 618  |
| 12483              | 1,635  |
| 12484              | 1,876  |
| 12495              | 8,846,032  |
| 12496              | 3,095  |
| 12497              | 11,160   |
| 12498              | 1,563  |
| 12511              | 944  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 12512              | 1,283  |
| 12513              | 315  |
| 12514              | 393  |
| 12515              | 786  |
| 12538              | 7,376  |
| 12539              | 13,528   |
| 12548              | 91,151   |
| 12549              | 1,922,623  |
| 12553              | 19,225,510   |
| 12557              | 18,002,238   |
| 12564              | 102,363  |
| 12570              | 22,354   |
| 12571              | 11,568   |
| 12572              | 10,990   |
| 12576              | 11,153   |
| 12594              | 268,647  |
| 12595              | 2,740,291  |
| 12597              | 7,387,485  |
| 12602              | 2,983,340  |
| 12603              | 10,685,984   |
| 12605              | 208,207  |
| 12610              | 1,052,167  |
| 12611              | 158,111  |
| 12612              | 2,669,441  |
| 12613              | 585,638  |
| 12620              | 358,217  |
| 12621              | 635,458  |
| 12645              | 36,338   |
| 12646              | 18,161   |
| 12647              | 54,483   |
| 12657              | 742,393  |
| 12662              | 6,177  |
| 12663              | 6,177  |
| 12664              | 19,754   |
| 12666              | 61,457   |
| 12736              | 14,620,592   |
| 12754              | 31,448   |
| 12755              | 2,866,748  |
| 12756              | 2,236,111  |
| 12757              | 1,874,433  |
| 12800              | 25,790,603   |
| 12801              | 37,858,370   |
| 12804              | 281,765  |
| 12844              | 119,048  |
| 12845              | 9,332,045  |
| 12846              | 1,413,158  |
| 12847              | 452,095  |
| 12848              | 8,688,605  |
| 12849              | 2,403  |
| 12850              | 1,924  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 12869              | 156,803  |
| 12877              | 1,084,648  |
| 12980              | 32,272,236   |
| 13037              | 1,123,942  |
| 13061              | 1,184  |
| 13062              | 450,276  |
| 13064              | 232  |
| 13065              | 695  |
| 13070              | 702,205  |
| 13076              | 376,450  |
| 13077              | 792,146  |
| 13098              | 684,996  |
| 13099              | 2,407,114  |
| 13107              | 1,244,104  |
| 13108              | 75,926   |
| 13127              | 178,418  |
| 13128              | 533  |
| 13130              | 11,310   |
| 13133              | 374,864  |
| 13134              | 431,970  |
| 13135              | 1,201,815  |
| 13140              | 1,761,445  |
| 13141              | 485,862  |
| 13143              | 438,877  |
| 13149              | 499,174  |
| 13151              | 196,240  |
| 13175              | 1,905,303  |
| 13176              | 83,249   |
| 13195              | 4,218  |
| 13196              | 4,220  |
| 13197              | 4,218  |
| 13198              | 15,411   |
| 13200              | 641,878  |
| 13201              | 468,334  |
| 13222              | 605  |
| 13223              | 832,660  |
| 13225              | 945  |
| 13226              | 182,751  |
| 13237              | 643,845  |
| 13238              | 1,768,892  |
| 13297              | 1,252,535  |
| 13298              | 6,444  |
| 13371              | 21,844   |
| 13401              | 394  |
| 13402              | 2,043,603  |
| 13422              | 100,341  |
| 13423              | 560,002  |
| 13437              | 1,910,843  |
| 13438              | 9,870,579  |
| 13445              | 356,427  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 13446              | 448,375  |
| 13470              | 602  |
| 13471              | 979  |
| 13483              | 2,541,018  |
| 13484              | 5,773,570  |
| 13485              | 4,368,112  |
| 13506              | 73,750   |
| 13507              | 16,958   |
| 13526              | 17,058   |
| 13527              | 1,702,683  |
| 13569              | 900,821  |
| 13570              | 430,902  |
| 13583              | 6,347  |
| 13584              | 6,018,860  |
| 13585              | 2,471  |
| 13591              | 15,633   |
| 13594              | 22,540   |
| 13596              | 1,387,348  |
| 13597              | 1,479  |
| 13598              | 3,380  |
| 13599              | 4,005,337  |
| 13600              | 14,876   |
| 13601              | 14,290,774   |
| 13602              | 30,683   |
| 13604              | 1,867  |
| 13605              | 393  |
| 13606              | 202  |
| 13608              | 1,768  |
| 13610              | 10,675   |
| 13611              | 958  |
| 13612              | 1,628  |
| 13616              | 916,834  |
| 13618              | 28,901   |
| 13636              | 2,892,964  |
| 13637              | 62,110   |
| 13639              | 1,917,980  |
| 13640              | 14,387   |
| 13641              | 48,461   |
| 13642              | 4,519  |
| 13643              | 12,480,763   |
| 13644              | 818,348  |
| 13645              | 413,304  |
| 13646              | 924  |
| 13647              | 3,067  |
| 13648              | 12,882   |
| 13649              | 2,572  |
| 13650              | 1,710,402  |
| 13651              | 491,370  |
| 13652              | 221,948  |
| 13653              | 1,056  |



**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 13654              | 10,122   |
| 13655              | 1,320  |
| 13656              | 905,053  |
| 13657              | 58,499   |
| 13658              | 923  |
| 13659              | 2,922  |
| 13660              | 18,951   |
| 13661              | 978  |
| 13662              | 855  |
| 13663              | 1,032  |
| 13664              | 86,724   |
| 13665              | 3,611  |
| 13666              | 6,189  |
| 13667              | 1,693  |
| 13668              | 48,752   |
| 13669              | 8,849  |
| 13670              | 785  |
| 13671              | 14,184   |
| 13672              | 885  |
| 13676              | 19,506   |
| 13677              | 1,701,611  |
| 13678              | 5,665  |
| 13679              | 12,719   |
| 13680              | 16,587   |
| 13682              | 394,367  |
| 13683              | 914  |
| 13684              | 2,433  |
| 13685              | 3,147  |
| 13686              | 71,180   |
| 13688              | 189,006  |
| 13689              | 13,135   |
| 13690              | 535  |
| 13692              | 880  |
| 13694              | 15,579   |
| 13695              | 3,658  |
| 13703              | 13,059   |
| 13704              | 26,102   |
| 13714              | 2,849  |
| 13715              | 3,663  |
| 13732              | 30,926   |
| 13756              | 99,504   |
| 13757              | 90,975   |
| 13758              | 42,322   |
| 13759              | 9,031,519  |
| 13761              | 17,137   |
| 13762              | 9,426  |
| 13763              | 17,137   |
| 13764              | 5,551,184  |
| 13766              | 788  |
| 13767              | 1,024  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 13768              | 3,309  |
| 13776              | 40,766   |
| 13777              | 7,619  |
| 13785              | 20,260,202   |
| 13790              | 41,908   |
| 13791              | 55,637   |
| 13792              | 6,594  |
| 13793              | 15,043   |
| 13794              | 3,091  |
| 13795              | 14,671   |
| 13799              | 1,701  |
| 13806              | 21,052   |
| 13807              | 52,756   |
| 13808              | 52,771   |
| 13811              | 4,145  |
| 13812              | 7,004  |
| 13813              | 195  |
| 13814              | 3,597  |
| 13815              | 5,205  |
| 13825              | 2,278  |
| 13835              | 19,328,369   |
| 13836              | 18,570   |
| 13838              | 368,010  |
| 13839              | 212,526  |
| 13852              | 22,167   |
| 13853              | 168,222  |
| 13854              | 10,765   |
| 13855              | 1,119  |
| 13856              | 1,359  |
| 13857              | 1,042  |
| 13859              | 8,612  |
| 13860              | 29,004   |
| 13861              | 124,054  |
| 13873              | 12,380,282   |
| 13874              | 60,663   |
| 13876              | 2,582,446  |
| 13877              | 3,028,166  |
| 13878              | 2,232,326  |
| 13879              | 5,280,357  |
| 13880              | 2,935,364  |
| 13881              | 6,977,927  |
| 13882              | 5,144,040  |
| 13883              | 12,167,742   |
| 13884              | 898,005  |
| 13885              | 1,052,997  |
| 13886              | 776,256  |
| 13887              | 1,887,899  |
| 13888              | 83,249   |
| 13889              | 194,673  |
| 13890              | 143,510  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 13891              | 339,460  |
| 13914              | 12,295   |
| 13915              | 18,081   |
| 13916              | 2,285,755  |
| 13918              | 7,296,232  |
| 13919              | 13,573,253   |
| 13929              | 109,448  |
| 13930              | 59,199   |
| 13934              | 13,649,120   |
| 13935              | 62,083   |
| 13936              | 28,220   |
| 13937              | 6,674,884  |
| 13938              | 1,053,903  |
| 13939              | 13,006   |
| 13940              | 469,943  |
| 13941              | 27,974   |
| 13942              | 8,898  |
| 13945              | 8,663  |
| 13946              | 27,974   |
| 13947              | 27,179,816   |
| 13950              | 27,564,188   |
| 13952              | 274,126  |
| 13995              | 2,070  |
| 13998              | 714,867  |
| 14003              | 53,687   |
| 14041              | 1,908,998  |
| 14077              | 38,441   |
| 14078              | 40,512,253   |
| 14079              | 11,022   |
| 14080              | 34,813   |
| 14082              | 378,205  |
| 14084              | 94,762   |
| 14091              | 463,891  |
| 14111              | 5,525  |
| 14124              | 96,008   |
| 14125              | 38,713   |
| 14126              | 13,162   |
| 14127              | 37,752   |
| 14129              | 13,555   |
| 14130              | 34,236   |
| 14308              | 1,156,445  |
| 14309              | 552,953  |
| 14313              | 1,469,044  |
| 14314              | 1,592,728  |
| 14340              | 29,975   |
| 14341              | 41,208,114   |
| 14342              | 34,843   |
| 14343              | 30,011,098   |
| 14344              | 12,841   |
| 14345              | 20,906   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 14346              | 10,990   |
| 14347              | 13,425,441   |
| 14348              | 1,904,009  |
| 14349              | 17,749,822   |
| 14350              | 12,124   |
| 14351              | 12,124   |
| 14352              | 61,030   |
| 14353              | 179,598  |
| 14354              | 92,332   |
| 14355              | 94,773   |
| 14373              | 4,038  |
| 14374              | 3,970  |
| 14375              | 1,229  |
| 14376              | 2,931  |
| 14377              | 732  |
| 14378              | 2,594  |
| 14379              | 2,401  |
| 14380              | 4,942  |
| 14440              | 871,089  |
| 14441              | 223,055  |
| 14442              | 1,092,068  |
| 14443              | 785,700  |
| 14444              | 2,398,962  |
| 14445              | 211,606  |
| 14446              | 7,360  |
| 14447              | 260,827  |
| 14448              | 1,090,228  |
| 14449              | 531,774  |
| 14450              | 725,899  |
| 14451              | 626,536  |
| 14452              | 1,664,783  |
| 14454              | 5,646,548  |
| 14455              | 508,200  |
| 14456              | 16,254   |
| 14457              | 1,057,507  |
| 14458              | 4,285,105  |
| 14459              | 2,146,224  |
| 14460              | 2,928,338  |
| 14461              | 2,500,562  |
| 14462              | 6,644,299  |
| 14574              | 3,977,077  |
| 14575              | 6,759,755  |
| 14576              | 5,991,827  |
| 14577              | 14,814,504   |
| 14578              | 932,282  |
| 14579              | 1,524,522  |
| 14580              | 4,618,906  |
| 14581              | 2,700,502  |
| 14582              | 2,345,140  |
| 14583              | 3,978,065  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 14584              | 3,524,382  |
| 14585              | 8,714,214  |
| 14586              | 551,258  |
| 14587              | 900,694  |
| 14588              | 2,722,097  |
| 14589              | 1,591,226  |
| 14590              | 1,393,850  |
| 14591              | 2,518,866  |
| 14592              | 2,281,146  |
| 14593              | 5,640,350  |
| 14594              | 347,806  |
| 14595              | 568,468  |
| 14596              | 1,754,728  |
| 14597              | 1,004,013  |
| 14598              | 234,910  |
| 14599              | 452,865  |
| 14600              | 411,265  |
| 14601              | 1,016,891  |
| 14602              | 58,861   |
| 14603              | 96,237   |
| 14604              | 316,841  |
| 14605              | 169,835  |
| 14611              | 26,370   |
| 14612              | 977,669  |
| 14613              | 2,052,370  |
| 14616              | 16,013,452   |
| 14617              | 240,769  |
| 14618              | 9,895  |
| 14620              | 5,457,574  |
| 14622              | 132,188  |
| 14623              | 11,495   |
| 14625              | 3,480,754  |
| 14642              | 9,462,577  |
| 14643              | 22,302   |
| 14644              | 180,274  |
| 14645              | 33,116   |
| 14646              | 1,235  |
| 14647              | 12,080   |
| 14648              | 52,967   |
| 14649              | 13,495   |
| 14650              | 33,124   |
| 14652              | 859  |
| 14667              | 489,313  |
| 14674              | 2,605  |
| 14675              | 4,484,965  |
| 14677              | 491,351  |
| 14678              | 561  |
| 14772              | 53,284   |
| 14773              | 10,995   |
| 14774              | 862  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 14968              | 2,125  |
| 14982              | 4,535,209  |
| 14983              | 507,499  |
| 16923              | 4,145,602  |
| 16924              | 365,142  |
| 16946              | 122,543  |
| 16947              | 797  |
| 16948              | 497,579  |
| 16949              | 2,634  |
| 17065              | 294,963  |
| 17066              | 136,903  |
| 17100              | 15,106,757   |
| 17101              | 2,293,671  |
| 17102              | 1,435,333  |
| 17110              | 240,126  |
| 17111              | 4,371,954  |
| 17112              | 663,797  |
| 17114              | 415,391  |
| 17115              | 42,321   |
| 17116              | 249,326  |
| 17117              | 168,364  |
| 17119              | 89,242   |
| 17120              | 597,096  |
| 17121              | 98,903   |
| 17122              | 17,480   |
| 17123              | 167,444  |
| 17128              | 17,680,373   |
| 17133              | 2,913,240  |
| 17134              | 695,828  |
| 17135              | 1,413,401  |
| 17136              | 3,245,783  |
| 17137              | 2,787,789  |
| 17138              | 16,786,474   |
| 17147              | 20,583,661   |
| 17153              | 3,259,580  |
| 17154              | 7,349  |
| 17168              | 17,486,314   |
| 17169              | 16,072,320   |
| 17170              | 351,215  |
| 17171              | 34,382,503   |
| 17177              | 293,429  |
| 17181              | 196,766  |
| 17182              | 781  |
| 17215              | 2,991,688  |
| 17216              | 5,203  |
| 17277              | 1,640  |
| 17295              | 5,019  |
| 17296              | 14,274,429   |
| 17298              | 13,989,874   |
| 17299              | 5,019  |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 17317              | 2,731,945  |
| 17318              | 3,173,338  |
| 17363              | 3,482  |
| 17364              | 443  |
| 17394              | 12,102   |
| 17395              | 24,146   |
| 17406              | 1,837,260  |
| 17407              | 2,187  |
| 17412              | 2,955,075  |
| 17413              | 3,120,038  |
| 17414              | 1,233,117  |
| 17421              | 8,901,044  |
| 17422              | 7,942,073  |
| 17423              | 261,681  |
| 17424              | 1,281,848  |
| 17429              | 55,990   |
| 17430              | 993,390  |
| 17431              | 102,194  |
| 17432              | 87,149   |
| 17433              | 56,982   |
| 17434              | 28,641   |
| 17435              | 43,682   |
| 17443              | 2,635,235  |
| 17444              | 1,980,183  |
| 17460              | 3,174  |
| 17462              | 3,007  |
| 17469              | 687  |
| 17470              | 687  |
| 17471              | 687  |
| 17474              | 1,670  |
| 17475              | 1,253  |
| 17479              | 825  |
| 17482              | 14,186,408   |
| 17493              | 682,343  |
| 17494              | 4,376,419  |
| 17496              | 66,193   |
| 17498              | 2,236  |
| 17501              | 12,821   |
| 17508              | 599  |
| 17509              | 859  |
| 17510              | 1,068,753  |
| 17523              | 1,738,933  |
| 17524              | 2,312,003  |
| 17538              | 4,094,499  |
| 17539              | 10,043   |
| 17587              | 842,514  |
| 17588              | 1,664  |
| 17589              | 587,861  |
| 17590              | 1,159  |
| 17605              | 43,167   |

**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 17606              | 945  |
| 17607              | 32,897   |
| 17608              | 5,171  |
| 17609              | 526  |
| 17612              | 1,340,934  |
| 17613              | 664  |
| 17623              | 8,101,087  |
| 17624              | 4,796,881  |
| 17625              | 74,142   |
| 17626              | 583,813  |
| 17627              | 28,727   |
| 17628              | 1,011,535  |
| 17629              | 50,571   |
| 17654              | 853,232  |
| 17655              | 219,259  |
| 17656              | 395,259  |
| 17657              | 1,005,092  |
| 17659              | 35,295   |
| 17660              | 330,906  |
| 17661              | 9,637,731  |
| 17662              | 17,524,005   |
| 17663              | 613,863  |
| 17664              | 425,756  |
| 17669              | 1,473,759  |
| 17670              | 18,920,895   |
| 17671              | 264,955  |
| 17672              | 512,699  |
| 17679              | 576,074  |
| 17680              | 765,849  |
| 17683              | 876,526  |
| 17684              | 2,921,558  |
| 17686              | 473,619  |
| 17687              | 396,463  |
| 17688              | 713  |
| 17709              | 34,665   |
| 17729              | 459,775  |
| 17730              | 38,464   |
| 17736              | 5,019  |
| 17775              | 1,001,484  |
| 17776              | 2,060,163  |
| 17778              | 2,749,659  |
| 17779              | 2,548,587  |
| 17781              | 1,053,945  |
| 17782              | 888  |
| 17783              | 1,238  |
| 17784              | 1,469,660  |
| 17798              | 13,527   |
| 17799              | 3,161,690  |
| 41767              | 19,400   |
| 41829              | 4,832,891  |



**Estimated Original Book Cost of All Depreciable Pipe and Compressor Stations**

| <b>Link Number</b> | <b>Estimated Original Book Cost at Dec. 31, 2002</b> |
|--------------------|--|
| 41830              | 4,697,154  |
| 41833              | 5,402,075  |
| 41834              | 8,188,529  |
| 41858              | 13,890,933   |
| 41883              | 1,093,923  |
| 41884              | 1,303,121  |
| 41887              | 16,684,832   |
| 41888              | 1,517,505  |
| 41889              | 1,681,943  |
| 41907              | 888  |
| 41909              | 888  |
| 41951              | 13,429,117   |
| 41952              | 10,991,211   |
| 41960              | 13,649,120   |
| 41963              | 30,744   |
| 41964              | 6,149  |
| 41979              | 2,749,492  |
| 41980              | 31,676   |
| 41981              | 14,780,103   |
| 41983              | 15,838   |
| 41988              | 14,646,770   |
| 41993              | 8,140,753  |
| 42007              | 12,058,637   |
| 42078              | 699,815  |
| 47694              | 18,894,631   |
| 47695              | 22,997   |
| 47696              | 5,445  |
| 47697              | 5,445  |
| 47699              | 1,217,503  |
| 47700              | 1,906  |
| 49491              | 12,893,308   |
| 49567              | 2,830,876  |
| 49570              | 1,518,827  |

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ATCO-NGTL-029

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Pages III-7 and III-8

**Preamble:**

Depreciation Study Results and Calculations Request.

**Request:**

Please provide the detailed data calculations supporting the composite remaining lives for each depreciable and depletable asset account as summarized on Column 7 of Pages III-7 and III-8 of the depreciation study volume.

**Response:**

The requested data are being provided on a CD-ROM to ATCO and the Board. The data will also be available to other interveners on request.

Placeholder for Attachment ATCO-NGTL-029

Provided in CD format only due to document size limitations

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**ATCO-NGTL-030**

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Depreciation Study, Page 1-5, 3rd Paragraph

**Preamble:**

Delivery meter stations are not dependent on the production of reserves in a specific area.

**Request:**

Please list all Intra-Alberta delivery points and provide a description, original cost, net book value, and the depletion or depreciation rate. Please also indicate if the costs of each meter are depleted or depreciated.

**Response:**

As indicated in table 4.3-1 on page 9 of Section 4.0 of NGTL's written evidence, all delivery stations are considered depreciable.

Attachment ATCO-NGTL-30 lists all intra-Alberta delivery stations that were in service at December 31, 2002, along with their estimated original book cost. NGTL uses asset pool accounting at the utility account level, e.g., 4611 Meter stations – Buildings. Therefore individual meter stations do not have their own depreciation rates and, consequently, a list of depreciation rates for delivery stations cannot be provided.

In the case of an intra-Alberta delivery meter station with no flow, a customer has the option of providing NGTL with a "Net Book Value Buyout" payment to keep the meter station in service (please refer to the response to ATCO-NGTL-14(c)). NGTL declines to provide estimates of such net book value buyouts for all intra-Alberta delivery stations as an answer to the above request as the net book value buyout for each specific intra-Alberta delivery meter station would be confidential under a contractual agreement between NGTL and the customer at that station.

| <b>Meter station node number</b> | <b>Meter station name</b> | <b>Estimated original book cost at Dec. 31, 2002</b> |
|----------------------------------|---------------------------|--|
| 3050                             | SARATOGA SALES            | 31,089   |
| 3051                             | SIMONETTE SALES           | 338,429  |
| 3052                             | COLEMAN SALES             | 94,871   |
| 3055                             | GRANDE PRAIR SL           | 465,058  |
| 3058                             | LUNDBRECK-COWLE           | 12,061   |
| 3059                             | ALLISON CRK SLS           | 96,708   |
| 3060                             | CARROT CREEK SL           | 348,745  |
| 3061                             | PEMBINA SALES             | 734,268  |
| 3062                             | E. CALGARY B SL           | 424,778  |
| 3063                             | VIRGINIA HLS SL           | 278,722  |
| 3065                             | RAT CREEK SALES           | 330,463  |
| 3067                             | BIGSTONE SALES            | 207,819  |
| 3068                             | BEAVER HILL SLS           | 56,331   |
| 3069                             | WILSON CRK S SL           | 100,558  |
| 3071                             | CYNTHIA SALES             | 495,390  |
| 3072                             | PADDY CREEK SLS           | 163,774  |
| 3073                             | PRIDDIS SALES             | 750,480  |
| 3074                             | WATERTON SALES            | 171,803  |
| 3076                             | RAINBOW SALES             | 303,607  |
| 3077                             | FIRE CREEK SALE           | 150,097  |
| 3078                             | JUDY CREEK SALE           | 403,682  |
| 3080                             | LOUISE CREEK SL           | 938,427  |
| 3082                             | ELK RIVER S SLS           | 346,406  |
| 3083                             | RAINBOW LK SLS            | 526,715  |
| 3085                             | DEEP VLLY CR SL           | 132,005  |
| 3086                             | PINE CREEK SLS            | 91,571   |
| 3087                             | GOLD CREEK SLS            | 84,305   |
| 3088                             | VALHALLA SALES            | 102,347  |
| 3091                             | OUTLET CREEK SL           | 489,014  |
| 3092                             | MOOSEHORN R SLS           | 704,894  |
| 3093                             | HARMATTAN-LEDUC           | 59,791   |
| 3094                             | BRAZEAU N SALES           | 88,612   |
| 3095                             | SAKWATAMAU SALE           | 317,158  |
| 3097                             | CHICKADEE CK SL           | 351,637  |
| 3098                             | DUTCH CREEK SLS           | 173,842  |
| 3099                             | SOUSA CRK E SLS           | 1,097,515  |
| 3100                             | HEART RIVER SLS           | 50,199   |
| 3101                             | CAROLINE SALES            | 129,254  |
| 3103                             | VIRGO SALES               | 175,382  |
| 3105                             | CRANBERRY LK SL           | 869,657  |
| 3106                             | CARMON CREEK SL           | 31,134   |
| 3107                             | FERGUSON SALES            | 465,106  |
| 3109                             | CALDWELL SALES            | 254,260  |
| 3110                             | MARSH HD CR W S           | 330,340  |
| 3111                             | MINNOW LK S. SL           | 167,594  |
| 3112                             | FALHER SALES              | 623,766  |
| 3113                             | TWINLAKES CK SL           | 217,865  |
| 3114                             | WEMBLEY SALES             | 218,346  |
| 3115                             | USONA SALES               | 710,890  |
| 3117                             | GRIZZLY SALES             | 225,247  |
| 3118                             | GILBY N#2 SALES           | 186,799  |

| <b>Meter station node number</b> | <b>Meter station name</b> | <b>Estimated original book cost at Dec. 31, 2002</b> |
|----------------------------------|---------------------------|--|
| 3119                             | DEADRICK CK SLS           | 216,884  |
| 3120                             | MILDRED LK SLS            | 1,359,286  |
| 3123                             | MILDRED LK #2 S           | 530,212  |
| 3124                             | DEEP VY CK S SL           | 131,366  |
| 3125                             | HUGGARD CREEK S           | 572,971  |
| 3300                             | OTAUWAW SALES             | 254,949  |
| 3301                             | SAULTEAUX SALES           | 39,710   |
| 3304                             | FORESTBURG SLS            | 134,741  |
| 3305                             | CHIGWELL N. SLS           | 51,366   |
| 3368                             | NOEL LAKE SALES           | 1,090,961  |
| 3405                             | RIM-WEST SALES            | 1,075,397  |
| 3406                             | REDWATER SALES            | 358,961  |
| 3410                             | VIKING SALES              | 341,074  |
| 3411                             | MONARCH N. B SL           | 1,219,832  |
| 3412                             | WAYNE N B SALES           | 84,896   |
| 3413                             | ATMORE B SALES            | 253,428  |
| 3414                             | HANNA S B SALES           | 61,265   |
| 3416                             | COUSINS A SALES           | 279,753  |
| 3418                             | COUSINS C SALES           | 279,753  |
| 3419                             | INLAND SALES              | 810,141  |
| 3421                             | WIMBORNE SALES            | 60,041   |
| 3422                             | THORHILD SALES            | 78,225   |
| 3423                             | BASHAW WEST SLS           | 78,114   |
| 3424                             | GRANDE CENTRE S           | 176,076  |
| 3425                             | WOOD RVR SALES            | 459,776  |
| 3427                             | WESTLOCK SALES            | 360,610  |
| 3429                             | ST. PAUL SALES            | 92,390   |
| 3430                             | FERINTOSH SALES           | 148,103  |
| 3437                             | HARMATTAN SALES           | 182,436  |
| 3438                             | REDWATER 'B' SL           | 297,203  |
| 3439                             | SHEERNESS SALES           | 407,399  |
| 3444                             | PINCHER CRK SLS           | 210,545  |
| 3446                             | BITTERN LAKE SL           | 638,968  |
| 3448                             | ROSS CREEK SLS            | 715,458  |
| 3449                             | FLEET SALES               | 162,800  |
| 3453                             | GREEN GLADE SLS           | 178,813  |
| 3454                             | PENHOLD N SALES           | 207,293  |
| 3456                             | ELK POINT SALES           | 273,613  |
| 3457                             | MITSUE SALES              | 209,830  |
| 3458                             | COUSINS B SALES           | 279,753  |
| 3460                             | LANDON LAKE SLS           | 214,640  |
| 3462                             | NIPISI SALES              | 209,830  |
| 3464                             | GREENCOURT W SL           | 349,168  |
| 3465                             | DEMMITT SALES             | 82,088   |
| 3466                             | JOFFRE SALES              | 854,579  |
| 3468                             | BLEAK LAKE SLS            | 173,015  |
| 3469                             | EVERGREEN SALES           | 89,944   |
| 3470                             | NOSEHILL CRK SL           | 217,804  |
| 3471                             | BLUE RIDGE E SL           | 265,644  |
| 3472                             | INNISFAIL SALES           | 332,257  |
| 3474                             | LLOYD CREEK SLS           | 424,998  |

| <b>Meter station node number</b> | <b>Meter station name</b> | <b>Estimated original book cost at Dec. 31, 2002</b> |
|----------------------------------|---------------------------|--|
| 3476                             | LAC LA BICHE SL           | 254,192  |
| 3477                             | RICINUS S SALES           | 339,775  |
| 3478                             | ONETREE SALES             | 201,977  |
| 3479                             | NOSEHILL CRK N.           | 269,047  |
| 3481                             | SAWRIDGE SALES            | 381,541  |
| 3482                             | LONE PINE CK SL           | 155,895  |
| 3483                             | CRAMMOND SALES            | 494,007  |
| 3484                             | CARIBOU LAKE SL           | 200,498  |
| 3485                             | SHORNCLIFFE CRK           | 320,524  |
| 3486                             | WESTERDALE SLS            | 269,575  |
| 3488                             | ARDLEY SALES              | 289,105  |
| 3489                             | ATUSIS CREEK SL           | 1,418,226  |
| 3490                             | GAETZ LAKE SLS            | 35,439   |
| 3491                             | JOFFRE SLS #2             | 854,579  |
| 3492                             | JOFFRE SLS #3             | 854,579  |
| 3493                             | MEYER B SALES             | 384,857  |
| 3494                             | SILVER VLY SLS            | 198,142  |
| 3495                             | CAVALIER SALES            | 307,887  |
| 3496                             | CHIPEWYAN RIVER           | 848,809  |
| 3497                             | SUNDAY CREEK SO           | 345,544  |
| 3562                             | AMOCO SALES               | 23,119   |
| 3600                             | STORNHAM COULEE           | 881,608  |
| 3604                             | MARGUERITE L SL           | 524,672  |
| 3605                             | LEMING LAKE SLS           | 2,587,833  |
| 3606                             | LOSEMAN LAKE SL           | 674,919  |
| 3609                             | SARRAIL SALES             | 548,853  |
| 3610                             | RANFURLY SALES            | 952,185  |
| 3611                             | HERMIT LAKE SLS           | 588,571  |
| 3612                             | CONKLIN W SALES           | 593,956  |
| 3613                             | SHANTZ SALES              | 209,894  |
| 3615                             | HAYNES SALES              | 476,632  |
| 3616                             | GAS CITY SALES            | 1,091,362  |
| 3618                             | JENNER EAST SLS           | 110,421  |
| 3621                             | LOSEMAN LK SL#2           | 320,161  |
| 3622                             | CHEECHAM W. SLS           | 402,460  |
| 3623                             | FERINTOSH N. SL           | 111,742  |
| 3624                             | GODS LAKE SALES           | 363,773  |
| 3626                             | MIRAGE SALES              | 169,275  |
| 3632                             | EAST CALGARY SA           | -  |
| 3634                             | CANOE LAKE SALE           | 511,473  |
| 3635                             | ROD LAKE SALES            | -  |
| 3639                             | VEGREVILLE SALE           | 306,407  |
| 5007                             | HOUSE RIVER               | 778,599  |
| 5024                             | CROW LAKE SALES           | 778,599  |

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ATCO-NGTL-031

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Pages III-7 and III-8

**Preamble:**

Depreciation Study Results and Calculations Request.

**Request:**

Please explain why the average remaining life of 24.5 years for the depletable assets of Account 4651-Pipe (Page III-8) is longer than the 22.5 years for depreciable assets given that the life of the assets are being truncated at a probable retirement year of 2025.

**Response:**

Please refer to the response to ATCO-NGTL-029.

The remaining life calculation of 22.5 years for the depreciable assets in Account 4651 is impacted by the introduction of a truncation date in the calculation of average remaining life. Depreciable assets are evaluated in terms of a service and remaining life in years. Use of a life span (truncation) date is not appropriate for depletable assets since such assets are dependent upon gas flow, rather than a life in years (Depreciation Study, page II-10). Because a truncation date was not used for depletable assets of Account 4651, the average remaining lives for the depletable assets within this group is different from the remaining life calculated for the depreciable assets.



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ATCO-NGTL-032

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**Issue:**

Depreciation

**Reference:**

Section 4.0, Appendix C, Pages III-148 and III-202

**Preamble:**

Depreciation Study Results and Calculations Request.

**Request:**

Please reconcile the annual accrual and accrued depreciation factors on Pages III-148 through III-202 to the development of the UOP annual accrual and accrued depletion factors on Pages III-226 through III-249. For, example see information underlying the 1994, annual accrual and accrued depreciation calculation for Lateral No. 09986 (page III-200) as compared to the annual accrual and accrued factors for (Meter Station 09987/Lateral 09986) on page III-248. Please explain, and provide an example, of the method used to compare the unit of production annual accrual and accrued depreciation factors for each Meter Station to the applicable composite Lateral depreciation factors.

**Response:**

The development of the annual accrual and accrued depletion factors is based on a calculation of annual and cumulative production to date as percentages of the ultimate available supply. As such, these factors do not include any adjustment for net salvage. However, when applying these percentages to the original cost, the original cost must be adjusted for net salvage.

The following provides the calculation for the specific example provided in this question:

- Lateral 9986 is dependent upon meter station 9987 as indicated at page III-225
- As indicated at page III-248, the annual rate of production for meter station 9987 is 0.0225 and the Accrued factor is 0.5730

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**ATCO-NGTL-032**

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- When the above annual and accrued factors are applied to the 1994 vintage for lateral 9986 (on page III-200) the following annual accrual and accrued depreciation calculations result:
  - o Annual accrual = (original cost X net salvage) X accrual factor  
= (\$875,289.65 X 1.1) X 0.0225  
= \$21,663.42
  - o Accrued depreciation = (original cost X net salvage) X accrued factor  
= (\$875,289.65 X 1.1) X 0.5730  
= \$551,695.07

The above calculation of the annual accrual and accrued depreciation can be made for all laterals and vintages.

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**ATCO-NGTL-033**

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**Issue:**

Depreciation

**Reference:**

Data CD/Depreciation Data File Format (02\_fileformat)

**Preamble:**

Page 3 (under RetRate.dat) of the Word Document entitled "02-fileformat" includes a list of alpha characters "J" through "R" plus the "Bracket" that represent negative numerical values in the transaction amount of the investment amounts. In addition, the provided file(s) also contain numerous items with ALPHA characters "A" through "I" which is a secondary punch in the "12" zone instead of the "11" zone.

**Request:**

- (a) Does this coding of the data represent something other than negative transactions?
- (b) If yes, what does it represent?
- (c) If no, why were the items coded differently?

**Response:**

- (a) Yes.
- (b) A secondary punch of A through I represents a positive value as follows:
  - "A" = 1
  - "B" = 2
  - "C" = 3
  - "D" = 4
  - "E" = 5
  - "F" = 6
  - "G" = 7
  - "H" = 8
  - "I" = 9
- (c) Not applicable.

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ATCO-NGTL-034

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**Issue:**

Depreciation

**Reference:**

Data CD/Depreciation Data File Format (02\_fileformat)

**Preamble:**

Within the RetRate.dat data file there is a significant quantity of negative gross addition, etc transactions.

**Request:**

Please provide an explanation as to why this level of negative transactions occurred.

**Response:**

There are two main causes for this level of negative transactions. The first is related to accounting process. When an asset first goes into service, it is put into an undistributed account category. Subsequently, the asset is unitized and the original entry into the undistributed account is reversed. This reversal appears as a negative transaction in the data separately and is offset with distributed additions.

The second reason is that a negative transaction may appear as a result of the reversal in January of prior year end accruals. This is possible when the invoice for which the accrual was made arrives after January.

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ATCO-NGTL-035(a)

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**Issue:**

Depreciation

**Reference:**

Data CD/Depreciation Data File Format (02\_fileformat)

**Preamble:**

Depreciation Study Data Base Request.

**Request:**

Please provide a description legend that identifies each of the various plant accounts and sub-accounts included in the data base files.

**Response:**

| <u>Study</u> | <u>Account Description</u>                        |
|--------------|---|
| 01000        | Account 4010 - intangible assets                  |
| 82000        | Account 4820 - leasehold improvements             |
| 82100        | Account 4821 - office buildings                   |
| 83100        | Account 4831 - office furniture                   |
| 83200        | Account 4832 - office equipment                   |
| 83400        | Account 4834 - personal computers - software      |
| 83600        | Account 4836 - personal computers - hardware      |
| 84100        | Account 4841 - vehicles and trailers              |
| 84200        | Account 4842 - aircraft                           |
| 85000        | Account 4850 - heavy work equipment               |
| 86000        | Account 4860 - tools and work equipment           |
| 88000        | Account 4880 - miscellaneous equipment            |
| 00000        | Account 4600 land                                 |
| 61000        | Account 4610 land rights                          |
| 61100        | Account 4611 ms - land rights                     |
| 61200        | Account 4612 compression facilities - land rights |
| 62000        | Account 4620 compression facilities - buildings   |

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**ATCO-NGTL-035(a)**

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|       |              |  |
|-------|--------------|--|
| 62100 | Account 4621 | compression facilities - site              |
| 63000 | Account 4630 | ms - buildings                             |
| 63100 | Account 4631 | ms - site                                  |
| 65000 | Account 4650 | mains                                      |
| 65100 | Account 4651 | mains - pipe                               |
| 65200 | Account 4652 | mains - valves                             |
| 66100 | Account 4661 | compression facilities - compression units |
| 66200 | Account 4662 | compression facilities - piping            |
| 66300 | Account 4663 | compression facilities - instrumentation   |
| 66400 | Account 4664 | compression facilities - electrical system |
| 66500 | Account 4665 | compression facilities - control system    |
| 67000 | Account 4670 | ms - automation                            |
| 67100 | Account 4671 | ms - instrumentation                       |
| 67200 | Account 4672 | ms - piping                                |
| 67300 | Account 4673 | ms - electric system                       |
| ms000 |              | combined meter station accounts            |

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ATCO-NGTL-035(b)

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**Issue:**

Depreciation

**Reference:**

Data CD/Depreciation Data File Format (02\_fileformat)

**Preamble:**

Depreciation Study Data Base Request.

**Request:**

Please provide a description legend that identifies each of the various individual location/site data (e.g. meter stations) included in the data base files.

**Response:**

Attachment ATCO-NGTL-035(b) contains the name associated with the plant accounting location number, as used in the DEplete.BAL and the PROD.DAT data files made available to interveners. (Please refer to the response to CAPP-NGTL-001).

Please note that some plant accounting location descriptions reflect historical situations. For example, even though the description for location number 0054 is Kakwa Sales Meter Station, that location number originally contained the asset records for both the Kakwa Sales and the Kakwa receipt meter stations. The sales station has been retired and only the Kakwa Receipt station asset records remain in that location, which explains why location 0054 was used in the unit of production calculations.

**Plant  
 Accounting  
 Location**

| <b>Number</b> | <b>Plant Accounting Location Description</b>          |
|---------------|---|
| 0054          | KAKWA SALES METER STATION - 0054                      |
| 0103          | PRINCESS LATERAL NPS 8 - 0103                         |
| 0104          | ATLEE BUFFALO LATERAL NPS 6 - 0104                    |
| 0106          | ATLEE BUFFALO SOUTH LATERAL NPS 4 - 0106              |
| 0108          | MAJESTIC LATERAL NPS 4 - 0108                         |
| 0109          | GRANDE PRAIRIE MAINLINE NPS 10 WEMBLEY SECTION - 0109 |
| 0113          | HENDERSON CREEK LATERAL NPS 6 - 0113                  |
| 0114          | HENDERSON CREEK RECEIPT METER STATION - 0114          |
| 0120          | HENDERSON CREEK LATERAL LOOP NPS 6 AND NPS 10 - 0120  |
| 0121          | MANATOKEN LAKE RECEIPT METER STATION - 0121           |
| 0131          | IRISH RECEIPT METER STATION - 0131                    |
| 0143          | PRINCESS RECEIPT METER STATION - 0143                 |
| 0145          | JENNER WEST RECEIPT METER STATION - 0145              |
| 0146          | ATLEE BUFFALO SOUTH RECEIPT METER STATION - 0146      |
| 0153          | ATLEE BUFFALO LATERAL LOOP NPS 10 - 0153              |
| 0154          | TANGHE CREEK LATERAL NPS 12 - 0154                    |
| 0155          | TANGHE CREEK RECEIPT METER STATION - 0155             |
| 0157          | TIDE LAKE SOUTH RECEIPT METER STATION - 0157          |
| 0158          | TIDE LAKE NORTH RECEIPT METER STATION - 0158          |
| 0160          | PRINCESS DENHART RECEIPT METER STATION - 0160         |
| 0168          | TANGHE CREEK NO 2 RECEIPT METER STATION - 0168        |
| 0170          | FOULWATER CREEK RECEIPT METER STATION - 0170          |
| 0173          | ALBRIGHT LATERAL LOOP NPS 16 - 0173                   |
| 0174          | ALBRIGHT LATERAL EXTENSION NPS 16 - 0174              |
| 0178          | ALBRIGHT LATERAL NPS 6 - 0178                         |
| 0179          | ALBRIGHT RECEIPT METER STATION - 0179                 |
| 0181          | HENDERSON CREEK LATERAL LOOP NO 2 NPS 10 - 0181       |
| 0184          | MOOSE PORTAGE RECEIPT METER STATION - 0184            |
| 0186          | ASSUMPTION NO 2 RECEIPT METER STATION - 0186          |
| 0187          | LAFOND EAST METER STATION - 0187                      |
| 0188          | OBED RECEIPT METER STATION - 0188                     |
| 0189          | MULLIGAN CREEK LATERAL LOOP NPS 8 - 0189              |
| 0190          | MULLIGAN CREEK SOUTH LATERAL NPS 4 - 0190             |
| 0191          | MULLIGAN CREEK SOUTH RECEIPT METER STATION - 0191     |
| 0193          | BOYLE WEST RECEIPT METER STATION AND LATERAL - 0193   |
| 0194          | MOONSHINE LAKE LATERAL NPS 8 - 0194                   |
| 0195          | MOONSHINE LAKE RECEIPT METER STATION - 0195           |
| 0196          | WELLING METER STATION - 0196                          |
| 0197          | FIGURE LAKE NO 2 RECEIPT METER STATION - 0197         |
| 0198          | FIGURE LAKE WEST RECEIPT METER STATION - 0198         |
| 0199          | FIGURE LAKE WEST LATERAL NPS 4 - 0199                 |
| 0201          | BINDLOSS SOUTH LATERAL NPS 8 - 0201                   |
| 0203          | SIBBALD LATERAL NPS 6 - 0203                          |
| 0204          | PROVOST SOUTH LATERAL NPS 8 - 0204                    |
| 0205          | SEDALIA NORTH LATERAL NPS 4 - 0205                    |
| 0206          | SEDALIA SOUTH LATERAL NPS 4 - 0206                    |
| 0207          | KESSLER LATERAL NPS 8 - 0207                          |
| 0208          | PROVOST WEST LATERAL NPS 6 - 0208                     |
| 0210          | BINDLOSS SOUTH RECEIPT METER STATION - 0210           |
| 0212          | FLAT LAKE LATERAL NPS 12 (1969)- 0212                 |
| 0213          | UNITY LATERAL NPS 16 AND NPS 18 (1966) - 0213         |
| 0214          | CRAIGEND LATERAL NPS 12 - 0214                        |
| 0215          | EAST LATERAL NPS RED DEER RIVER TRAM CROSSING - 0215  |
| 0216          | CRAIGEND SOUTH LATERAL NPS 8 - 0216                   |
| 0217          | CRAIGEND EAST LATERAL NPS 6 - 0217                    |



0218 BINDLOSS NORTH NO 3 RECEIPT METER STATION - 0218  
0220 BINDLOSS NORTH NO 1 RECEIPT METER STATION - 0220  
0221 FIGURE LAKE LATERAL NPS 6 - 0221  
0223 LAVOY LATERAL NPS 6 - 0223  
0224 RANFURLY LATERAL NPS 12 (1972)- 0224  
0225 PLAIN LAKE LATERAL NPS 6 - 0225  
0226 UKALTA LATERAL NPS 6 (1970) - 0226  
0227 BELLIS LATERAL NPS 6 - 0227  
0228 BELLIS EAST LATERAL NPS 6 - 0228  
0229 KILLAM LATERAL NPS 6 - 0229  
0233 HARDISTY RECEIPT METER STATION - 0233  
0234 MURRAY LAKE NORTH RECEIPT METER STATION - 0234  
0235 VILNA LATERAL NPS 6 - 0235  
0236 VILNA RECEIPT METER STATION - 0236  
0239 OPAL RECEIPT METER STATION - 0239  
0241 BENTON RECEIPT METER STATION - 0241  
0242 WILLINGDON RECEIPT METER STATION - 0242  
0243 SIBBALD RECEIPT METER STATION - 0243  
0244 JARROW RECEIPT METER STATION - 0244  
0245 SEDALIA NORTH RECEIPT METER STATION - 0245  
0246 SEDALIA SOUTH RECEIPT METER STATION - 0246  
0247 PROVOST KESSLER RECEIPT METER STATION - 0247  
0248 PROVOST WEST RECEIPT METER STATION - 0248  
0249 PROVOST BROWNFIELD RECEIPT METER STATION - 0249  
0251 OYEN NORTH RECEIPT METER STATION - 0251  
0255 PLAIN LAKE RECEIPT METER STATION - 0255  
0256 UKALTA RECEIPT METER STATION - 0256  
0257 WARWICK RECEIPT METER STATION - 0257  
0258 CRAIGEND SOUTH RECEIPT METER STATION - 0258  
0259 OYEN SOUTHEAST RECEIPT METER STATION - 0259  
0260 OYEN RECEIPT METER STATION - 0260  
0261 OYEN EAST RECEIPT METER STATION - 0261  
0262 KILLAM RECEIPT METER STATION - 0262  
0263 LAVOY RECEIPT METER STATION - 0263  
0264 JARROW SOUTH RECEIPT METER STATION - 0264  
0265 SEDGEWICK RECEIPT METER STATION - 0265  
0266 OYEN LATERAL NPS 4 - 0266  
0267 BELLIS RECEIPT METER STATION - 0267  
0270 PROVOST NORTH RECEIPT METER STATION AND LATERAL NPS 18 - 0270  
0271 FLAT LAKE RECEIPT METER STATION - 0271  
0277 BINDLOSS WEST LATERAL NPS 4 - 0277  
0278 BINDLOSS WEST RECEIPT METER STATION - 0278  
0279 MONITOR SOUTH RECEIPT METER STATION - 0279  
0280 HAMILTON LAKE & PROVOST SOUTH RECEIPT METER STATION - 0280  
0282 WOLYN RECEIPT METER STATION - 0282  
0283 JACKSON CREEK RECEIPT METER STATION - 0283  
0284 JACKSON CREEK LATERAL NPS 6 - 0284  
0285 STONEY CREEK LATERAL NPS 6 - 0285  
0286 STONEY CREEK RECEIPT METER STATION - 0286  
0287 STONEY CREEK WEST RECEIPT METER STATION - 0287  
0289 MONITOR CREEK RECEIPT METER STATION - 0289  
0300 MEDICINE HAT LATERAL NPS 8 - 0300  
0301 MEDICINE HAT EAST LATERAL NPS 8 - 0301  
0303 VALE LATERAL NPS 10 - 0303  
0304 MEDICINE HAT LATERAL LOOP NO 2 NPS 12 - 0304  
0305 IRVINE LATERAL NPS 8 (1974) - 0305  
0307 REDCLIFF LATERAL NPS 6 - 0307  
0308 BOWELL SOUTH LATERAL NPS 8 - 0308  
0309 LONESOME LAKE RECEIPT METER STATION - 0309

0312 MEDICINE HAT EAST RECEIPT METER STATION - 0312  
0313 MEDICINE HAT NORTHWEST RECEIPT METER STATION - 0313  
0314 MEDICINE HAT NORTH ARCO RECEIPT METER STATION - 0314  
0315 REDCLIFF RECEIPT METER STATION - 0315  
0316 ETZIKOM LATERAL NPS 10 - 0316  
0317 MONITOR CREEK WEST RECEIPT METER STATION - 0317  
0318 LONG LAKE WEST RECEIPT METER STATION - 0318  
0319 LONG LAKE WEST LATERAL NPS 4 - 0319  
0320 MEDICINE HAT SOUTH NO 1 RECEIPT METER STATION - 0320  
0321 TOPLAND RECEIPT METER STATION - 0321  
0323 VALE RECEIPT METER STATION - 0323  
0326 MONITOR CREEK WEST LATERAL NPS 6 - 0326  
0327 IRVINE RECEIPT METER STATION - 0327  
0335 MOUNTAIN LAKE RECEIPT METER STATION - 0335  
0336 RAINIER SOUTH LATERAL LOOP NPS 6 - 0336  
0338 RALSTON SOUTH RECEIPT METER STATION - 0338  
0351 BOWMANTON SOUTH RECEIPT METER STATION - 0351  
0352 BOWMANTON RECEIPT METER STATION - 0352  
0372 CODESA RECEIPT METER STATION - 0372  
0374 COPTON CREEK RECEIPT METER STATION - 0374  
0379 LALBY CREEK RECEIPT METER STATION - 0379  
0382 CALAIS RECEIPT METER STATION - 0382  
0383 SEDALIA RECEIPT METER STATION - 0383  
0385 KEPPLER CREEK RECEIPT METER STATION AND LATERAL - 0385  
0388 STOWE CREEK RECEIPT METER STATION - 0388  
0392 OWL LAKE SOUTH NO. 2 RECEIPT METER STATION - 0392  
0393 ROXANNA LATERAL LOOP NPS 6 - 0393  
0402 CESSFORD WEST LATERAL NPS 18 - 0402  
0403 CESSFORD WARDLOW LATERAL NPS 8 - 0403  
0404 CESSFORD BURFIELD LATERAL NPS 10 - 0404  
0405 CESSFORD CAROLSIDE LATERAL NPS 8 - 0405  
0406 CESSFORD EAST LATERAL NPS 8 - 0406  
0407 STANMORE LATERAL NPS 10 - 0407  
0408 NORTH LATERAL EXTENSION NPS 16 STAGE 1 BROOKS SECTION - 040  
0409 STANMORE SOUTH LATERAL NPS 4 - 0409  
0410 SULLIVAN LAKE LATERAL NPS 6 - 0410  
0412 ENDIANG RECEIPT METER STATION - 0412  
0413 BRUCE NORTH LATERAL NPS 4 - 0413  
0414 HOLDEN LATERAL NPS 6 - 0414  
0415 BRUCE LATERAL NPS 8 - 0415  
0416 STROME HOLMBERG LATERAL NPS 6 - 0416  
0417 CASTOR LATERAL NPS 8 - 0417  
0418 GREGORY NORTHEAST LATERAL NPS 6 - 0418  
0420 STROME HOLMBERG LATERAL LOOP NPS 8 - 0420  
0421 DAYS LAND RECEIPT METER STATION - 0421  
0424 WILDUNN CREEK EAST RECEIPT METER STATION - 0424  
0425 BERRY CREEK SOUTH RECEIPT METER STATION - 0425  
0426 BERRY CREEK SOUTH LATERAL NPS 8 - 0426  
0427 SULLIVAN LAKE LATERAL EXTENSION NPS 6 - 0427  
0428 BEZANSON RECEIPT METER STATION - 0428  
0430 CALLUM CREEK RECEIPT METER STATION - 0430  
0431 TANGENT LATERAL LOOP NPS 6 - 0431  
0435 CESSFORD CAROLSIDE LATERAL LOOP NPS 6 - 0435  
0437 RAINBOW LAKE RECEIPT METER STATION - 0437  
0438 LONE BUTTE RECEIPT METER STATION - 0438  
0439 LONE BUTTE LATERAL NPS 6 - 0439  
0440 DOROTHY RECEIPT METER STATION - 0440  
0442 CESSFORD NORTH RECEIPT METER STATION - 0442  
0443 CESSFORD WARDLOW RECEIPT METER STATION - 0443

0444 CESSFORD BURFIELD AND WILDUNN CRK-BURFIELD RECEIPT METER STA  
0445 CESSFORD CAROLSIDE RECEIPT METER STATION - 0445  
0446 CESSFORD EAST RECEIPT METER STATION - 0446  
0447 STANMORE RECEIPT METER STATION - 0447  
0449 CESSFORD WEST GAGE RECEIPT METER STATION - 0449  
0450 CESSFORD WEST RECEIPT METER STATION - 0450  
0451 SUNNYSOOK RECEIPT METER STATION - 0451  
0452 CESSFORD NORTHEAST RECEIPT METER STATION - 0452  
0453 BERRY CREEK EAST RECEIPT METER STATION - 0453  
0454 HOLDEN RECEIPT METER STATION - 0454  
0455 BRUCE RECEIPT METER STATION - 0455  
0456 WARWICK SOUTH RECEIPT METER STATION - 0456  
0457 STROME HOLMBERG RECEIPT METER STATION - 0457  
0458 SULLIVAN LAKE RECEIPT METER STATION - 0458  
0459 STANMORE SOUTH RECEIPT METER STATION - 0459  
0461 CASTOR RECEIPT METER STATION - 0461  
0467 HUDSON WEST LATERAL NPS 3 - 0467  
0470 DONATVILLE RECEIPT METER STATION - 0470  
0471 DONATVILLE LATERAL NPS 6 - 0471  
0473 LAKEVIEW LAKE NO 2 RECEIPT METER STATION  
0474 OBED NORTH RECEIPT METER STATION - 0474  
0501 ALDERSON LATERAL NPS 12 - 0501  
0502 ENCHANT LATERAL NPS 4 - 0502  
0503 RETLAW LATERAL NPS 6 - 0503  
0504 VULCAN LATERAL NPS 12 - 0504  
0505 TILLEY LATERAL NPS 6 - 0505  
0507 RETLAW SOUTH LATERAL NPS 6 - 0507  
0508 TRAVERS RECEIPT METER STATION - 0508  
0509 TRAVERS LATERAL NPS 6 - 0509  
0513 COUNTESS MAKEPEACE LATERAL LOOP NO 2 NPS 8 - 0513  
0519 NARRAWAY RIVER RECEIPT METER STATION - 0519  
0523 NARRAWAY EXTENSION NPS 16 (2001) - 0523  
0525 Waterton Montana Lateral Loop NPS 20 (2002) Castle River Sec  
0526 BIGKNIFE CREEK RECEIPT METER STATION - 0526  
0527 MCGREGOR LAKE RECEIPT METER STATION - 0527  
0529 OWL LAKE SOUTH NO 3 RECEIPT METER STATION - 0529  
0530 COUNTESS SOUTH NO 2 RECEIPT METER STATION - 0530  
0532 MILO RECEIPT METER STATION - 0532  
0533 MILO LATERAL NPS 8 - 0533  
0534 QUEENSTOWN LATERAL NPS 8 (1987) - 0534  
0535 QUEENSTOWN RECEIPT METER STATION - 0535  
0536 HAYS LATERAL NPS 10 - 0536  
0537 HAYS RECEIPT METER STATION - 0537  
0538 MILO LATERAL LOOP NPS 16 - 0538  
0540 HALKIRK NORTH NO 2 RECEIPT METER STATION - 0540  
0542 ENCHANT RECEIPT METER STATION - 0542  
0543 RETLAW RECEIPT METER STATION - 0543  
0544 VULCAN RECEIPT METER STATION - 0544  
0545 TILLEY RECEIPT METER STATION - 0545  
0546 WATERTON INTERCHANGE RECEIPT METER STATION - 0546  
0547 BANTRY NORTHWEST RECEIPT METER STATION - 0547  
0548 SCANDIA RECEIPT METER STATION - 0548  
0549 NEWELL NORTH RECEIPT METER STATION - 0549  
0551 ALDERSON RECEIPT METER STATION - 0551  
0552 COUNTESS SOUTH RECEIPT METER STATION - 0552  
0553 ALDERSON SOUTH RECEIPT METER STATION - 0553  
0554 RAINIER RECEIPT METER STATION - 0554  
0555 BANTRY RECEIPT METER STATION - 0555  
0557 BANTRY NORTH RECEIPT METER STATION - 0557

0558 BANTRY SOUTH RECEIPT METER STATION - 0558  
0559 BANTRY WEST RECEIPT METER STATION - 0559  
0565 LEE LAKE RECEIPT METER STATION - 0565  
0571 KEMP RIVER RECEIPT METER STATION - 0571  
0574 CRANBERRY LAKE NO 2 RECEIPT METER STATION - 0574  
0577 HAY RIVER SOUTH LATERAL LOOP NPS 4 (2002) - 0577  
0578 HAIG RIVER EAST LOOP NPS 6 (2002) - 0578  
0580 TAWADINA CREEK RECEIPT METER STATION - 0580  
0581 REDCLIFF SOUTH NO2 RECEIPT METER STATION - 0581  
0584 TILLEY SOUTH NO 2 RECEIPT METER STATION - 0584  
0586 HUNT CREEK NO 2 RECEIPT METER STATION  
0589 MARSH HEAD CREEK WEST RECEIPT METER STATION - 0589  
0591 TORLEA EAST RECEIPT METER STATION - 0591  
0597 WAYNE NORTH LATERAL LOOP NPS 6 - 0597  
0598 TORRINGTON EAST RECEIPT METER STATION - 0598  
0599 MARTEN HILLS LATERAL LOOP NPS 20 SMITH SECTION - 0599  
0601 COUNTESS DUCHESS LATERAL NPS 8 - 0601  
0602 COUNTESS MAKEPEACE LATERAL NPS 6 - 0602  
0603 HUSSAR CHANCELLOR LATERAL NPS 6 - 0603  
0604 WAYNE NORTH LATERAL NPS 6 - 0604  
0605 CARSTAIRS LATERAL NPS 16 HOME - 0605  
0607 NEVIS SOUTH LATERAL NPS 8 - 0607  
0610 TORRINGTON COMPRESSOR STATION - 0610  
0612 NEVIS LATERAL EXTENSION NPS 12 - 0612  
0613 CHIGWELL WEST LATERAL NPS 8 - 0613  
0614 WOOD RIVER LATERAL NPS 8 - 0614  
0615 CHIGWELL EAST LATERAL FEEDER NPS 4 - 0615  
0616 WAYNE DALUM LATERAL NPS 6 - 0616  
0617 WIMBORNE LATERAL NPS 12 - 0617  
0618 FERRIER NORTH LATERAL NPS 18 - 0618  
0619 WINTERING HILLS LATERAL NPS 8 - 0619  
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0621 VERGER LATERAL NPS 4 - 0621  
0622 MITSUE LATERAL NPS 8 - 0622  
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0624 BRAZEAU SOUTH LATERAL NPS 8 - 0624  
0625 MARTEN HILLS SOUTH LATERAL NPS 8 - 0625  
0626 GREENCOURT LATERAL NPS 10 - 0626  
0627 EQUITY LATERAL NPS 6 - 0627  
0628 WHITECOURT LATERAL NPS 8 - 0628  
0631 OLDS LATERAL EXTENSION NPS 12 - 0631  
0632 CROSSFIELD EAST LATERAL NPS 12 - 0632  
0633 LONE PINE LATERAL NPS 6 AND NPS 10 - 0633  
0634 GHOSTPINE LATERAL NPS 12 AND NPS 16 - 0634  
0637 GARRINGTON HBOG LATERAL NPS 10 - 0637  
0638 SOUTH ELKTON LATERAL NPS 4 - 0638  
0640 MARTEN HILLS LATERAL NPS 20 STAGE 1 - 0640  
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0642 COUNTESS MAKEPEACE RECEIPT METER STATION - 0642  
0643 HUSSAR CHANCELLOR RECEIPT METER STATION - 0643  
0644 WAYNE NORTH RECEIPT METER STATION - 0644  
0645 CARSTAIRS AND CARSTAIRS NORTH RECEIPT METER STATION - 0645  
0646 NEVIS SOUTH RECEIPT METER STATION AND LATERAL - 0646  
0647 NEVIS NORTH RECEIPT METER STATION - 0647  
0649 CROSSFIELD WEST RECEIPT METER STATION AND LATERAL NPS 4 -  
0653 CHIGWELL RECEIPT METER STATION - 0653  
0654 WOOD RIVER RECEIPT METER STATION - 0654  
0655 CHIGWELL EAST RECEIPT METER STATION - 0655  
0656 WAYNE DALUM RECEIPT METER STATION - 0656

0657 WIMBORNE RECEIPT METER STATION - 0657  
0658 TWINING NORTH RECEIPT METER STATION - 0658  
0659 WINTERING HILLS RECEIPT METER STATION - 0659  
0662 HUSSAR NORTH RECEIPT METER STATION - 0662  
0673 MARTEN HILLS SOUTH RECEIPT METER STATION - 0673  
0674 BRAZEAU SOUTH RECEIPT METER STATION AND LATERAL - 0674  
0675 FERRIER SOUTH A RECEIPT METER STATION - 0675  
0676 FERRIER NORTH RECEIPT METER STATION - 0676  
0680 WHITECOURT RECEIPT METER STATION - 0680  
0682 VERGER HOMESTEAD RECEIPT METER STATION - 0682  
0683 BRAZEAU RECEIPT METER STATION - 0683  
0684 GREENCOURT RECEIPT METER STATION - 0684  
0686 MARTEN HILLS RECEIPT METER STATION - 0686  
0687 EQUITY RECEIPT METER STATION - 0687  
0689 GARRINGTON RECEIPT METER STATION - 0689  
0691 OLDS RECEIPT METER STATION - 0691  
0693 LONE PINE CREEK RECEIPT METER STATION - 0693  
0698 SOUTH ELKTON RECEIPT METER STATION - 0698  
0699 EDSON RECEIPT METER STATION - 0699  
0702 BRAZEAU LATERAL LOOP NPS 6 - 0702  
0703 SYLVAN LAKE SOUTH LATERAL NPS 8 - 0703  
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0707 GILBY LATERAL NPS 16 - 0707  
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0709 FERRYBANK NORTH LATERAL NPS 6 (1975) - 0709  
0710 FERRYBANK EAST LATERAL NPS 4 (1981)- 0710  
0712 THREE HILLS CREEK LATERAL NPS 6 - 0712  
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0715 FERRYBANK LATERAL NPS 8 (1971) - 0715  
0716 GRACE CREEK RECEIPT METER STATION - 0716  
0717 GRACE CREEK LATERAL NPS 6 - 0717  
0719 FERRYBANK LATERAL LOOP NPS 8 - 0719  
0720 SEIU CREEK LATERAL NPS 12 - 0720  
0721 SEIU CREEK RECEIPT METER STATION - 0721  
0722 BOWMANTON EAST RECEIPT METER STATION - 0722  
0723 HOOLE LATERAL NPS 6 - 0723  
0724 HOOLE RECEIPT METER STATION - 0724  
0730 EQUITY EAST RECEIPT METER STATION - 0730  
0731 MARTEN HILLS CROSSOVER NPS 16 - 0731  
0732 FERRYBANK NORTH LATERAL LOOP NPS 6 - 0732  
0733 SYLVAN LAKE LATERAL LOOP NPS 18 - 0733  
0734 WILLOW RIVER RECEIPT METER STATION - 0734  
0735 WILLOW RIVER LATERAL NPS 6 - 0735  
0736 SYLVAN LAKE SOUTH LATERAL LOOP NPS 10 - 0736  
0737 BUTTE RECEIPT METER STATION AND LATERAL - 0737  
0740 BRIGGS RECEIPT METER STATION AND LATERAL NPS 6 - 0740  
0741 SYLVAN LAKE SOUTH RECEIPT METER STATION - 0741  
0742 SYLVAN LAKE EAST RECEIPT METER STATION - 0742  
0744 SYLVAN LAKE RECEIPT METER STATION - 0744  
0745 SYLVAN LAKE WEST RECEIPT METER STATION - 0745  
0747 GILBY NORTH RECEIPT METER STATION - 0747  
0749 FORSHEE RECEIPT METER STATION - 0749  
0750 ELNORA EAST RECEIPT METER STATION - 0750  
0752 THREE HILLS CREEK RECEIPT METER STATION - 0752  
0753 RIMBEY RECEIPT METER STATION - 0753  
0755 FERRYBANK RECEIPT METER STATION - 0755  
0756 PENHOLD RECEIPT METER STATION - 0756  
0758 JOFFRE \ GAETZ LAKE SALES METER STATION - 0758

0760 PINE LAKE RECEIPT METER STATION AND LATERAL NPS 4 - 0760  
0766 LEEDALE RECEIPT METER STATION - 0766  
0767 PENHOLD WEST RECEIPT METER STATION - 0767  
0770 GILT EDGE WEST RECEIPT METER STATION - 0770  
0774 PARSONS LAKE RECEIPT METER STATION - 0774  
0775 MARTEN HILLS LATERAL LOOP NPS 20 FAWCETT SECTION - 0775  
0777 MARTEN HILLS LATERAL LOOP NPS 20 PAUL LAKE SECTION - 0777  
0780 MARTEN HILLS SOUTH LATERAL LOOP NPS 16 - 0780  
0790 HACKETT WEST LATERAL NPS 6 - 0790  
0791 HACKETT WEST RECEIPT METER STATION - 0791  
0800 WORSLEY LATERAL NPS 12 - 0800  
0801 BOUNDARY LAKE SOUTH LATERAL NPS 16 - 0801  
0803 DUNVEGAN LATERAL NPS 20 (1972) - 0803  
0804 BELLOY LATERAL NPS 10 (1972) - 0804  
0805 JOSEPHINE LATERAL NPS 10 - 0805  
0808 JOSEPHINE EAST LATERAL LOOP NPS 10 - 0808  
0809 JOSEPHINE LATERAL LOOP NPS 12 - 0809  
0811 WAINWRIGHT LATERAL NPS 10 - 0811  
0812 BAXTER LAKE LATERAL NPS 4 AND NPS 6 - 0812  
0813 EDGERTON LATERAL NPS 8 - 0813  
0814 CHAUVIN LATERAL NPS 6 - 0814  
0815 SUFFIELD FEEDER NPS 8 - 0815  
0816 SUFFIELD LATERAL NPS 12 - 0816  
0817 WAINWRIGHT SOUTH LATERAL NPS 4 - 0817  
0819 SUFFIELD EAST LATERAL NPS 4 - 0819  
0822 CHAUVIN RECEIPT METER STATION - 0822  
0823 CHAUVIN LATERAL LOOP NPS 8 ESTRIDGE LAKE SECTION - 0823  
0824 SUFFIELD LATERAL LOOP NPS 12 REDCLIFF SECTION - 0824  
0825 KSITUAN RIVER EAST LATERAL NPS 4 - 0825  
0826 KSITUAN RIVER EAST RECEIPT METER STATION - 0826  
0831 TONY CREEK NORTH RECEIPT METER STATION - 0831  
0832 TONY CREEK NORTH LATERAL NPS 8 - 0832  
0837 OLE LAKE RECEIPT METER STATION - 0837  
0838 LONE PINE CREEK SOUTH LATERAL LOOP NPS - 0838  
0839 WHISKYJACK LAKE RECEIPT METER STATION - 0839  
0841 BOUNDARY LAKE SOUTH RECEIPT METER STATION - 0841  
0842 DUNVEGAN RECEIPT METER STATION - 0842  
0844 BELLOY RECEIPT METER STATION - 0844  
0845 BELLOY WEST RECEIPT METER STATION - 0845  
0849 GORDONDALE LATERAL LOOP NPS 20 - 0849  
0851 HOWARD CREEK EAST RECEIPT METER STATION - 0851  
0852 HOWARD CREEK EAST LATERAL NPS 6 - 0852  
0856 CAROLINE NORTH RECEIPT METER STATION AND LATERAL NPS 12 - 0  
0858 KSITUAN RIVER LATERAL NPS 4 - 0858  
0859 KSITUAN RIVER RECEIPT METER STATION - 0859  
0861 WAINWRIGHT RECEIPT METER STATION - 0861  
0862 BAXTER LAKE RECEIPT METER STATION - 0862  
0863 WITHROW RECEIPT METER STATION AND LATERAL NPS 4 - 0863  
0866 BAXTER LAKE WEST RECEIPT METER STATION - 0866  
0867 SUFFIELD RECEIPT METER STATION - 0867  
0868 SUFFIELD EAST RECEIPT METER STATION - 0868  
0869 RIVERCOURSE LATERAL NPS 4 - 0869  
0870 RIVERCOURSE RECEIPT METER STATION - 0870  
0887 BOULDER CREEK LATERAL NPS 8 - 0887  
0888 BOULDER CREEK RECEIPT METER STATION - 0888  
0897 CARSON CREEK EAST LATERAL NPS 6 - 0897  
0898 CARSON CREEK EAST RECEIPT METER STATION - 0898  
0904 VALLEYVIEW LATERAL NPS 20 - 0904  
0905 GOLD CREEK LATERAL NPS 18 - 0905

0906 WASKAHIGAN LATERAL NPS 6 - 0906  
0907 SIMONETTE LATERAL NPS 8 - 0907  
0908 STURGEON LAKE SOUTH LATERAL NPS 6 - 0908  
0909 BURNT TIMBER LATERAL NPS 12 WILDHORSE CREEK SECTION - 0909  
0910 COLEMAN LATERAL NPS 12 - 0910  
0911 WATERTON LATERAL LOOP NPS 18 - 0911  
0912 QUIRK CREEK LATERAL NPS 12 (1970)- 0912  
0914 EAST CALGARY LATERAL NPS 22 (1961) - 0914  
0915 WILDCAT HILLS LATERAL NPS 16 - 0915  
0916 CROSSFIELD LATERAL LOOP NPS 16 - 0916  
0918 WESTEROSE SOUTH LATERAL NPS 22 - 0918  
0919 MINNEHIK BUCK LAKE LATERAL LOOP NPS 12 - 0919  
0920 BIGSTONE LATERAL NPS 8 AND NPS 12 - 0920  
0921 FERRIER LATERAL NPS 6 - 0921  
0922 WINDFALL LATERAL NPS 22 - 0922  
0923 KAYBOB LATERAL NPS 20 - 0923  
0924 CARSON CREEK LATERAL NPS 10 - 0924  
0925 JUDY CREEK LATERAL NPS 10 - 0925  
0926 BRAZEAU EAST LATERAL NPS 8 (1969) - 0926  
0927 KAYBOB SOUTH LATERAL NPS 16 - 0927  
0928 WILSON CREEK LATERAL NPS 8 - 0928  
0930 BURNT TIMBER RECEIPT METER STATION - 0930  
0933 ALBERTA MONTANA BORDER METER STATION - 0933  
0934 KAYBOB 11 36 RECEIPT METER STATION - 0934  
0935 GOLD CREEK RECEIPT METER STATION - 0935  
0936 WASKAHIGAN RECEIPT METER STATION - 0936  
0938 STURGEON LAKE SOUTH RECEIPT METER STATION - 0938  
0940 COLEMAN RECEIPT METER STATION - 0940  
0941 WATERTON NO 1 RECEIPT METER STATION - 0941  
0942 QUIRK CREEK RECEIPT METER STATION - 0942  
0944 EAST CALGARY RECEIPT METER STATION - 0944  
0945 WILDCAT HILLS RECEIPT METER STATION - 0945  
0946 CROSSFIELD RECEIPT METER STATION - 0946  
0948 WESTEROSE RECEIPT METER STATION - 0948  
0950 PEMBINA INTERCHANGE RECEIPT METER STATION AND LATERAL NPS 10  
0951 FERRIER RECEIPT METER STATION - 0951  
0952 WINDFALL RECEIPT METER STATION - 0952  
0955 KAYBOB SOUTH RECEIPT METER STATION - 0955  
0960 WILLESDEN GREEN RECEIPT METER STATION AND LATERAL NPS 6 - 0  
0963 BIGSTONE EAST RECEIPT METER STATION AND LATERAL NPS 4 (1975)  
0964 CARSON CREEK RECEIPT METER STATION - 0964  
0965 JUDY CREEK RECEIPT METER STATION - 0965  
0966 BRAZEAU EAST RECEIPT METER STATION - 0966  
0968 WILSON CREEK RECEIPT METER STATION - 0968  
0977 ANTE CREEK B RECEIPT METER STATION - 0977  
0979 WATER VALLEY RECEIPT METER STATION - 0979  
0984 ALDER FLATS RECEIPT METER STATION - 0984  
0998 BIGSTONE LATERAL CROSSOVER NPS - 0998  
1002 BRAZEAU WEST RECEIPT METER STATION AND LATERAL NPS 4 - 1002  
1004 MINNEHIK BUCK LAKE B RECEIPT METER STATION - 1004  
1005 KAYBOB RECEIPT METER STATION - 1005  
1007 CODNER LATERAL NPS 6 - 1007  
1008 CODNER RECEIPT METER STATION - 1008  
1009 PEMBINA WEST RECEIPT METER STATION AND LATERAL - 1009  
1010 KAYBOB SOUTH LATERAL EXTENSION NPS 20 PHASE 2 - 1010  
1011 MIQUELON LAKE RECEIPT METER STATION - 1011  
1012 MIQUELON LAKE LATERAL NPS 6 - 1012  
1015 FERRIER SOUTH B RECEIPT METER STATION - 1015  
1016 ALDER FLATS SOUTH RECEIPT METER STATION - 1016

1021 CRAIGMYLE RECEIPT METER STATION - 1021  
1022 CRAIGMYLE LATERAL NPS 4 - 1022  
1024 CRAIGMYLE EAST RECEIPT METER STATION - 1024  
1025 CRAIGMYLE EAST LATERAL NPS 4 - 1025  
1028 CRAIGMYLE LATERAL LOOP NPS 6 - 1028  
1030 PRINCESS EAST LATERAL NPS 6 - 1030  
1031 PRINCESS WEST LATERAL NPS 6 - 1031  
1032 TIDE LAKE LATERAL NPS 12 - 1032  
1034 PATRICIA LATERAL NPS 4 - 1034  
1035 PATRICIA LATERAL NPS 4 - 1035  
1036 RALSTON LATERAL NPS 6 - 1036  
1037 PRINCESS SOUTH LATERAL NPS 4 - 1037  
1038 AECO B LATERAL NPS 4 - 1038  
1039 LOUISIANA LAKE LATERAL NPS 6 - 1039  
1043 RALSTON CROSSOVER LATERAL NPS 16 - 1043  
1060 PICHE LAKE LATERAL NPS 6 - 1060  
1061 PICHE LAKE RECEIPT METER STATION - 1061  
1069 LAMERTON RECEIPT METER STATION - 1069  
1070 AECO A LATERAL NPS 6 - 1070  
1074 NIGHTINGALE RECEIPT METER STATION - 1074  
1075 NIOBE CREEK LATERAL NPS 4 - 1075  
1076 NIOBE CREEK RECEIPT METER STATION - 1076  
1084 VALHALLA NO 2 RECEIPT METER STATION - 1084  
1086 VALHALLA EAST RECEIPT METER STATION - 1086  
1087 VALHALLA EAST LATERAL NPS 6 - 1087  
1089 CHINCHAGA RECEIPT METER STATION - 1089  
1090 CHINCHAGA LATERAL NPS 12 - 1090  
1091 GRANDE PRAIRIE MAINLINE NPS 10 VALHALLA SECTION - 1091  
1093 BEAR RIVER LATERAL NPS 4 - 1093  
1094 BEAR RIVER RECEIPT METER STATION - 1094  
1095 PROGRESS LATERAL NPS 6 - 1095  
1097 SNEDDON CREEK RECEIPT METER STATION - 1097  
1098 SNEDDON CREEK LATERAL NPS 4 - 1098  
1100 BEAR RIVER LATERAL LOOP NPS 8 - 1100  
1101 PROGRESS EAST LATERAL NPS 8 - 1101  
1102 PROGRESS EAST RECEIPT METER STATION - 1102  
1103 BEAR RIVER WEST LATERAL NPS 6 - 1103  
1104 BEAR RIVER WEST RECEIPT METER STATION - 1104  
1105 SNEDDON CREEK LATERAL LOOP NPS 8 - 1105  
1106 DOE CREEK LATERAL NPS 10 AND NPS 16 - 1106  
1107 DOE CREEK RECEIPT METER STATION - 1107  
1111 BEAR CANYON WEST RECEIPT METER STATION AND LATERAL NPS 8 -  
1113 SNEDDON CREEK NORTH LATERAL NPS 4 - 1113  
1115 PROGRESS LATERAL LOOP NPS 10 - 1115  
1120 PROGRESS NO 2 RECEIPT METER STATION - 1120  
1123 WHISTWOW LATERAL NPS 6 - 1123  
1124 WHISTWOW RECEIPT METER STATION - 1124  
1131 TIDE LAKE LATERAL NPS 4 - 1131  
1132 TIDE LAKE LATERAL LOOP EXTENSION NPS 16 - 1132  
1171 BOTHA WEST RECEIPT METER STATION - 1171  
1172 BOTHA WEST LATERAL NPS 6 - 1172  
1184 CHINCHAGA WEST LATERAL NPS 8 - 1184  
1189 CHINCHAGA LATERAL LOOP NPS 12 - 1189  
1191 CHINCHAGA WEST RECEIPT METER STATION - 1191  
1196 GRANDE PRAIRIE MAINLINE NPS 20 HUALLEN SECTION - 1196  
1197 ELMWORTH HIGH RECEIPT METER STATION - 1197  
1200 GRANDE PRAIRIE MAINLINE NPS 16 ELMWORTH SECTION - 1200  
1205 DEMMITT LATERAL NPS 16 - 1205  
1208 MOUNT VALLEY RECEIPT METER STATION - 1208



1209 MOUNT VALLEY LATERAL NPS 16 - 1209  
1213 MOSS LAKE LATERAL NPS 6 - 1213  
1214 MOSS LAKE RECEIPT METER STATION - 1214  
1429 PRINCESS SOUTH RECEIPT METER STATION - 1429  
1430 PRINCESS EAST RECEIPT METER STATION - 1430  
1432 PATRICIA WEST RECEIPT METER STATION - 1432  
1433 IDDESLEIGH SOUTH RECEIPT METER STATION - 1433  
1434 PATRICIA RECEIPT METER STATION - 1434  
1435 AECO B RECEIPT METER STATION - 1435  
1436 FOURTH CREEK SOUTH RECEIPT METER STATION - 1436  
1437 FOURTH CREEK WEST RECEIPT METER STATION AND LATERAL NPS 4 -  
1438 FOURTH CREEK RECEIPT METER STATION - 1438  
1439 FOURTH CREEK SOUTH LATERAL NPS 4 - 1439  
1440 AECO A RECEIPT METER STATION - 1440  
1442 MIRAGE RECEIPT METER STATION - 1442  
1450 JENNER WEST B RECEIPT METER STATION - 1450  
1460 MAJESTIC RECEIPT METER STATION - 1460  
1470 CAVENDISH SOUTH RECEIPT METER STATION - 1470  
1475 LOUISIANA LAKE RECEIPT METER STATION - 1475  
1493 CHESTER CREEK RECEIPT METER STATION - 1493  
1495 CHICKADEE CREEK WEST RECEIPT METER STATION - 1495  
1497 LAFOND CREEK RECEIPT METER STATION - 1497  
1498 CLYDE NORTH RECEIPT METER STATION - 1498  
1500 MOSS LAKE NORTH RECEIPT METER STATION - 1500  
1503 ALDER FLATS NO 2 RECEIPT METER STATION - 1503  
1506 BONNIE GLEN LATERAL NPS 12 - 1506  
1507 GOLDEN SPIKE LATERAL NPS - 1507  
1509 COUNTESS DUCHESS LATERAL LOOP NPS 8 - 1509  
1512 STANDARD LATERAL LOOP NPS 12 - 1512  
1515 DORIS CREEK SOUTH RECEIPT METER STATION - 1515  
1516 SAND CREEK LATERAL LOOP NO 2 NPS 12 (1997) - 1516  
1519 COUNTESS MAKEPEACE LATERAL LOOP NO 3 NPS 8 (1997) - 1519  
1522 CANOE LAKE RECEIPT METER STATION - 1522  
1523 CANOE LAKE LATERAL NPS 8 (1997) - 1523  
1524 MAHASKA WEST RECEIPT METER STATION - 1524  
1525 WHITBURN EAST RECEIPT METER STATION - 1525  
1526 ELK RIVER SOUTH LATERAL LOOP NPS 6 - 1526  
1529 MAHASKA RECEIPT METER STATION - 1529  
1530 MAHASKA LATERAL NPS 4 (1997) - 1530  
1532 BLUE RAPIDS RECEIPT METER STATION - 1532  
1533 SIMON LAKES RECEIPT METER STATION - 1533  
1535 OSLAND LAKE RECEIPT METER STATION - 1535  
1536 CULP NORTH RECEIPT METER STATION - 1536  
1537 CULP LATERAL LOOP NPS 6 - 1537  
1538 MCLEAN CREEK RECEIPT METER STATION - 1538  
1544 MCLEAN CREEK LATERAL NPS 4 - 1544  
1546 ORLOFF LAKE RECEIPT METER STATION - 1546  
1547 CULP NORTH LATERAL NPS 6 - 1547  
1552 OWL LAKE RECEIPT METER STATION - 1552  
1556 WINAGAMI LAKE RECEIPT METER STATION - 1556  
1558 DOWLING RECEIPT METER STATION - 1558  
1565 ASSUMPTION RECEIPT METER STATION - 1565  
1570 RALSTON RECEIPT METER STATION - 1570  
1571 NORTHWEST MAINLINE NPS 20 BOOTIS HILL SECTION - 1571  
1572 BOOTIS HILL LATERAL NPS 10 - 1572  
1573 BOOTIS HILLS RECEIPT METER STATION - 1573  
1576 MCMILLAN LAKE RECEIPT METER STATION - 1576  
1578 CHIGWELL EAST LATERAL LOOP NPS 6 - 1578  
1579 TIDE LAKE B RECEIPT METER STATION - 1579

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2031 BENTON WEST LATERAL NPS 4 - 2031  
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2053 COATES LAKE RECEIPT METER STATION - 2053  
2054 COATES LAKE LATERAL NPS 8 - 2054  
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2096 HERMIT LAKE LATERAL NPS 12 - 2096  
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2331 CULP NO 2 RECEIPT METER STATION - 2331  
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2335 BROWNSVALE NORTH RECEIPT METER STATION - 2335  
2336 MANIR RECEIPT METER STATION - 2336  
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2410 BENTON WEST RECEIPT METER STATION - 2410  
2414 TRUMAN RECEIPT METER STATION - 2414  
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2452 HUDSON NORTH RECEIPT METER STATION - 2452  
2454 HUDSON WEST RECEIPT METER STATION - 2454  
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2530 BODO WEST RECEIPT METER STATION - 2530  
2534 ELINOR LAKE EAST RECEIPT METER STATION - 2534  
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2537 SQUARE LAKE LATERAL NPS 10 - 2537  
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2539 OWLSEYE RECEIPT METER STATION - 2539  
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2541 TWEEDIE RECEIPT METER STATION - 2541  
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2558 TORLEA NORTH RECEIPT METER STATION - 2558  
2559 UKALTA EAST RECEIPT METER STATION - 2559  
2560 WEST VIKING RECEIPT METER STATION - 2560  
2561 VIKING NORTH RECEIPT METER STATION - 2561  
2562 VIKING EAST RECEIPT METER STATION - 2562  
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2566 TORLEA RECEIPT METER STATION - 2566  
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2572 SLAWA NORTH RECEIPT METER STATION - 2572  
2573 HAMLIN RECEIPT METER STATION - 2573  
2574 SLAWA SOUTH RECEIPT METER STATION - 2574  
2575 BARICH RECEIPT METER STATION - 2575  
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2577 WATINO RECEIPT METER STATION - 2577  
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2630 JONES LAKE NORTH LATERAL NPS 10 - 2630  
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2638 DEMMITT RECEIPT METER STATION - 2638  
2641 DEBOLT RECEIPT METER STATION - 2641  
2650 SEDGEWICK EAST RECEIPT METER STATION - 2650  
2652 CHOICE B RECEIPT METER STATION - 2652  
2653 SEDGEWICK NORTH RECEIPT METER STATION - 2653  
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2665 BASSANO SOUTH LATERAL NPS 8 - 2665  
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2670 EDWAND RECEIPT METER STATION - 2670  
2671 MONS LAKE RECEIPT METER STATION - 2671  
2673 MONS LAKE EAST RECEIPT METER STATION - 2673  
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2682 HOOLE LATERAL LOOP NPS 10 WABASCA SECTION - 2682  
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2686 WEAVER LAKE SOUTH RECEIPT METER STATION - 2686  
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2698 HATTIE LAKE RECEIPT METER STATION - 2698  
2699 FLAT LAKE NORTH RECEIPT METER STATION - 2699  
2701 CALLING LAKE SOUTH RECEIPT METER STATION - 2701  
2702 STEELE LAKE RECEIPT METER STATION - 2702  
2703 SEPTEMBER LAKE NORTH RECEIPT METER STATION - 2703  
2704 CALLING LAKE EAST RECEIPT METER STATION - 2704  
2705 BAPTISTE SOUTH RECEIPT METER STATION - 2705  
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2708 ATHABASCA RECEIPT METER STATION - 2708  
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2715 ROCHESTER LATERAL LOOP NPS 4 - 2715  
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2717 CHUMP LAKE RECEIPT METER STATION - 2717  
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2720 CALLING LAKE RECEIPT METER STATION - 2720  
2721 RANFURLY WEST RECEIPT METER STATION - 2721  
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2726 ROSELYNN RECEIPT METER STATION - 2726  
2728 KIKINO RECEIPT METER STATION - 2728  
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2737 WILLOW RIVER LATERAL LOOP NPS 6 - 2737  
2738 KIKINO NORTH RECEIPT METER STATION - 2738  
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2750 SHEKILIE RIVER NORTH RECEIPT METER STATION - 2750  
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2758 CRAIGEND EAST RECEIPT METER STATION - 2758  
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2833 VETERAN RECEIPT METER STATION - 2833  
2849 VETERAN LATERAL NPS 4 - 2849  
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2888 PROSPERITY RECEIPT METER STATION - 2888  
2889 RICHMOND RECEIPT METER STATION - 2889  
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2901 PASTECHO RIVER RECEIPT METER STATION - 2901  
2978 PLAIN LAKE LATERAL LOOP NPS 6 - 2978  
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3030 VALE EAST LATERAL NPS 8 - 3030  
3050 BOWMANTON WEST LATERAL NPS 4 - 3050  
3060 BOWMANTON WEST LATERAL LOOP NPS 4 - 3060  
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3080 BOWELL WEST LATERAL NPS 8 - 3080  
3090 AECO D LATERAL NPS 8 - 3090  
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3101 HILDA WEST RECEIPT METER STATION - 3101  
3200 REDCLIFF SOUTH RECEIPT METER STATION - 3200  
3201 COUSINS A SALES METER STATION - 3201  
3202 COUSINS WEST RECEIPT METER STATION - 3202  
3204 AECO E RECEIPT METER STATION - 3204  
3205 REDCLIFF WEST RECEIPT METER STATION - 3205  
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3221 BOWELL SOUTH RECEIPT METER STATION - 3221  
3223 AECO D RECEIPT METER STATION - 3223  
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3240 DUNMORE RECEIPT METER STATION - 3240  
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3617 CADOTTE RIVER SOUTH RECEIPT METER STATION - 3617  
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3782 MARTEN HILLS LATERAL NPS 18 STAGE 2 EDSON SECTION - 3782  
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3821 TIDE LAKE NORTH LATERAL NPS 6 - 3821  
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3831 FLAT LAKE LATERAL LOOP NPS 16 - 3831  
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3909 MARTEN HILLS LATERAL NPS 18 STAGE 2 ATHABASCA SECTION - 390  
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6881 FAWCETT RIVER NORTH RECEIPT METER STATION - 6881  
6892 EAGLE HILL RECEIPT METER STATION - 6892  
6893 GARRINGTON EAST B RECEIPT METER STATION - 6893  
6897 CRAMMOND RECEIPT METER STATION - 6897  
6901 MATZIHWIN WEST RECEIPT METER STATION - 6901  
6905 GEM SOUTH RECEIPT METER STATION - 6905  
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6907 GEM WEST RECEIPT METER STATION - 6907  
6931 LONE PINE CREEK SOUTH RECEIPT METER STATION - 6931  
6932 GAYFORD RECEIPT METER STATION - 6932  
6933 CARSELAND SALES METER STATION - 6933  
6934 STANDARD LATERAL NPS 10 - 6934  
6935 STANDARD RECEIPT METER STATION - 6935  
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6949 CARBON SALES METER STATION - 6949  
6950 CARBON WEST RECEIPT METER STATION - 6950  
6951 GRAINGER RECEIPT METER STATION - 6951  
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6956 DELIA LATERAL NPS 6 AND NPS 8 - 6956  
6957 DELIA RECEIPT METER STATION - 6957  
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6971 RICINUS RECEIPT METER STATION - 6971  
6972 RICINUS SOUTH RECEIPT METER STATION - 6972  
6973 RICINUS WEST RECEIPT METER STATION - 6973  
6976 ROCK ISLAND LAKE SOUTH RECEIPT METER STATION - 6976  
6979 ELK RIVER SOUTH LATERAL NPS 6 - 6979  
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6982 HARMATTAN EAST RECEIPT METER STATION - 6982  
6984 ROCK ISLAND LAKE RECEIPT METER STATION - 6984  
6985 DISMAL CREEK RECEIPT METER STATION - 6985  
6988 EDSON NORTH RECEIPT METER STATION - 6988  
6990 MARLBORO EAST RECEIPT METER STATION - 6990  
6992 MARLBORO LATERAL NPS 8 - 6992  
6993 MARLBORO RECEIPT METER STATION - 6993  
6994 ANSELL RECEIPT METER STATION - 6994  
6995 BENBOW SOUTH RECEIPT METER STATION - 6995  
6996 BENBOW SOUTH LATERAL NPS 8 - 6996  
6997 GALLOWAY RECEIPT METER STATION - 6997  
6998 GALLOWAY LATERAL NPS 6 - 6998  
6999 EDSON WEST RECEIPT METER STATION - 6999  
7000 EDSON WEST B RECEIPT METER STATION - 7000  
7001 SUNDANCE CREEK LATERAL NPS 6 - 7001  
7002 SUNDANCE CREEK RECEIPT METER STATION - 7002  
7003 SUNDANCE LAKE RECEIPT METER STATION - 7003  
7004 SUNDANCE LAKE LATERAL NPS 4 - 7004  
7005 LITTLE SUNDANCE RECEIPT METER STATION - 7005  
7006 SUNDANCE LAKE EAST RECEIPT METER STATION AND LATERAL NPS 6  
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7019 BENBOW WEST LATERAL NPS 4 (1992) - 7019  
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7022 MARSH HEAD CREEK RECEIPT METER STATION - 7022  
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7030 MARLBORO LATERAL LOOP NPS 8 - 7030  
7050 BENALTO WEST LATERAL NPS 4 - 7050  
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7540 NETOOK RECEIPT METER STATION - 7540  
7550 FERRYBANK NORTH RECEIPT METER STATION - 7550  
7553 PIGEON LAKE RECEIPT METER STATION - 7553  
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7611 FONTAS RIVER RECEIPT METER STATION - 7611  
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8001 WORSLEY LATERAL EXTENSION NPS 12 - 8001  
8002 HAIG RIVER RECEIPT METER STATION - 8002  
8003 HAIG RIVER LATERAL NPS 4 - 8003  
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8029 HOTCHKISS LATERAL LOOP NPS 6 - 8029  
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8033 DUNVEGAN WEST LATERAL NPS 8 - 8033  
8034 TANGENT B RECEIPT METER STATION - 8034  
8035 CLEAR HILLS RECEIPT METER STATION - 8035  
8038 HOTCHKISS EAST RECEIPT METER STATION - 8038  
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8043 KEG RIVER RECEIPT METER STATION - 8043  
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8057 RAMBLING CREEK LATERAL NPS 4 - 8057  
8058 HEART RIVER RECEIPT & SALES METER STATION - 8058  
8059 HEART RIVER LATERAL NPS 6 AND NPS 10 - 8059  
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8061 SILVER VALLEY RECEIPT METER STATION - 8061  
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8424 CHEECHAM WEST RECEIPT METER STATION - 8424  
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8431 SLIM'S LAKE RECEIPT METER STATION - 8431  
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8452 TANGENT EAST LATERAL CROSSOVER NPS 16 - 8452  
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8650 EDGERTON WEST RECEIPT METER STATION - 8650  
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8660 BAXTER LAKE NORTHWEST RECEIPT METER STATION - 8660  
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9829 KIRBY B LATERAL NPS 8 - 9829  
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9831 MORECAMBE LATERAL NPS 6 - 9831  
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9889 BULLSHEAD RECEIPT METER STATION - 9889  
9890 SOUTH SASKATCHEWAN RIVER RECEIPT METER STATION - 9890  
9894 GREW LAKE RECEIPT METER STATION AND LATERAL NPS 6 - 9894  
9899 ETZIKOM D RECEIPT METER STATION - 9899  
9900 ROWLEY RECEIPT METER STATION - 9900  
9902 BAY TREE LATERAL NPS 4 - 9902  
9903 PEERS RECEIPT METER STATION - 9903  
9912 THICKWOOD HILLS LATERAL NPS 6 - 9912  
9913 THICKWOOD HILLS RECEIPT METER STATION - 9913  
9915 DUNKIRK RIVER RECEIPT METER STATION - 9915  
9916 DUNKIRK RIVER LATERAL NPS 10 - 9916  
9918 ALGAR LAKE LATERAL NPS 6 - 9918  
9919 ALGAR LAKE RECEIPT METER STATION - 9919  
9920 MACKAY RIVER LATERAL NPS 4 - 9920  
9921 MACKAY RIVER RECEIPT METER STATION - 9921  
9923 OSI CREEK RECEIPT METER STATION - 9923  
9924 BOHN LAKE LATERAL NPS 6 - 9924  
9926 HENDERSON CREEK EAST LATERAL NPS 6 - 9926  
9927 BOHN LAKE RECEIPT METER STATION - 9927  
9928 GREW LAKE EAST RECEIPT METER STATION - 9928  
9929 GREW LAKE EAST LATERAL NPS 6 - 9929  
9930 HENDERSON CREEK SOUTHEAST RECEIPT METER STATION AND LATERAL  
9931 LIEGE LATERAL LOOP NPS 16 DOWNSTREAM OF ATHABASCA SECTION -  
9932 GRAHAM LATERAL LOOP NPS 12 - 9932  
9933 MACKAY RIVER LATERAL LOOP NPS 6 - 9933  
9934 ALGAR LAKE SOUTH RECEIPT METER STATION - 9934  
9935 ALGAR LAKE SOUTH LATERAL NPS 6 - 9935  
9937 MALEB LATERAL NPS 6 - 9937  
9938 MALEB RECEIPT METER STATION - 9938  
9939 LIEGE NORTH RECEIPT METER STATION - 9939  
9940 LIEGE NORTH LATERAL NPS 8 - 9940  
9941 KETTLE RIVER LATERAL NPS 10 - 9941  
9942 KETTLE RIVER RECEIPT METER STATION - 9942  
9943 BOHN LAKE LATERAL LOOP NPS 12 - 9943  
9944 CHARD LATERAL LOOP NPS 12 - 9944  
9947 CAMROSE CREEK RECEIPT METER STATION - 9947  
9948 KEHIWIN LATERAL LOOP NPS 6 - 9948  
9949 CAMROSE CREEK LATERAL NPS 4 - 9949  
9951 ROWLEY WEST RECEIPT METER STATION - 9951  
9952 CHELSEA CREEK RECEIPT METER STATION - 9952  
9953 CHELSEA CREEK LATERAL NPS 8 - 9953  
9954 MEADOW CREEK EAST LATERAL NPS 6 - 9954  
9955 MEADOW CREEK LATERAL NPS 10 - 9955  
9956 MEADOW CREEK RECEIPT METER STATION - 9956  
9957 MEADOW CREEK WEST LATERAL NPS 6 - 9957  
9958 MEADOW CREEK WEST RECEIPT METER STATION - 9958  
9959 MEADOW CREEK EAST RECEIPT METER STATION - 9959  
9960 GRAHAM LATERAL LOOP NO 2 NPS 16 - 9960

9963 WINEFRED RIVER SOUTH RECEIPT METER STATION - 9963  
9964 WINEFRED RIVER WEST RECEIPT METER STATION - 9964  
9965 WINEFRED RIVER WEST LATERAL NPS 4 - 9965  
9966 LOVET CREEK WEST LATERAL NPS 6 (1994) - 9966  
9967 IPIATIK LAKE RECEIPT METER STATION - 9967  
9968 RABBIT LAKE RECEIPT METER STATION - 9968  
9969 WADDELL CREEK RECEIPT METER STATION - 9969  
9970 WADDELL CREEK LATERAL NPS 6 - 9970  
9971 KIRBY NORTH NO 2 RECEIPT METER STATION - 9971  
9972 WADDELL CREEK WEST LATERAL NPS 6 - 9972  
9973 WADDELL CREEK WEST RECEIPT METER STATION - 9973  
9974 KETTLE RIVER NORTH RECEIPT METER STATION - 9974  
9975 KETTLE RIVER NORTH LATERAL NPS 16 (1991) - 9975  
9976 KETTLE RIVER LATERAL LOOP NPS 10 AND NPS 16 (1991) - 9976  
9979 CHEECHAM RECEIPT METER STATION - 9979  
9980 CHEECHAM LATERAL NPS 10 AND NPS 12 - 9980  
9981 ORKNEY HILL RECEIPT METER STATION - 9981  
9982 COTTONWOOD CREEK LATERAL NPS 8 - 9982  
9983 COTTONWOOD CREEK RECEIPT METER STATION - 9983  
9985 SUNDAY CREEK RECEIPT METER STATION AND LATERAL NPS 4 - 9985  
9986 SUNDAY CREEK SOUTH LATERAL NPS 4 - 9986  
9987 SUNDAY CREEK SOUTH RECEIPT METER STATION - 9987  
9990 KINOSIS RECEIPT METER STATION - 9990  
9991 KINOSIS LATERAL NPS 8 (1992) - 9991  
9992 CHRISTINA LAKE RECEIPT METER STATION - 9992  
9993 SUNDAY CREEK SOUTH LATERAL LOOP NPS 4 - 9993

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ATCO-NGTL-036(a) and (b)

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**Issue:**

Least Cost Alternative

**Reference:**

Sub-Section 2.7; Section 8.0, Appendix F; Section 8.0, Appendix G

**Preamble:**

The EUB in Decision U96001 (pages 154-155) states "as a matter of policy, the Board is of the view that, in meeting requests for service from its shippers, NGTL should enter into contractual arrangements for transportation service on other pipelines when this option offers the least cost alternative to its shippers based on long-term owning and operating costs and when contractual risks of doing so are manageable". ATCO Pipelines wishes to understand NGTL's Least Cost Alternative Policy.

**Request:**

- (a) Does NGTL have a Least Cost Alternative Policy? If so, please provide a copy, with a full explanation.
- (b) If no Least Cost Alternative Policy is available, please provide NGTL's views on what constitutes a proper Least Cost Alternative Policy.

**Response:**

(a) and (b)

Please refer to the discussion in the Application of NGTL's TBO Policy in Section 2.7 and NGTL's Facility Acquisition Guidelines and Criteria in Section 8.0 Appendix F. Least Cost is a criterion used by NGTL in examining options for providing transportation service.



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ATCO-NGTL-036(c) and (d)

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**Issue:**

Least Cost Alternative

**Reference:**

Sub-Section 2.7; Section 8.0, Appendix F; Section 8.0, Appendix G

**Preamble:**

The EUB in Decision U96001 (pages 154-155) states "as a matter of policy, the Board is of the view that, in meeting requests for service from its shippers, NGTL should enter into contractual arrangements for transportation service on other pipelines when this option offers the least cost alternative to its shippers based on long-term owning and operating costs and when contractual risks of doing so are manageable". ATCO Pipelines wishes to understand NGTL's Least Cost Alternative Policy.

**Request:**

- (c) Is NGTL's TBO Policy as described in Sub-Section 2.7, Pages 4 to 7, NGTL's equivalent to a Least Cost Alternative Policy? Please explain.
- (d) If the response to (c) above is no, please explain how NGTL's TBO Policy relates to its Least Cost Alternative Policy.

**Response:**

- (c) Please refer to the response to ATCO-NGTL-036(a).
- (d) Not applicable.

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ATCO-NGTL-036(e)

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**Issue:**

Least Cost Alternative

**Reference:**

Sub-Section 2.7; Section 8.0, Appendix F; Section 8.0, Appendix G

**Preamble:**

The EUB in Decision U96001 (pages 154-155) states "as a matter of policy, the Board is of the view that, in meeting requests for service from its shippers, NGTL should enter into contractual arrangements for transportation service on other pipelines when this option offers the least cost alternative to its shippers based on long-term owning and operating costs and when contractual risks of doing so are manageable". ATCO Pipelines wishes to understand NGTL's Least Cost Alternative Policy.

**Request:**

Does NGTL believe it is appropriate in the interests of balanced competition for Alberta transmission pipelines to adhere to a standardized least cost alternative policy?

**Response:**

Please refer to the response to BR-NGTL-018(d).

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ATCO-NGTL-036(f)

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**Issue:**

Least Cost Alternative

**Reference:**

Sub-Section 2.7; Section 8.0, Appendix F; Section 8.0, Appendix G

**Preamble:**

The EUB in Decision U96001 (pages 154-155) states "as a matter of policy, the Board is of the view that, in meeting requests for service from its shippers, NGTL should enter into contractual arrangements for transportation service on other pipelines when this option offers the least cost alternative to its shippers based on long-term owning and operating costs and when contractual risks of doing so are manageable". ATCO Pipelines wishes to understand NGTL's Least Cost Alternative Policy.

**Request:**

Please provide NGTL's position with respect to the rate to be charged by one regulated utility to another for a TBO (i.e. should it be an opportunity cost, posted rates, etc.)

**Response:**

NGTL considers all terms and conditions of potential TBO arrangements with both regulated utilities and other parties. It is important for NGTL to understand the risks associated with any other-party pipelines' ability or desire to offer and deliver a particular TBO price.

NGTL's practice when evaluating TBO alternatives is to apply posted tolls to the required service, or in the absence of posted tolls, to obtain bids for the service.

NGTL believes that a regulated alternative service provider should have the option to bid at a level different from that of its posted tolls. NGTL would consider whether a non-standard bid would have any implications to NGTL's ability to provide service on a timely basis.

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ATCO-NGTL-036(g)

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**Issue:**

Least Cost Alternative

**Reference:**

Sub-Section 2.7; Section 8.0, Appendix F; Section 8.0, Appendix G

**Preamble:**

The EUB in Decision U96001 (pages 154-155) states "as a matter of policy, the Board is of the view that, in meeting requests for service from its shippers, NGTL should enter into contractual arrangements for transportation service on other pipelines when this option offers the least cost alternative to its shippers based on long-term owning and operating costs and when contractual risks of doing so are manageable". ATCO Pipelines wishes to understand NGTL's Least Cost Alternative Policy.

**Request:**

(g) Please provide NGTL's position on each of the issues raised in the transcript excerpt from the ATCO Pipelines 2003/04 GRA, Volume 14 Page 1664, Line 22 to Page 1667, Line 11:

(Ms. Hocking questions to Mr. Stringham)

"Q. That's fine, thank you.

Should TBO arrangements be permitted for both receipt and delivery services?

A. I think TBO is an option that can be used in both receipt and delivery, yes. The idea that we're looking at using -- again, only one option. There are other options out there, but using the potential of transportation by others would be to try and increase the liquidity and the flexibility of the, as transferred to, the NIT market or the intra-Alberta market. And in doing so, the more gas that can come into that market on an equal playing field and the more gas that can leave allows for that market to work in the most fluid and most liquid manner.

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ATCO-NGTL-036(g)

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- Q. If TBO arrangements are made for receipt and/or delivery services, what cost accountability and rate design issues would need to be addressed on the ATCO and NGTL systems?
- A. Again, that depends on which end of the -- or where you fall in the TBO spectrum of options that are out there. If it's just one receipt point that's going through another area, that can be a very small transportation by other contract that is used by ATCO right now anyway. If it's a larger one, I think one of the things that's important is that we see as in the Fort Saskatchewan case, there is almost an artificial competition over rate design, and if one party has a different rate design for delivery than another and they are not similar, don't have to be identical, then that can lead to competition over simply the rate design, a zero toll and a 5 cent toll. The customer would like to pay as least as possible, but you need to make sure that there is, as we have discussed here, commitment to the system associated with that. An so transportation by others would have to also incorporate a look at what is the commitment made to the system by those customers that would be taking the contract under that capacity.
- Q. What obstacles does CAPP see that work against TBO arrangements currently?
- A. I think that one of the main obstacles that we have seen is that occasionally there is the thought on behalf of the pipeline that is granting the transportation by other that they would prefer to serve that customer themselves rather than provide just the capacity going forward and doing that. I think that it is in the benefit of all of us, pipelines and producers and customers, to try to minimize the cost in the basin as much as possible to ensure that gas can be delivered for the least cost -- using the least-cost infrastructure. So that's one of the obstacles that I heard to transportation by others. The other obstacle is sometimes pipelines believe by giving transportation by other, they would not be allowed to build a rate base; in other words, to put the constructed capital cost in themselves. And one of the objectives of a pipeline is to build rate base because they get return on rate base over time. So those are the two that I think I have heard as being potential obstacles, both of which, I think, can be overcome.
- A. MR. MOORE: I think also, Ms. Hocking, as Mr. Stringham referred to, one of the other benefits of TBO is that it basically seeks to find the least cost Alternative, which is to the benefit of producers and the public interest in general in terms of ensuring that we don't overcapitalize the basin because overcapitalizing the basin is not basically in the interest of any of the parties in this room.”

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**ATCO-NGTL-036(g)**

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**Response:**

NGTL agrees that in some cases entering into a TBO arrangement with another pipeline is an option for providing both receipt and delivery service for its customers where such arrangements ultimately satisfy NGTL's customers' requirements.

NGTL has addressed cost accountability and rate design issues in its 2004 Phase 2 GRA. ATCO rate design and cost accountability issues will be addressed in ATCO's Phase 2 GRA.

NGTL discusses the obstacles to pursuing TBO arrangements in its TBO Policy included in Section 2.7.2 of this Application.

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**ATCO-NGTL-037(a)**

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

Does NGTL agree that a proper Least Cost Alternative Policy must consider build, buy and TBO alternatives?

**Response:**

NGTL considers in its facilities design methodology build, buy, and TBO alternatives, as stated in the December 2002 Annual Plan under Section 2.9.5.4:

“Many alternatives are identified when combinations of the facility configurations and optimization parameters are considered. This process requires NGTL to carefully evaluate a large number of alternative designs and to select those appropriate for further study.

Facilities that are most likely to meet future gas flows and minimize the long term cost of service are considered. As well, NGTL may consider when appropriate Transportation by Others (TBO) or purchase of existing other party facilities as an alternative to constructing facilities.”

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ATCO-NGTL-037(b) and (c)

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

- (b) Please confirm that NGTL's decision to purchase, build or TBO pipeline capacity is based on the following quantitative measures:
  - (1) The lowest long-term cumulative present value cost of service (CPVCOS) and;
  - (2) The lowest first year capital cost.
- (c) Assuming all other considerations between two alternatives are equal, what is the relative weighting of the two factors in (b)? If the weighting varies with circumstances, please fully explain the reasons for the variance and how they are applied.

**Response:**

- (b) The primary consideration is CPVCOS. However, NGTL does consider other factors. Lowest first year capital cost will only come into consideration (amongst other factors) when a CPVCOS comparison does not indicate a clear choice between alternatives.
- (c) Please refer to the response to ATCO-NGTL-037(b).



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ATCO-NGTL-037(d)

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

At what percentage difference are these two quantitative factors considered "not equal based on financial analysis"? (page 5 of 13, lines 4 and 5)

**Response:**

This is a judgement determination. There are a variety of cost estimates that are fed into the financial model that is used to compare facility alternatives. These estimates usually include the capital cost of the facilities, fuel costs, operating and maintenance costs, municipal taxes, return on investment, and depreciation to name a few. Each of these cost estimates has a range of error. When a CPVCOS cost comparison between two alternatives yields a very close result, the bounds of error on the individual inputs are studied more closely to examine how they affect the results of the cost comparison.

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**ATCO-NGTL-037(e)**

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

What is the relevance of the lowest first year capital cost factor if it is included in the CPVCOS analysis?

**Response:**

CPVCOS is an independent analysis where the first year capital cost of each facility is an input to the CPVCOS financial model (amongst many other financial inputs). However, a first year capital cost comparison of two alternatives is not a part of a CPVCOS analysis. If a CPVCOS comparative analysis does not clearly indicate a least cost alternative, first year capital cost may then be considered more closely, amongst other considerations.

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ATCO-NGTL-037(f)

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

If Alternative A's CPVCOS value is \$40 million and Alternative B's CPVCOS value is \$35 million and the first year capital cost is \$20 million for Alternative A and \$25 million for Alternative B, which alternative would NGTL select and why, assuming all other considerations are equivalent between the alternatives?

**Response:**

In this example, assuming all considerations for other competing factors being equal, Alternative B would clearly be the preferable alternative, because it has the least cost CPVCOS.

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**ATCO-NGTL-037(g) and (h)**

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

(g) Please explain in detail:

(i) how each of the qualitative evaluation considerations enumerated from page 5 of 13, line 9 to page 7 of 13, line 12 could result in NGTL not accepting a TBO when it is the least cost alternative based on both of the quantitative factors noted in (b) above; and

(ii) is there a combination of those qualitative evaluation considerations that could cumulatively cause the quantitative factors to not prevail in the situation described in (i) above? If so, please provide a detailed description of those combinations.

(h) In responding to (g), please provide any quantitative weighting that NGTL attributes to each of the qualitative evaluation considerations.

**Response:**

(g) and (h)

NGTL does not agree with the description of the considerations described in the request as "qualitative". In addition to the least cost alternative and CPVCOS analysis, the

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**ATCO-NGTL-037(g) and (h)**

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determination of impact on overall system cost and assessment of incremental revenue involve quantitative analysis.

NGTL will consider each of the factors listed in its TBO Policy, and will consider whether the overall terms and conditions of a particular TBO arrangement meet its customers' requirements. If any one of the factors is of significant concern NGTL may not enter into the TBO arrangement.

NGTL would apply its TBO policy to each potential TBO arrangement and the relative weighting of factors may be different depending upon each arrangement's unique circumstances.

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ATCO-NGTL-037(i)

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

Please confirm that NGTL prepares CPVCOS scenarios in order to evaluate various quantitative and qualitative factors. If confirmed, please explain in detail NGTL's process. If not confirmed, please explain why not.

**Response:**

NGTL prepares CPVCOS scenarios in order to evaluate quantitative factors only. Qualitative factors will be considered in an overall facility alternative decision, but they are not a part of the CPVCOS analysis.

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ATCO-NGTL-037(j)

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

Does NGTL consider a single customer's request for a competitive physical facility alternative is a valid "...customers' over-all requirement for service." (see Sub-Section 2.7, Page 5, Lines 9-10)? Please explain.

**Response:**

Yes. It is one component that NGTL considers in determining the customer's overall requirement for service.

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ATCO-NGTL-037(k)

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

In evaluating TBO options, NGTL determines whether the TBO option will meet its customers' needs (Sub-Section 2.7.2(1) - first bullet). Does NGTL believe that a customer should have the choice to reject a TBO alternative that provides the least cost alternative?

**Response:**

NGTL will determine the appropriate means of providing service. A customer can then choose whether or not to contract for service on NGTL.



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**ATCO-NGTL-037(I)**

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

For each of the Foothills Zones 6 and 7, Simmons and the proposed Ventures TBO arrangements, did NGTL:

- (i) request bids for the required service;
- (ii) receive bids for the required service;
- (iii) evaluate the TBO option using posted tolls or bids; and
- (iv) if bids were not requested or used, please explain why.

**Response:**

Foothills Zone 6 and 7: Please see Section 2.7.1 of the Application for a description of the circumstances under which these TBO arrangements were undertaken. No other facilities had been constructed at the time that could provide the required service, and therefore no request for bids was issued. The TBO option was evaluated using NEB approved tolls.

Simmons: No other facilities other than the Simmons Pipeline had been constructed at that time that could provide the required service, therefore no request for bids was issued. NGTL negotiated the transportation service rates with Simmons.

Ventures TBO: NGTL issued a request for proposal (RFP) for Fort McMurray Transportation by Others (Section 8.0 Appendix A of the Application.) Ventures

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**ATCO-NGTL-037(I)**

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provided the only bid in response to the RFP, and the TBO option was evaluated using the bid price and ultimately the parties negotiated the terms and conditions for service.

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ATCO-NGTL-037(m)

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**Issue:**

Least Cost Alternative

**Reference:**

NGTL's TBO Policy; Sub-Section 2.7-2, Pages 4-7 of 13

**Preamble:**

ATCO Pipelines wishes to understand NGTL's decision process for building, purchasing, or contracting (TBO) for pipeline capacity.

**Request:**

In evaluating TBO options, NGTL determines the cost of the TBO service option, either by applying posted tolls or requesting bids (Sub-Section 2.7.2(1) - second bullet). Does NGTL believe that a regulated alternative service provider should have the option to bid at a level different from that of its posted tolls? If not, why not?

**Response:**

Yes. Please refer to response to ATCO-NGTL-036(f).

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**ATCO-NGTL-038**

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**Issue:**

Least Cost Alternative

**Reference:**

Sub-Section 2.7, Page 6, Lines 15-19

**Preamble:**

NGTL states it “will consider entering into a TBO arrangement only where gas volumes transported cannot avoid the payment of the appropriate NGTL tolls that would otherwise be paid...”.

**Request:**

- (a) Please confirm that if NGTL pursues a third party Least Cost Alternative as opposed to constructing facilities itself, all customers will benefit from a lower cost of service. If not, please explain.
- (b) Do any of the existing or proposed TBO arrangements included in the Application cause volumes transported to avoid paying incremental revenue to NGTL? Please provide a detailed explanation.
- (c) Please confirm that for each existing and proposed TBO arrangement included in the Application, NGTL contracts with the other pipeline providing the TBO and that NGTL’s shippers do not contract with the other pipeline for that service.
- (d) Please confirm that with respect to the capacity and cost of each existing and proposed TBO arrangement included in the Application, shippers in the region where TBO is used contract with NGTL and pay the appropriate NGTL toll.
- (e) Please provide each circumstance under which NGTL could enter into a TBO arrangement and gas volumes transported could avoid the payment of the appropriate NGTL tolls that would otherwise be payable if NGTL did not enter the TBO arrangement and built its own facilities. In providing this response, please identify any NGTL contracting practices that would not allow payment of an appropriate toll.

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**ATCO-NGTL-038**

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- (f) Please provide any examples where an appropriate toll was not paid due to TBO arrangements. For each example, please quantify the loss of incremental revenue that occurred.

**Response:**

- (a) Confirmed, provided that all other TBO criteria have been met.
- (b) No.
- (c) For each existing and proposed TBO arrangement included in the Application, NGTL has contracted with the other pipeline providing the TBO.
- (d) All shippers that contract with NGTL pay the appropriate toll.
- (e) NGTL does not know all cases where this may happen. NGTL believed that this was possible with a TBO arrangement with ATCO when NGTL was evaluating options to provide service into Fort Saskatchewan. NGTL was concerned that it would pay for TBO service on ATCO and that ATCO would fulfill the TBO commitment via its exchange service. The net effect being a loss of receipt revenue and an increase in costs to NGTL.
- (f) Please refer to the response to BR-NGTL-017(c).

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ATCO-NGTL-039

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**Issue:**

Least Cost Alternative

**Reference:**

Sub-Section 2.7, Page 6, Line 22 to Page 7, Line 6

**Preamble:**

NGTL states it “will assess the risks of contracting with an other [sic] pipeline including customer accountability for estimation of throughput volumes and NGTL’s ability to control TBO costs”.

**Request:**

- (a) Where only NGTL facility costs are involved in providing the customer with service, what measures does NGTL take to mitigate the risk of customer accountability for estimation of throughput volumes?
- (b) Under the existing and proposed TBO arrangements included in the Application, what measures has NGTL taken or does NGTL propose to take to mitigate the risk of contracting with another pipeline, including customer accountability for estimation of throughput volumes and NGTL’s ability to control TBO costs? For each measure taken, please provide a full explanation.

**Response:**

- (a) The measures NGTL considers in the analysis of throughput underpinning Alberta System facilities is described in the Annual Plan in sections 2.9.1 through 2.9.4 provided in the response to ATCO-NGTL-010(a). Customer accountability is determined through the provisions of NGTL’s Tariff.
- (b) The TBO services identified in the Application are predominantly fixed costs, where there is no explicit regulatory oversight, or are based on published tolls that have been scrutinized by a regulator. In the case of Ventures, NGTL negotiated a fixed annual payment. In the case of Foothills the costs are scrutinized by the National Energy Board. Customer accountability is determined through the provisions of NGTL’s tariff.

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**ATCO-NGTL-040**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Figures 8.2-1 and 8.2-2.

**Preamble:**

In Figure 8.2-1, NGTL illustrates the general Fort McMurray region and in Figure 8.2-2, NGTL illustrates the specific market area in that region NGTL has considered in its development plans for additional delivery service.

**Request:**

- (a) Please confirm that the arrows on the two figures indicate the physical flow of gas.
- (b) Please confirm that the physical flow of gas as illustrated by the arrows represents a year-round flow (i.e. flow does not reverse at any time during the year). If gas on any pipeline flows in two directions, please identify by pipeline the number of instances (in days) in 2002, 2003 and 2004, respectively, when gas flows opposite to that indicated by each arrow.
- (c) Please identify the prevailing direction of flow on other major trunk lines shown on Figure 8.2-1, including the Peerless Lake section north of the proposed Woodenhouse compressor.

**Response:**

- (a) The arrows on the two figures indicate the forecast of physical flow direction of gas.
- (b) Not confirmed. Figures 8.2-1 and 8.2-2 have been updated in Attachment 1 BR-NGTL-027(d) and Attachment 2 BR-NGTL-002(d). The updated figures show the forecast of flow direction for 2004 under maximum and average Fort McMurray demand conditions.
- (c) Please see Attachment 1 BR-NGTL-027(d).

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**ATCO-NGTL-041**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Table 8.4-1, Page 7 of 9; Figure 8.2-1 and Figure 8.2-2

**Preamble:**

ATCO Pipelines wishes to understand the existing infrastructure and capacity of NGTL's defined Fort McMurray area.

**Request:**

- (a) Please revise Figure 8.2-1 to identify all NGTL receipt laterals and receipt points on a map in a larger readable scale. At a minimum, please include the lateral number, receipt point number and receipt point name.
- (b) Please explain the physical flow of receipt gas downstream of each receipt point identified in (a).
- (c) Please provide the forecast of reserves and expected annual production for each receipt point identified in (a).
- (d) For the facilities shown in Figure 8.2-1, which does NGTL define to be mainline and lateral under each of the functional and physical definitions provided in Section 6.0, Appendix A, Pages 15 to 17?

**Response:**

- (a) For a larger more readable map, please refer to the response to BR-NGTL-027(d).

NGTL does not have a numbered reference system for laterals, however, for receipt laterals the lateral name normally corresponds to the name of the meter station at the end of the lateral. For example, the lateral that connects the Thickwood Hills receipt meter station to the Liege Lateral north of the Buffalo interconnect is named the



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**ATCO-NGTL-041**

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“Thickwood Hills Lateral”. Please see Attachment 1 ATCO-NGTL-41(a) for a copy of the map that is normally provided as Figure 2.3.2 in the NGTL Annual Plan, which specifies the names of the major laterals in the North and East Project Area.

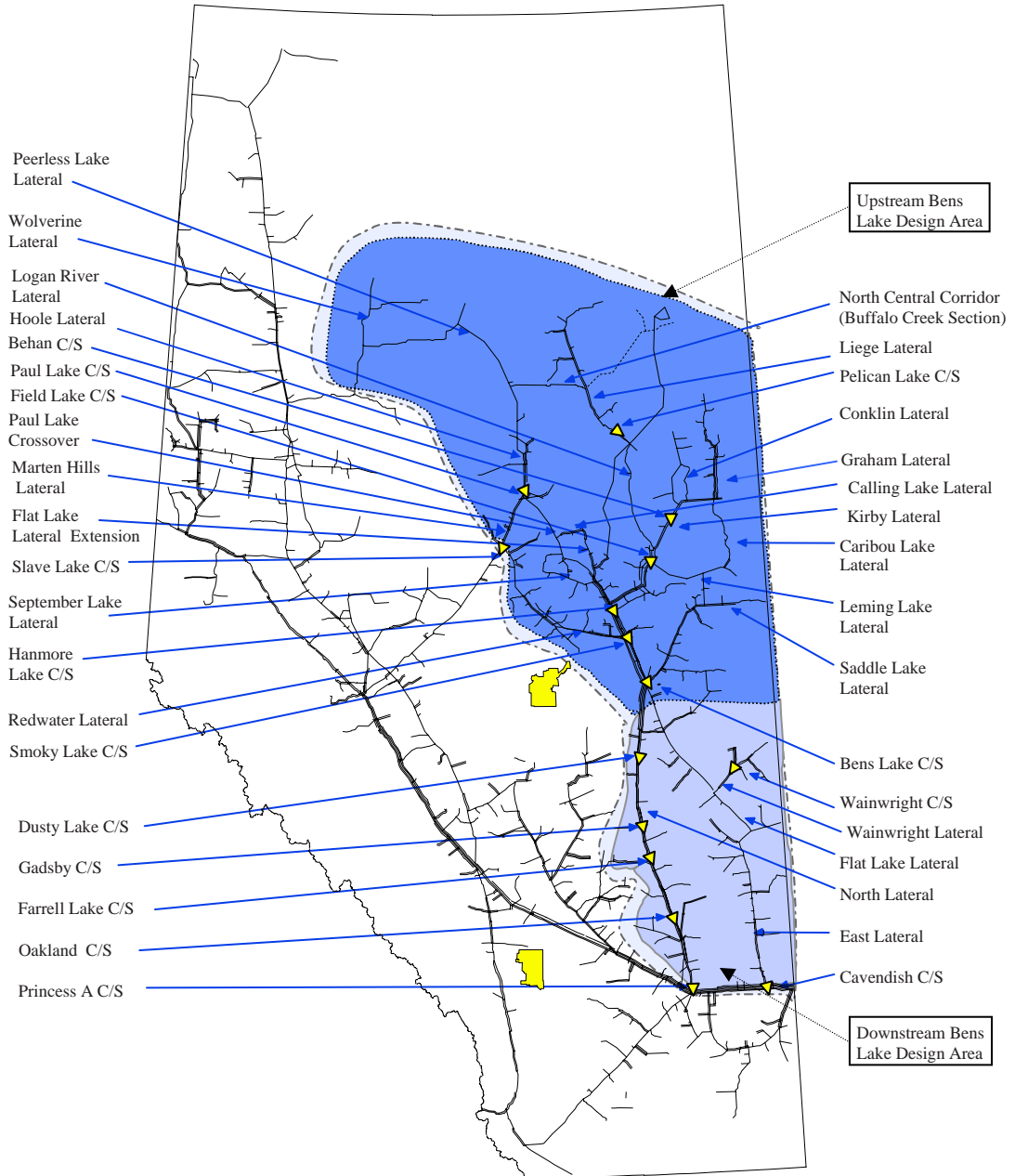
The names and node numbers of all of the receipt meter stations shown in Figure 8.2-1 have been provided in Attachment 2 ATCO-NGTL-41(a).

- (b) The flow direction of receipt gas downstream of each receipt point can be inferred from the arrows on the major lines illustrated in Attachment 1 BR-NGTL.27d.
- (c) NGTL has provided meter station level information for the entire Alberta System in electronic format to interested parties. Please refer to responses to CAPP-NGTL-001 and ATCO-NGTL-035(b).
- (d) The facilities shown in Figure 8.2-1 of the Application, which NGTL defines to be mainline under the functional definition in Section 6.0 of the Application is provided in Attachment 1 ATCO-NGTL-41(d) The Functional Mainline.

The facilities shown in Figure 8.2-1 of the Application, which NGTL defines to be mainline under the physical definition in Section 6.0 of the Application is provided in Attachment 2 ATCO-NGTL-41(d) The Physical Size Mainline.

The mainline definitions used in Section 6.0 of the Application are used by NGTL only for Cost of Service Study purposes.

### North and East Project Area



| <b>Node #</b> | <b>Receipt Station</b> | <b>Status</b>        |
|---------------|------------------------|----------------------|
| 1760          | DECRENE EAST           |                      |
| 1646          | DECRENE NORTH          |                      |
| 1375          | FAWCETT RIVER          |                      |
| 1389          | FAWCETT RIVER E        |                      |
| 1620          | FAWCETT RIVER W        | Suspended 2002-03-01 |
| 1753          | FAWCETT RVR N.         |                      |
| 2290          | GODS LAKE              |                      |
| 1528          | HOOLE                  |                      |
| 1091          | MARTEN HILLS           |                      |
| 1672          | MARTEN HILLS N.        |                      |
| 1097          | MARTEN HILLS S.        |                      |
| 1785          | MUSKWA RIVER           |                      |
| 1814          | ORLOFF LAKE            |                      |
| 1400          | ROCK ISLAND LK         |                      |
| 1654          | ROCK ISLAND LK S.      | Suspended 2002-03-01 |
| 1820          | ROCK ISLAND S2         |                      |
| 1521          | SMITH                  |                      |
| 1637          | SMITH WEST             |                      |
| 1487          | SPURFIELD              |                      |
| 1801          | VANDERSTEENE LK        |                      |
| 1724          | WABASCA                |                      |
| 1723          | WEAVER LAKE            |                      |
| 1780          | WEAVER LAKE S.         |                      |
| 1652          | WILLOW RIVER           |                      |
| 1759          | WILLOW RIVER N         |                      |
| 1789          | AGNES LAKE             | Suspended 2001-09-01 |
| 5026          | ALGAR LAKE             |                      |
| 5081          | ALGAR LAKE SOUTH       | Suspended 1997-04-01 |
| 1648          | BLANCHET LAKE N.       | Suspended 1999-11-17 |
| 5012          | BOIVIN CREEK           |                      |
| 1708          | CHELSEA CREEK          |                      |
| 5023          | CHIPEWYAN RIVER        | Suspended 2001-09-01 |
| 5022          | DUNKIRK RIVER          |                      |
| 5005          | GRANOR                 |                      |
| 5025          | GREW LAKE              |                      |
| 5028          | GREW LK EAST           |                      |
| 5003          | LIEGE                  |                      |
| 5083          | LIEGE NORTH            |                      |
| 5021          | MACKAY RIVER           |                      |
| 1741          | RABBIT LAKE            |                      |
| 2715          | ROD LAKE               |                      |

|      |                    |                      |
|------|--------------------|----------------------|
| 5004 | SALESKI            |                      |
| 5027 | THICKWOOD HILLS    |                      |
| 1787 | WHISTWOW           |                      |
| 1297 | ATMORE             |                      |
| 1488 | ATMORE C           |                      |
| 1511 | BLUE JAY           |                      |
| 1373 | CALLING LAKE       |                      |
| 1522 | CALLING LAKE E.    |                      |
| 1443 | CALLING LAKE W.    |                      |
| 1676 | CALLING LK N.      |                      |
| 1387 | CALLING LK S.      |                      |
| 1697 | CORRIGALL LAKE     |                      |
| 1302 | FLAT LAKE NORTH    |                      |
| 1823 | MOOSE PORTAGE      |                      |
| 1819 | ORLOFF LAKE SOUTH  | Suspended 2002-08-01 |
| 1710 | PLEASANT WEST      |                      |
| 1304 | PROSPERITY         |                      |
| 1306 | RICHMOND           | Suspended 2002-12-01 |
| 1398 | BAPTISE            |                      |
| 1339 | BAPTISE SOUTH      |                      |
| 1407 | ISLAND LAKE        |                      |
| 1700 | ISLAND LAKE #2     |                      |
| 1370 | SEPTEMBER LAKE N.  |                      |
| 1225 | BIG BEND EAST      |                      |
| 1324 | LAWRENCE LAKE      |                      |
| 1434 | CHISHOLM MILLS     |                      |
| 1738 | DANCING LAKE       |                      |
| 1695 | LAWRENCE LAKE N    |                      |
| 1362 | MEYER A            |                      |
| 1363 | MEYER B            |                      |
| 1706 | ROURKE CRK EAST    |                      |
| 1412 | TIELAND            |                      |
| 1515 | ROURKE CREEK       | Suspended 2002-04-01 |
| 1590 | BOHN LAKE          |                      |
| 1485 | CHARD              | Suspended 2003-04-01 |
| 1666 | CHEECHAM           |                      |
| 1712 | CHRISTINA LAKE     |                      |
| 1667 | COTTONWOOD CRK     |                      |
| 1482 | GRAHAM             |                      |
| 1627 | KETTLE RIVER       |                      |
| 1668 | KETTLE RIVER NORTH | Suspended 2002-02-01 |
| 1682 | KINOSIS            |                      |

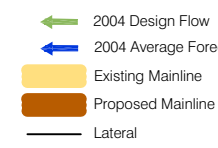
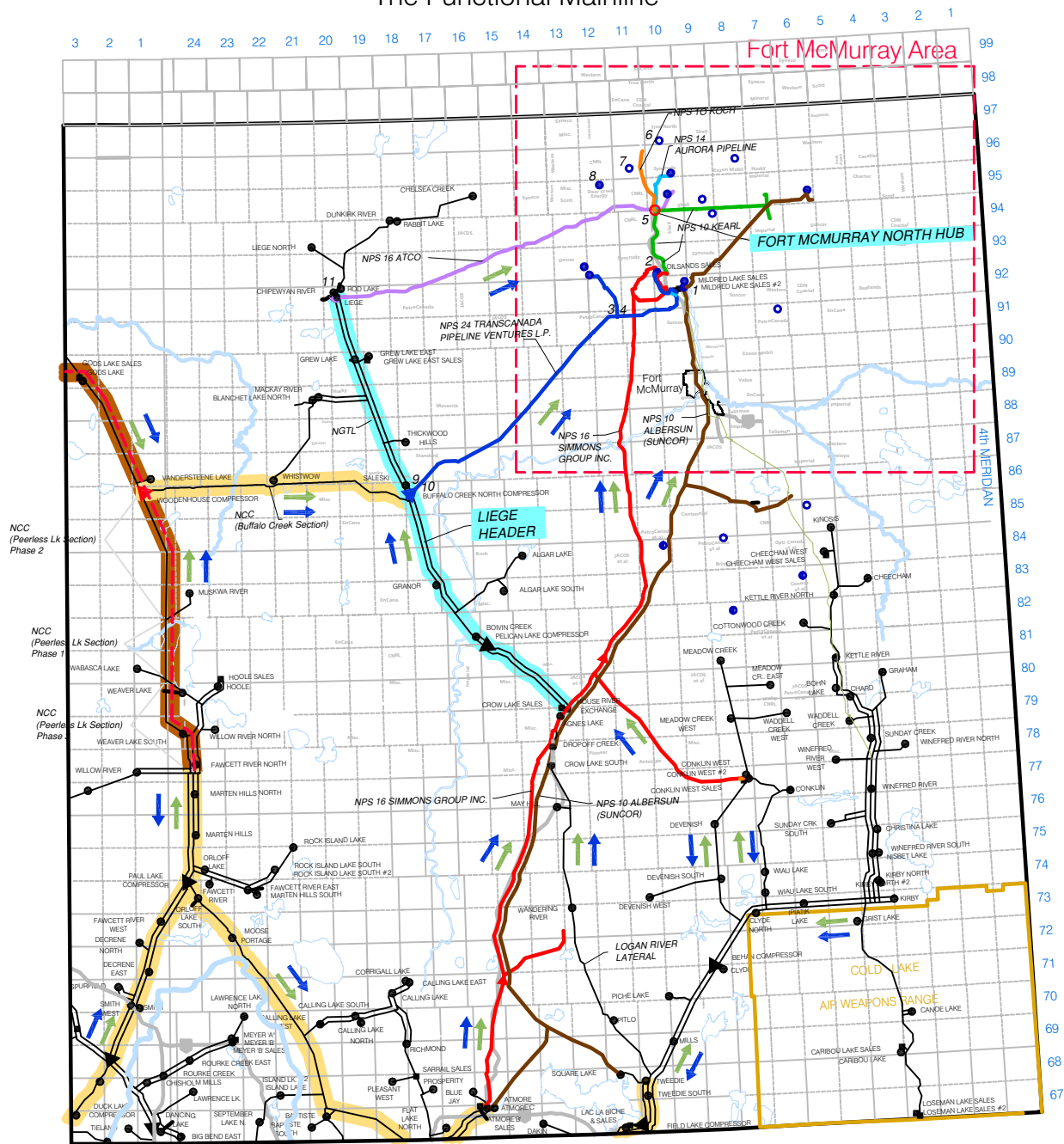
1446 KIRBY  
1449 KIRBY NORTH  
1727 KIRBY NORTH #2  
1776 NISBET LAKE  
1674 SUNDAY CREEK  
1696 SUNDAY CREEK S.  
1669 WADDELL CREEK  
1577 WINEFRED RIVER  
1628 WINEFRED RVR N.  
1671 WINEFRED RVR S.  
1670 WINEFRED RVR W.  
1784 CHEECHAM WEST  
1501 DAKIN  
1343 TWEEDIE  
1256 TWEEDIE SOUTH  
1805 CANOE LAKE  
1692 CARIBOU LAKE  
1454 CLYDE  
1803 CLYDE NORTH  
1624 CONKLIN  
1634 CONKLIN WEST  
1711 CONKLIN WEST #2  
1773 CROW LAKE SOUTH  
1734 DEVENISH SOUTH  
1733 DEVENISH WEST  
1689 DROPOFF CREEK  
1647 GRIST LAKE  
1685 IPIATIK LAKE  
1721 LAC LA BICHE  
1633 MAY HILL  
1704 MEADOW CREEK  
1707 MEADOW CREEK E.  
1705 MEADOW CRK WEST  
1524 MILLS  
1714 PICHE LAKE  
1797 PITLO  
1581 SQUARE LAKE  
1736 WADDELL CREEK W  
1822 WANDERING RIVER  
1684 WIAU LAKE  
1777 WIAU LAKE SOUTH  
1732 DEVENISH

Retired & Removed in 2001

Suspended 1999-10-17

Retired & Removed in 2001

# NORTH EAST ALBERTA OILSANDS REGION The Functional Mainline

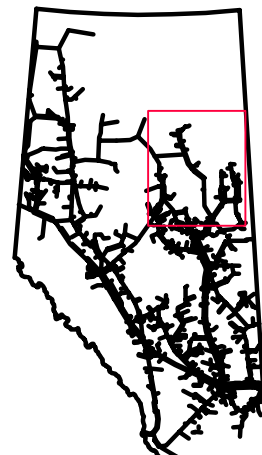


- Contract Reference Number**
- 1) Suncor
  - 2) Syncrude Base Plant
  - 3) Petro Canada
  - 4) TC Energy
  - 5) Syncrude Aurora
  - 9) Ventures Mildred Lake
  - 10) Ventures Mildred Lake No.2
  - 11) ATCO
- Refer to Table 8.4-1 and 8.4-2

- Non Binding Requests Reference Number**
- 6) KOCH/UTS
  - 7) CNRL
  - 8) Deer Creek
- Refer to Table 8.4-3

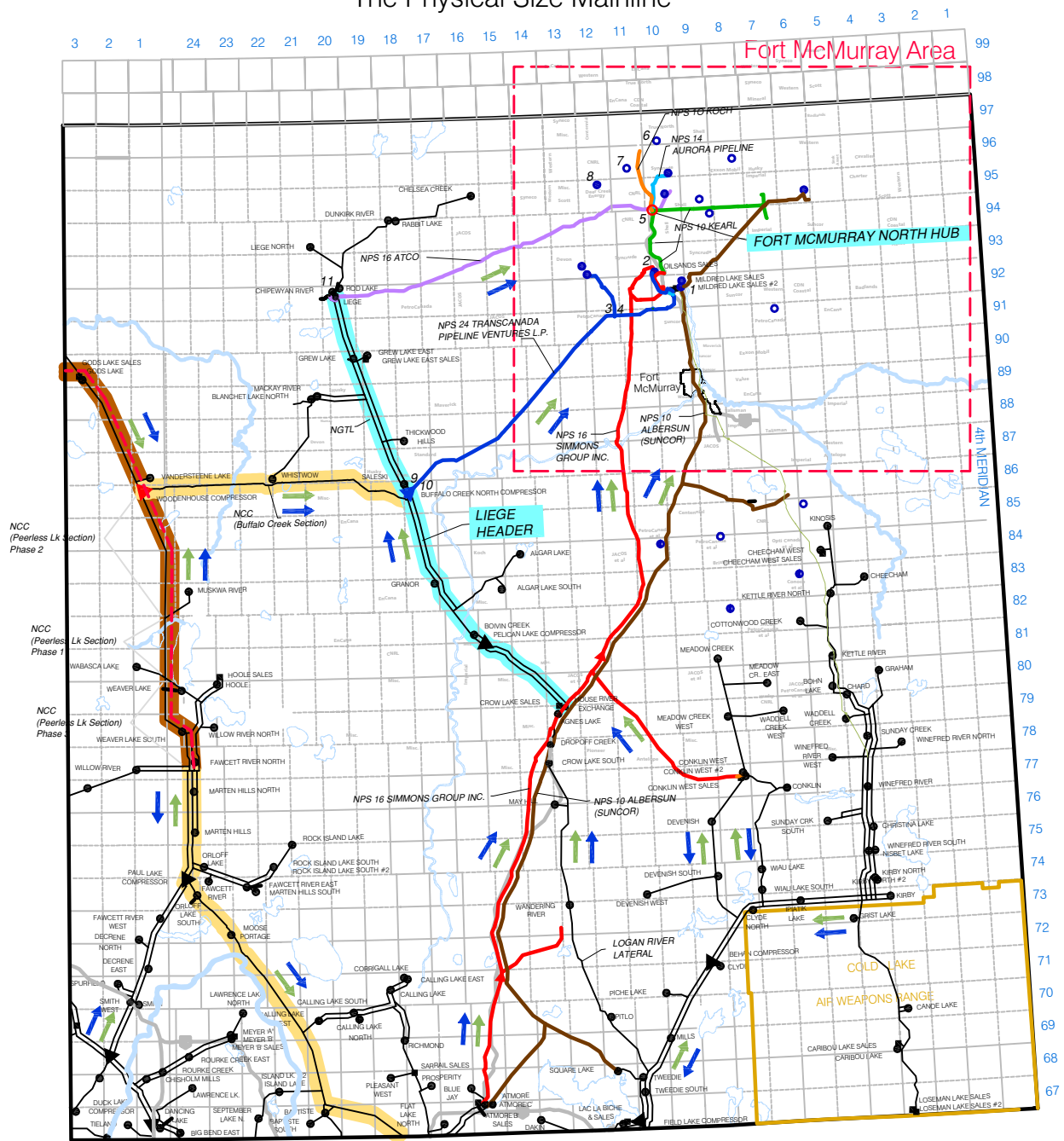
- Pipeline Operators**
- ATCO PIPELINES
  - SUNCOR ENERGY INC. (ALBERSUN PIPELINE)
  - SIMMONS GROUP INC.
  - TRANSCANADA PIPELINE VENTURES L.P.
  - KEARL LAKE STEEP BANK
  - SYNCRUDE
  - KOCH
  - EXISTING OILSANDS PLANT
  - PROPOSED OILSANDS PLANT

- NGTL Facilities**
- PIPELINE
  - PROPOSED PIPELINE
  - RECEIPT STATION
  - COMPRESSOR
  - SALES STATION
  - PROPOSED COMPRESSOR



# NORTH EAST ALBERTA OILSANDS REGION

## The Physical Size Mainline



- ← 2004 Design Flow
- ← 2004 Average Forecast Flow
- Existing Mainline
- Proposed Mainline
- Lateral

- Contract Reference Number**
- 1) Suncor
  - 2) Syncrude Base Plant
  - 3) Petro Canada
  - 4) TC Energy
  - 5) Syncrude Aurora
  - 9) Ventures Mildred Lake
  - 10) Ventures Mildred Lake No.2
  - 11) ATCO
- Refer to Table 8.4-1 and 8.4-2

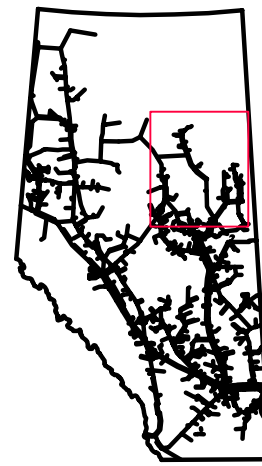
- Non Binding Requests Reference Number**
- 6) KOCH/UTS
  - 7) CNRL
  - 8) Deer Creek
- Refer to Table 8.4-3

**Pipeline Operators**

- ATCO PIPELINES
- SUNCOR ENERGY INC. (ALBERSUN PIPELINE)
- SIMMONS GROUP INC.
- TRANSCANADA PIPELINE VENTURES L.P.
- KEARL LAKE STEEP BANK
- SYNCRUDE
- KOCH
- EXISTING OILSANDS PLANT
- PROPOSED OILSANDS PLANT

**NGTL Facilities**

- PIPELINE
- PROPOSED PIPELINE
- RECEIPT STATION
- ▲ COMPRESSOR
- SALES STATION
- ▲ PROPOSED COMPRESSOR



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ATCO-NGTL-042

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.2, Page 9 of 10, Lines 3 to 9

**Preamble:**

ATCO Pipelines requires clarification of Answer 10.

**Request:**

Please fully explain why Q. 10 was answered with “No” when the costs of the North Corridor Phase I are included in Section 3.4 of Capital Expenditures.

**Response:**

The North Central Corridor (Peerless Lake Section) Phase 1 is a new facility required onstream April 1, 2004. NGTL applied separately on October 8, 2003 to the Alberta Energy and Utilities Board (Board) for a permit to authorize the construction of the North Central Corridor (Peerless Lake Section) Phase 1 during the winter of 2003/04. The Board approved the permit application on October 15, 2003. The cost for the North Central Corridor (Peerless Lake Section) Phase 1 has been included in the 2004 rate base, as presented in Sub-section 3.4, Capital Expenditures.



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ATCO-NGTL-043

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.2, Page 8 of 10, Lines 8-12

**Preamble:**

ATCO Pipelines requires additional information on existing and proposed NGTL facility capacities.

**Request:**

- (a) What is NGTL's existing transmission system capacity to transport gas volumes to Buffalo Creek?
- (b) How much incremental capacity to Buffalo Creek does the North Central Corridor Phase 1 add?

**Response:**

- (a) As stated in the Application – Sub-Section 8.3 Page 3 of 4, Lines 12 to 13: NGTL would have the ability to transport approximately  $13.260 \times 10^6 \text{ m}^3/\text{d}$  (471 MMcf/d) of gas onto the Liege Header as of April 1, 2004. The stated capacity is without the proposed facilities and arrangements.
- (b) As stated in the Application – Sub-Section 8.5 Page 2 of 5, Lines 5 to 6: The Peerless Lake Section is an 18 km loop that will provide an incremental capability onto the Liege Header of approximately  $1.160 \times 10^6 \text{ m}^3/\text{d}$  (41MMcf/d).

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ATCO-NGTL-044

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.3, Page 3 of 4, Lines 4 -13

**Preamble:**

ATCO Pipelines requires additional information on existing and proposed NGTL facility capacities.

**Request:**

- (a) Please identify the hydraulic capacity of each pipeline (24", 12" and 16") that flows gas onto the Liege Header.
- (b) Please confirm that the only proposed facilities which increase NGTL's 471 MMcf/day transportation capacity are the southern portion of the Simmons line (to House River) and the North Central Corridor Phase 1.

**Response:**

- (a) The winter 2004/05 capacity of the NPS 24 North Central Corridor (Buffalo Creek Section) is  $6.930 \times 10^6 \text{ m}^3/\text{d}$  (246 MMcf/d), the NPS 12 Logan River Lateral is  $2.113 \times 10^6 \text{ m}^3/\text{d}$  (75 MMcf/d), and the NPS 16 Simmons Pipeline is  $5.860 \times 10^6 \text{ m}^3/\text{d}$  (208 MMcf/d).
- (b) Confirmed.

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ATCO-NGTL-045

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.3, Page 2 of 4, Lines 3-9

**Preamble:**

ATCO Pipelines requires clarification of NGTL terminology.

**Request:**

- (a) Why does NGTL break out the infrastructure into the categories of onto and off of the Liege Header? Are both sets of infrastructure required to accomplish a common goal, that is, the transportation of gas volumes into the Fort McMurray area?
- (b) Has NGTL used the “Header” concept or terminology elsewhere on the NGTL system to characterize infrastructure? If so, please identify where this concept was used.

**Response:**

- (a) NGTL explained in the Application – Sub-Section 8.3, Page 2 of 4, Line 1 to 26 why it has used these categories. Both sets of infrastructure are required to provide firm transportation capacity for both receipt and delivery service.
- (b) No, NGTL has used this concept to simplify the discussion of the pipeline system in the Fort McMurray area.

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**ATCO-NGTL-046**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.2, Page 4 of 10, Lines 22-24

**Preamble:**

ATCO Pipelines requires additional information on Fort McMurray area demand requirements.

**Request:**

- (a) Is the contract demand of 910 MMcf/d by November 2004 supported by signed contracts? Please identify the customers and respective contract volumes.
- (b) Please explain further the terms “contract demand” and “forecast maximum day delivery” including their differences.
- (c) Please provide the contract demands and actual peak day for the Fort McMurray area for each of the years 1998 to 2003.

**Response:**

- (a) Yes. Please refer to Section 8, Sub-section 8.4, Page 2 of 9, Table 8.4-1 of the GRA. Reference the column “Nov 04/05”.
- (b) “Contract demand” refers to the Facilities Connection Service (FCS) contracts as described in NGTL’s Gas Transportation Tariff. Contract demand is equivalent to contract volume, which is described in the Application Sub-section 8.4, Page 7 of 9, Lines 11-16.  
  
“Forecast maximum day delivery” is described in the Application at Sub-section 8.4, Page 8 of 9, Lines 1-7.

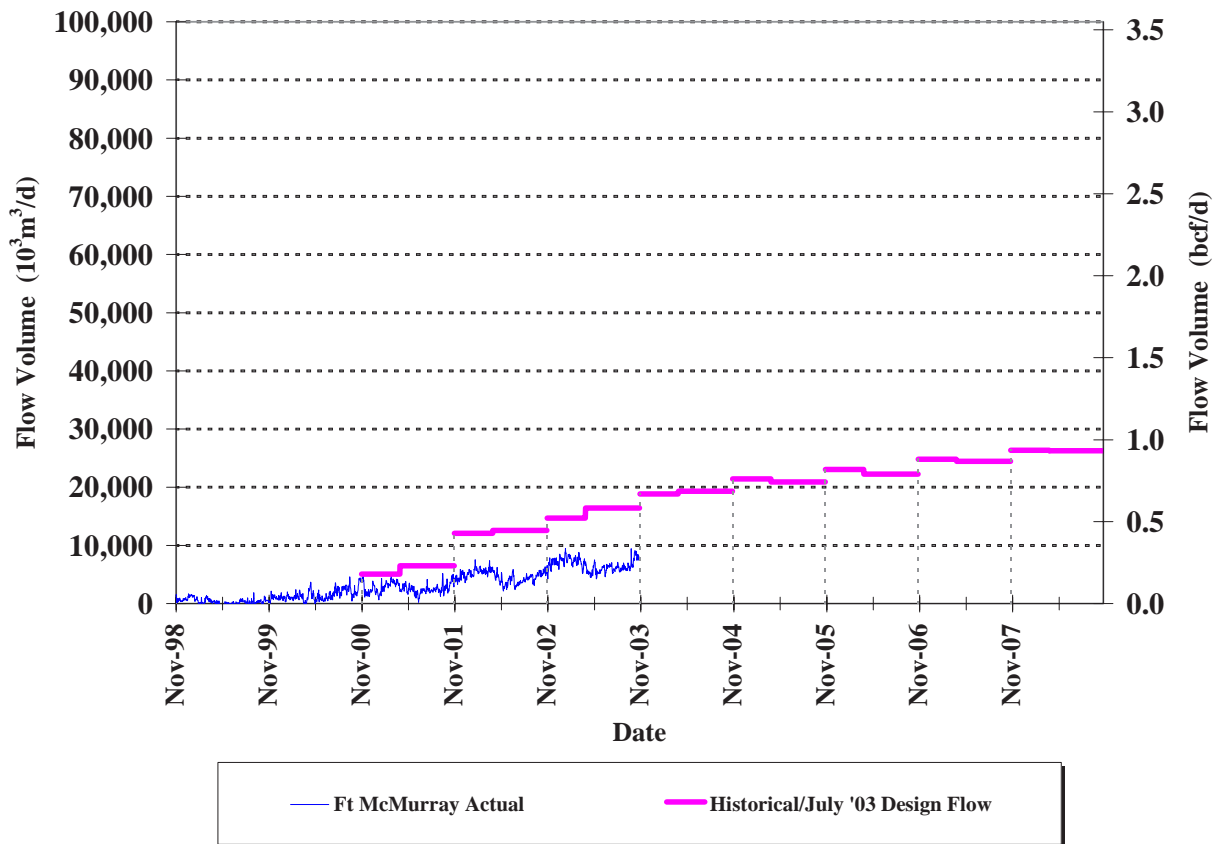
**ATCO-NGTL-046**

(c) As described in NGTL’s December 2002 Annual Plan, Chapter 2, Table 2.6.2, maximum day delivery to Fort McMurray area serves as the basis for the design in this area.

Please find below a graph showing historical NGTL deliveries and the 2003 forecast of winter and summer maximum day delivery to the Fort McMurray area as presented in the upcoming Annual Plan filing this month.

Historical delivery flows are shown for the 1998/99 Gas Year through the 2002/03 Gas Year.

Forecast maximum day delivery volumes are shown for the 2003/04 Gas Year through to the 2007/08 Gas Year.



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ATCO-NGTL-047

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.2, Page 5 of 10, Lines 7-11

**Preamble:**

ATCO Pipelines requires additional information on NGTL's proposed Fort McMurray North Hub.

**Request:**

- (a) Does NGTL have any facilities connected to the proposed North Hub? If so, please provide details of these facilities.
- (b) Why is NGTL creating the North Hub at this location?
- (c) Please confirm that this is the proceeding in which the issues relating to the Ventures Buffalo Creek North Compressor Station will be addressed. We reference the Board letter (November 22, 2002), ATCO Pipelines letter (October 11, 2002) and TransCanada Pipeline Ventures Limited Partnership (October 22, 2002) correspondence in this regard.
- (d) Please confirm that this is the proceeding in which the issues relating to the Ventures Oilsands Pipeline Extension will be addressed. We reference the Board letter (July 16, 2003 from L. Lacasse), ATCO Pipelines letter (April 25, 2003) and TransCanada Pipeline Ventures Limited Partnership (May 9, 2003).
- (e) Please confirm that NGTL will ensure that TransCanada Pipeline Ventures Limited Partnership will provide a witness at this proceeding regarding the above two projects.

ATCO-NGTL-047

REVISED February 2, 2004

**Response:**

- (a) Currently NGTL has no facilities connected to the Fort McMurray North Hub.
- (b) NGTL through discussions with numerous industry stakeholders including oil sands developers, CAPP, IGCAA and NGTL shippers determined the appropriate location to serve the future growth in the oil sands industry was at a location referred to as the North Hub. In addition, there are existing pipelines terminating at the hub location and NGTL received a number of non-binding requests for delivery service at the North Hub. Finally, NGTL has executed a firm contract in excess of 100 MMcf/d for delivery service at the North Hub.

(c) Not confirmed. The Board will decide the scope of this proceeding. The Board determined the scope of this proceeding in relation to these issues in its January 30, 2004 letter (Exhibit No. 002-15). Specifically, the Board stated:

. . . matters between Ventures and third parties will not be part of the scope of this proceeding. To the extent that there are arrangements between any party and NGTL relating to the Ventures Buffalo Creek North Compressor Station and the Ventures Oilsands Pipeline Extension, this will form part of the scope of the proceeding . . .

Accordingly, NGTL confirms that the scope of this proceeding includes the consideration of any arrangements between NGTL and other parties that relate to Ventures' Buffalo Creek Compressor Station and Ventures' Oil Sands Pipeline Extension.

- (d) Please refer to the response to ATCO-NGTL-047(c).
- (e) Not confirmed.

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**ATCO-NGTL-048**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.4, Table 8.4-1

**Preamble:**

Table 8.4-1 refers to contracted volumes serving the developer Syncrude. ATCO Pipelines wishes to understand the contracts underpinning the proposed Ventures TBO Arrangement.

**Request:**

- (a) In recent applications by Ventures for the Buffalo Compressor Station and a pipeline extension, these facilities were identified as being fully underpinned by long-term service agreements between Ventures and Syncrude. Is any of the contract volume identified on Table 8.4-1 with respect to Syncrude the same contract volume that was used to underpin the Ventures' Applications? To the extent information from Ventures or Syncrude is required to answer this IR, please obtain such information from your affiliate or proposed shipper.
- (b) If the answer to (a) above is yes, please describe the volumes that were contracted to Ventures and are now to be contracted to NGTL. Please also indicate how Syncrude was able to extricate itself from its long-term commitments to Ventures. To the extent information from Ventures or Syncrude is required to answer this IR, please obtain such information from your affiliate or proposed shipper.
- (c) If the answer to (a) above is no, please confirm that the referenced Syncrude volumes are incremental to those that underpinned the Ventures' Applications. To the extent information from Ventures or Syncrude is required to answer this IR, please obtain such information from your affiliate or proposed shipper.



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**ATCO-NGTL-048**

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**Response:**

(a) to (c)

NGTL is not aware of the contractual arrangements between Ventures and Syncrude. Ventures and Syncrude have advised NGTL that these arrangements are confidential and will not provide NGTL with the information in response to this request.

NGTL has binding contracts with its customers that have requested service. These customers have satisfied NGTL's Tariff requirements and NGTL is prepared to provide them service under the NGTL Tariff.

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**ATCO-NGTL-049**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.4, Page 6 of 9, Figure 8.4-2

**Preamble:**

ATCO Pipelines requires additional information on NGTL's forecasted Fort McMurray demand requirements and associated facilities.

**Request:**

Does NGTL consider an FCS contract volume to be a firm delivery requirement?

**Response:**

Yes, holders of FCS contracts are entitled to firm service.

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**ATCO-NGTL-050(a)**


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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.5, Page 1 of 5, Figure 8.5-1

**Preamble:**

ATCO Pipelines requires additional information on the proposed facilities to provide delivery service to the Fort McMurray area.

**Request:**

For the proposed facilities in 2004-2008, please summarize the incremental transmission capacity each facility adds for delivery service to the Fort McMurray area.

**Response:**

The incremental transmission capacity added by the proposed facilities in 2004 to 2008 is shown in the tables below.

**Incremental Capacity for Facilities on to the Liege Header**

| <b>Proposed Facility or Arrangements</b>   | <b>Date<br/>Nov 1</b> | <b>Incremental<br/>Capacity<br/>10<sup>6</sup>m<sup>3</sup>/d</b> | <b>Incremental<br/>Capacity<br/>MMcf/d</b> |
|--|-----------------------|---|--|
| Simmons Acquisition<br>NCC (Peerless Section) Phase 1<br>North Lateral Compression | 2004                  | 9.08  | 322  |
| NCC (Peerless Section) Phase 2 & 3<br>North Lateral Compression Yard Modifications | 2005                  | 1.63  | 58   |
| Woodenhouse C/S Unit #1<br>North Lateral Compression Yard Modifications            | 2006                  | 1.49  | 53   |
| North Lateral Compression Yard Modifications                                       | 2007                  | 1.72  | 61   |
| North Lateral Compression Yard Modifications                                       | 2008                  | 3.86  | 137  |

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**ATCO-NGTL-050(a)**


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**Incremental Capacity for Facilities off of the Liege Header**

| <b>Proposed Facility or Arrangements</b>                    | <b>Date<br/>Nov 1</b> | <b>Incremental<br/>Capacity<br/>10<sup>6</sup>m<sup>3</sup>/d</b> | <b>Incremental<br/>Capacity<br/>MMcf/d</b> |
|---|-----------------------|---|--|
| Simmons Acquisition<br>Ventures TBO                         | 2004                  | 15.30   | 543  |
| Ventures TBO  | 2005                  | 1.69  | 60   |
| Ventures TBO  | 2006                  | 1.58  | 56   |
| Ventures TBO<br>Ventures Buffalo C/S Unit #2                | 2007                  | 0.82  | 29   |
| Ventures TBO<br>Ventures Oil Sands Pipeline Loop Section #1 | 2008                  | 1.97  | 70   |

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ATCO-NGTL-050(b)

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.5, Page 1 of 5, Figure 8.5-1

**Preamble:**

ATCO Pipelines requires additional information on the proposed facilities to provide delivery service to the Fort McMurray area.

**Request:**

The Oil Sands Pipeline Loop Section #1 and the Buffalo C/S Unit #2, appear to form part of the Ventures transmission system. Are these two facilities proposed to be NGTL assets? Please explain.

**Response:**

The Oil Sands Pipeline Loop Section #1 and the Buffalo C/S Unit #2 are a forecast of the next capacity expansion facilities on Ventures. NGTL is uncertain if the two facilities will be NGTL or Ventures assets. Under the terms of the Ventures TBO Agreement Ventures would, if requested by NGTL, construct the facilities and increase the Annual TBO Fee by an amount equivalent to the cost of service that would otherwise apply had NGTL constructed the facilities. Please refer to paragraph 7, page 7 of the Ventures TBO Agreement which was included in Appendix E of Section 8.0 of the Application. Alternatively, NGTL may seek to acquire Ventures' assets prior to the construction of these facilities in which case the two facilities would be NGTL facilities.

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ATCO-NGTL-051

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.4, Page 4 of 9

**Preamble:**

NGTL states that appropriate customer accountability exists for the incremental service NGTL is proposing in the Fort McMurray area.

**Request:**

- (a) Is it NGTL's view that the customer accountability described in the reference is appropriate for current and future service to the Fort McMurray area?
- (b) Is NGTL proposing that the changes to accountability approved by the Board in Decision 2003-51 are sufficient for the long term?
- (c) If the response to (b) above is yes, please explain why.
- (d) If the response to (b) above is no, please explain what accountability NGTL views as sufficient for the long term, and what process and timing NGTL proposes to ensure the customer accountability noted in this Application will be adjusted to reflect the long-term accountability.

**Response:**

- (a) Yes.
- (b) to (d)

NGTL believes its existing rate design is appropriate at this time as described in NGTL's Phase 2 2004 GRA.

**ATCO-NGTL-052**

**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Table 8.4-1, Page 7 of 9

**Preamble:**

ATCO Pipelines wishes to understand the infrastructure requirements to meet demand in the Fort McMurray area.

**Request:**

For each contracted developer on Table 8.4-1 on page 7 of 9, please identify the precise location of associated NGTL facilities, the maximum and normal operating pressure of the proposed meter stations and the size and length of pipelines to tie-in the meter stations.

**Response:**

Please refer the Map Reference Numbers to the map provided in the response to BR-NGTL-027(d).

**NGTL Contracts off of Liege Header**

| Developer          | Map Reference Number | Location   | Associated NGTL Facilities | MAOP M/S (kPa) | Connecting Pipeline |
|--------------------|----------------------|------------|----------------------------|----------------|---------------------|
| Syncrude           | 5                    | North Hub  | To be determined           | N/A            | To be determined    |
| Syncrude           | 2                    | Along Path | Oil Sands M/S              | 9930           | Ventures/Simmons    |
| Syncrude           | 2                    | Along Path | Oil Sands M/S              | 9930           | Ventures/Simmons    |
| Suncor             | 1                    | Along Path | Mildred Lake M/S           | 9930           | Ventures            |
| Petro-Canada       | 3                    | Along Path | N/A                        | 9930           | Ventures            |
| TransCanada Energy | 4                    | Along Path | N/A                        | 9930           | Ventures            |

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**ATCO-NGTL-052**

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NGTL Non-binding Requests off of Liege Header

| Developer         | Map Reference Number | Location   | Associated NGTL Facilities | MAOP M/S (kPa) | Connecting Pipeline |
|-------------------|----------------------|------------|----------------------------|----------------|---------------------|
| Koch/UTS          | 6                    | North Hub  | To be determined           | N/A            | To be determined    |
| CNRL              | 7                    | North Hub  | To be determined           | N/A            | To be determined    |
| Deer Creek Energy | 8                    | North Hub  | To be determined           | N/A            | To be determined    |
| Suncor            | 1                    | Along Path | Mildred Lake M/S           | 9930           | Ventures            |



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**ATCO-NGTL-053**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.4 – Fort McMurray Forecast Maximum Day Delivery

**Preamble:**

In Subsection 8.4, Page 7 of 9, Lines 2-4, NGTL indicates it has contracts totaling [sic]  $19.649 \times 10^6 \text{m}^3/\text{d}$  (697 MMcf/d) and non-binding requests totaling [sic]  $10.875 \times 10^6 \text{m}^3/\text{d}$  (386 MMcf/d) for its markets in the Fort McMurray area.

In Figures 8.4-1 and 8.4-2, NGTL presents its Forecast Maximum Day Delivery Onto and Off Of The Liege Header.

**Request:**

- (a) For each Developer and associated Contract Volume shown on Table 8.4-1 on Page 7 of 9, please provide the following:
- (i) confirmation that the service is firm. If the service is not firm, identify the type of service and Contract Volumes associated with each type of service;
  - (ii) actions taken by NGTL to independently verify the Contract Volume requirement;
  - (iii) the term for each contract associated with the Contract Volume;
  - (iv) (the delivery point for each volume associated with the Contract Volume;
  - (v) for those projects that commence service prior to April 1, 2001, the average daily flow on a monthly basis for 2002 and 2003;
  - (vi) for those projects commencing service April 1, 2004, the forecast average daily flow;
  - (vii) all decontracting and termination rights, whether held by NGTL or the shipper;
  - (viii) confirmation that the category of "non-binding requests" totaling [sic]  $10.875 \times 10^6 \text{m}^3/\text{d}$  (386 MMcf/d) does not contractually commit the developers to NGTL service but is more in the nature of an expression of interest;
  - (ix) the customer contribution dollars, delivery pressure and any other unique delivery service requirements (e.g. plant upset volume requirements) for each contract and

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**ATCO-NGTL-053**


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- (x) whether any of these volumes underpinned the original Ventures Oil Sands Pipeline.
- (b) Is “Contract Volume” the same as “Contract Demand”? If not, please explain.
- (c) For Figures 8.4-1 and 8.4-2, please confirm that the Forecast Maximum Day Delivery curve is not based on contracted volumes but on a combination of contracted volumes and non-binding requests for service.
- (d) On Page 8 of 9, Lines 22-26, NGTL notes that as of April 1, 2004 existing contracts are 501 MMcf/d and forecast maximum day delivery is 416 MMcf/d, or some 83% of contract volumes. As of November 1, 2004, existing contracts are 551 MMcf/d and forecast maximum day delivery is 543 MMcf/d, or some 99% of contract volumes. Please explain why the forecast maximum day delivery is almost equal to existing contract volumes as of November 1, 2004 while it is significantly less than existing contract volumes as of April 1, 2004.

**Response:**

- (a)
- (i) Please refer to the response to ATCO-NGTL-049.
- (ii) In addition to obtaining the gas demand for each customer from the Facility Connection Service (FCS) agreements, NGTL develops a forecast of the maximum day delivery to the area as identified in section 2.9.4.2 and section 3.4.3 of the Annual Plan.
- (iii) The table below is a revised version of Table 8.4.1 that indicates the term associated with each contract.
- (iv) The table below is a revised version of Table 8.4.1 that indicates the Delivery Point for each FCS contract.

**NGTL Contracts and Requests for Service off of the Liege Header**

| Developer               | Map Reference Number* | Date Request Received | Contract Volume (10 <sup>6</sup> m <sup>3</sup> /d) | Contract Volume MMcf/d | Delivery Point     | Requested On-Stream Date | Term Years |
|-------------------------|-----------------------|-----------------------|---|------------------------|--------------------|--------------------------|------------|
| Syncrude                | 5                     | 24-Apr-02             | 3.100   | 110                    | Aurora Sales       | 01-Apr-04                | 10         |
| Syncrude                | 2                     | 24-Apr-02             | 4.000   | 142                    | Oil Sands Sales    | 01-Apr-04                | 10         |
| Syncrude                | 2                     | 10-Jan-01             | 7.000   | 248                    | Oil Sands Sales    | 01-Mar-02                | 10         |
| Suncor                  | 1                     | 10-Jan-01             | 3.700   | 131                    | Mildred Lake       | 01-Oct-02                | 10         |
| Petro-Canada            | 3                     | 20-Dec-00             | 0.905   | 32                     | Ruth Lake Sales #1 | 01-Apr-02                | *          |
| TransCanada Energy      | 4                     | 09-Mar-01             | 0.944   | 34                     | Ruth Lake Sales #3 | 01-Sept-03               | 20         |
| <b>Total Contracted</b> |                       |                       | <b>19.649</b>                                       | <b>697</b>             |                    |                          |            |

\* Conditional on NGTL acquiring the Ruth Lake Sales Meter Station or the use of the Ruth Lake Sales Meter Station

**ATCO-NGTL-053**

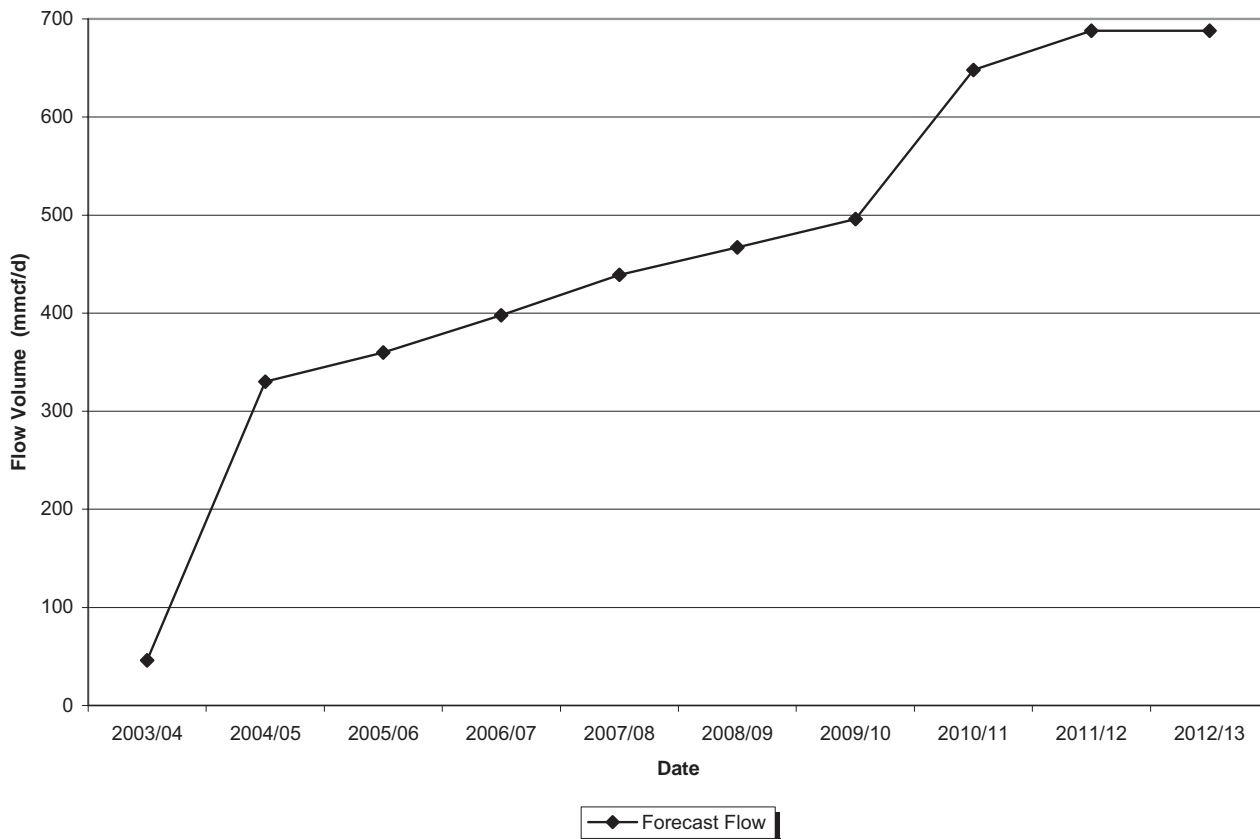
- (v) It's NGTL's practice not to release flow data on a project specific basis. However, on an aggregate level, please find below a table which contains average daily delivery flow on a monthly basis for 2002 and 2003.

**Average Daily Delivery Flow – MMcf/d**

|      | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|
| 2002 | 147 | 161 | 166 | 143 | 107 | 121  | 110  | 138 | 142  | 156 | 175 | 202 |
| 2003 | 209 | 209 | 217 | 176 | 179 | 189  | 184  | 181 | 193  | 225 | 244 | N/A |

- (vi) Please find in the graph below the forecast average daily flow for projects off the Liege Header.

**NGTL Forecast average daily flow  
Off Of The Liege Header**



- (vii) Please refer to the response to BR-NGTL-026(c).
- (viii) Developers that are considering a multi-billion dollar project require comfort, well in advance of committing to spend their capital, that pipeline infrastructure to provide gas transportation will be available when and where the developer requires it. The non-binding requests, though not contractually

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**ATCO-NGTL-053**

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- committing the developers, is a step in formal communication that allows the development of a transportation solution that addresses the customers needs.
- (ix) Please refer to the response to ATCO-NGTL 53 (a) iii. The FCS contracts are standard tariff documents; please refer to the NGTL Tariff. The delivery pressures are equal to or less than the pressures specified in NGTL's TBO bid document that is contained in Section 8 Appendix A.
  - (x) Please refer to the response to ATCO-NGTL 48.
- (b) Confirmed.
- (c) Not confirmed. The Forecast Maximum Day Delivery off of the Liege Header was based only on contract volume until April 1, 2008. The non-binding request volume included in the off of the Liege Header forecast for April 1, 2008 was  $0.24 \times 10^6 \text{ m}^3/\text{d}$  (9 MMcf/d) and for November 1, 2008 was  $1.7 \times 10^6 \text{ m}^3/\text{d}$  (61 MMcf/d). The Forecast Maximum Day Delivery on to the Liege Header was based on a combination of contract and non-binding requests.
- (d) At the time the forecast was developed NGTL had specific contracts in place for November 2004, as well as an expectation how much of the contracted volume customers would actually flow. As indicated in Sub-section 8.4, page 9 of 9, NGTL anticipates that these contracts will be essentially fully utilized by November 2004.

The facilities, to enable NGTL to meet the November 2004 requirements, must be in place by April 2004 because winter construction is required. During the summer of 2004 NGTL expects certain projects to progress through commissioning of their projects requiring start up gas for short durations, increasing to their full forecast level by approximately November 2004. As a result the comparison of forecast to contract levels increases from April 2004 to November 2004.

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**ATCO-NGTL-054**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Table 8.4-1, Page 2 of 9 and Figure 8.4-1, Page 5 of 9

**Preamble:**

ATCO Pipelines wishes to understand NGTL's forecast demand.

**Request:**

For each of Suncor Firebag SAGD, Syncrude Base Plant, Syncrude Base Plant Increase and Syncrude Aurora (i.e. proposed North Hub), please provide the following:

- (a) The forecast maximum day delivery at April 2004 (in MMcf/d);
- (b) EAV volume commitments, forecast annual volumes and forecast EAV revenues by delivery point and in total for 2003 and 2004; and
- (c) MAV volume commitments, forecast annual volumes and forecast MAV revenues by delivery point and in total for 2003 and 2004.

**Response:**

- (a) The forecast maximum day deliveries for these projects for April 2004 are:

Suncor Firebag SAGD: 10 MMcf/d  
Syncrude Base Plant: 290 MMcf/d  
Syncrude Aurora: 50 MMcf/d

- (b) There are no EAV commitments or EAV revenue forecasted for 2003. In 2004, the aggregate EAV commitment is 62.1 Bcf for the mainline extension for these facilities. NGTL forecasted that the EAV would be delivered so there would be sufficient

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**ATCO-NGTL-054**

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revenue generated from FT-A, FT-P and FT-R services. Therefore no FCS revenue associated with the EAV was forecasted.

- (c) In 2003, the MAV is 3.2 Bcf and the forecasted annual volume is 65.5 Bcf. In 2004, the MAV is 10.0 Bcf and the forecasted annual volume is 109.2 Bcf. In both years, NGTL forecasted that the MAV would be delivered so there would be sufficient revenue generated from FT-A, FT-P and FT-R services. Therefore no FCS revenue associated with the MAV was forecasted.

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ATCO-NGTL-055(a)

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.5 – Fort McMurray Area Facility Build-Up

**Preamble:**

In Sub-section 8.5, Page 4 of 5, NGTL indicates that the acquisition of the Simmons pipeline system and the proposed new TBO arrangement with Ventures will provide capacity off of the Liege Header of up to  $20.090 \times 10^6 \text{m}^3/\text{d}$  (713 MMcf/d).

**Request:**

Please break out the incremental capacity of  $20.090 \times 10^6 \text{m}^3/\text{d}$  (713 MMcf/d) between that provided by the Simmons pipeline and that provided by the Ventures TBO arrangement.

**Response:**

The proposed acquisition of the Simmons pipeline will provide additional capacity off the Liege Header to NGTL of approximately  $5.07 \times 10^6 \text{m}^3/\text{d}$  (180 MMcf/d).

The proposed TBO arrangement with Ventures will provide total capacity off the Liege Header to NGTL of approximately  $15.02 \times 10^6 \text{m}^3/\text{d}$  (533 MMcf/d).

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ATCO-NGTL-055(b)

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.5 – Fort McMurray Area Facility Build-Up

**Preamble:**

In Sub-section 8.5, Page 4 of 5, NGTL indicates that the acquisition of the Simmons pipeline system and the proposed new TBO arrangement with Ventures will provide capacity off of the Liege Header of up to 20.090  $10^6\text{m}^3/\text{d}$  (713 MMcf/d).

**Request:**

Did NGTL explore alternatives to maintain pressure at the interconnect point with Ventures at 1200 psig in order to provide the maximum 533 MMcf/d of capacity? If so, please describe the alternatives in detail. If not, why not?

**Response:**

No. All of NGTL's alternatives were optimized by maintaining the minimum delivery pressure at the North Hub and the maximum operating pressure of the Alberta System at the discharge of the Woodenhouse Compressor station, because this provided the least cost solution for all of the alternatives.



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ATCO-NGTL-056

[REVISED February 2004](#)

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.5, Page 1 of 5

**Preamble:**

ATCO Pipelines requires information on FT-A revenues for the Fort McMurray area.

**Request:**

- (a) What is the aggregate FT-A revenue from serving the demand for delivery service in the Fort McMurray area for each of 2003 and 2004?
- (b) Please provide a breakdown of the FT-A revenue for each of 2003 and 2004 by delivery location showing both volumes and revenue.

**Response:**

- (a) and (b)

[As per the February 2004 Update](#), the [revised](#) tables below set out the FT-A and FT-P revenues and volumes and the indirect FT-R revenue for 2003 and 2004 for the Fort McMurray delivery location.

ATCO-NGTL-056

REVISED February 2004Estimated 2003 Revenue Generated From Fort McMurray Area

| Station Name | Avg. Day Volume (mmcf/d) | Total Revenue (\$'s Million) | FT-A Volume (mmcf/d) | FT-A Annual Revenue (\$'s Million) | FT-P Volume (mmcf/d) | FT-P Annual Revenue (\$'s Million) | Indirect FT-R Revenue (\$'s Million) |
|--------------|--------------------------|------------------------------|----------------------|------------------------------------|----------------------|------------------------------------|--------------------------------------|
| Total        | 255.2                    | 13.92                        | 205.2                | 0.30                               | 50.0                 | 0.59                               | 13.03                                |

Forecast 2004 Revenue Generated From Fort McMurray Area

| Station Name | Avg. Day Volume (mmcf/d) | Total Revenue (\$'s Million) | FT-A Volume (mmcf/d) | FT-A Annual Revenue (\$'s Million) | FT-P Volume (mmcf/d) | FT-P Annual Revenue (\$'s Million) | Indirect FT-R Revenue (\$'s Million) |
|--------------|--------------------------|------------------------------|----------------------|------------------------------------|----------------------|------------------------------------|--------------------------------------|
| Total        | 416.1                    | 31.2529.41                   | 346.1274.0           | 2.201.72                           | 70.0142.1            | 7.6010.40                          | 21.4417.29                           |

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ATCO-NGTL-057

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.7, Page 5 of 9, Lines 1-14

**Preamble:**

ATCO Pipelines wishes to understand the dealings between Simmons and NGTL.

**Request:**

For the period November 1, 2001 to October 31, 2003, did NGTL utilize any delivery capacity on the Simmons assets that are proposed to be acquired in this Application? If so, please provide the terms and volume of gas for this arrangement.

**Response:**

No.

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ATCO-NGTL-058

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Section 8.7, Page 5, Lines 10-14

**Preamble:**

ATCO Pipelines requires clarification of the phrase maximum day delivery demand.

**Request:**

Is the “maximum day delivery demand” the same as the “contract demand”? If not, please explain.

**Response:**

Please refer to the response to ATCO-NGTL-046(b).

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**ATCO-NGTL-059**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Table 8.7-3

**Preamble:**

ATCO Pipelines wishes to understand the capacity of the Simmons assets.

**Request:**

Please provide the first year volumes by receipt points that make up the  $498 \times 10^6 \text{m}^3$  estimate.

**Response:**

As indicated in note 1 of Table 8.7-3, the  $498 \times 10^6 \text{m}^3$  represents the April 1 to December 31 portion (275 days) of the estimated Simmons receipt volumes for 2004. The forecast is derived from a projected decline of current receipt volumes which are based on confidential data provided by Simmons which NGTL is not at liberty to disclose.

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**ATCO-NGTL-060**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Section 8.7, Pages 5-6

**Preamble:**

ATCO Pipelines requires additional information to understand the economics of purchase versus TBO for the Simmons asset.

**Request:**

- (a) What is the equivalent \$/mcf to transport gas from the House River Meter Station to Fort McMurray on Simmons based on the proposed purchase cost of \$22.7 million? Please identify the capital value NGTL associates with this northern portion of the Simmons line and the O&M value used in determining the \$/mcf. In addition, please identify the contract demand volume that will flow on this pipeline section.
- (b) Prior to November 1, 2003, what was NGTL's TBO rate with Simmons?

**Response:**

- (a) NGTL is an integrated system and cannot segregate costs or contract volumes to explicit portions of the pipeline system. In addition, the purchase price for the Simmons Pipeline was the value negotiated for the entire pipeline system and was not apportioned to any particular segment.
- (b) NGTL's previous TBO contract with Simmons expired on October 31, 2001. The rates and charges under that contract consisted of a commodity rate (\$4.08/10<sup>3</sup>m<sup>3</sup> for 2001) and a financial gas charge (usage rate of 0.1% multiplied by a gas reference price or 'RP'; 2001 average RP was \$5.898/GJ) and a minimum annual volume commitment to 822,710.0 10<sup>3</sup>m<sup>3</sup> per year. These rates and charges resulted in a unit cost of \$4.81 per 10<sup>3</sup>m<sup>3</sup> in 2001.

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**ATCO-NGTL-061**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.8, Page 1 of 4, Lines 12 to 16

**Preamble:**

ATCO Pipelines wishes to understand the dealings between Ventures and NGTL.

**Request:**

Please provide the CPVCOS calculations of the build option including assumptions and inputs, along with the comparison to the purchase price required by Ventures.

**Response:**

Please refer to the response to BR-NGTL-030(a) for information about the purchase price offered by Ventures for the Oil Sands pipeline.

Please refer to the response to BR-NGTL-032(d) for the CPVCOS calculations of the build options, including assumptions and inputs.

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**ATCO-NGTL-062**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.2, Page 9 of 10, Lines 1-12; Sub-Section 8.9, Page 1

**Preamble:**

ATCO Pipelines wishes to understand the status of arrangements for Kearl Lake capacity.

**Request:**

- (a) What is the status of arrangements for the use of Kearl Lake capacity?
- (b) When does NGTL expect to provide the Board with the details of these arrangements?
- (c) Does NGTL intend to update the 2004 Revenue Requirement for these arrangements?
- (d) Are additional facilities required to increase the capacity of the Kearl Lake Pipeline to 110 MMcf/d? If so, please identify these facilities.

**Response:**

- (a) Please refer to the response to BR-NGTL-031(a).
- (b) Should an arrangement be put in place, NGTL will seek Board approval, as necessary, for any new facilities or costs.
- (c) Please refer to the response to ATCO-NGTL-062(b).
- (d) No.



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**ATCO-NGTL-063**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Table 8.10-1 and 8.10-2

**Preamble:**

ATCO Pipelines requires clarification of alternatives.

**Request:**

- (a) Please explain why the Woodenhouse Compressor Station is not included in Case A.
- (b) Please explain why the Woodenhouse Compressor Station is included in Case C.
- (c) Please confirm that NGTL is requesting the Board approve \$18.76 million for the Woodenhouse Compressor Station in this Application.
- (d) Why is the Woodenhouse Compressor Station included in Case C given that NGTL is requesting Board approval of this expenditure?
- (e) Please provide the detailed calculations including assumptions and inputs of the CPVCOS for Cases A, B and C that result in the CPVCOS Relative to Case A amounts in Table 8.10-1 and Table 8.10-2.

**Response:**

- (a) The Woodenhouse Compressor Station was included in all the cases. In Case A and Case B Woodenhouse was not required for 2004 but was required in future years. In Case C Woodenhouse was required in 2004.
- (b) Please refer to the response to ATCO-NGTL-063(a).

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**ATCO-NGTL-063**

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- (c) The cost for the Woodenhouse Compressor Station has been included in the 2004 rate base, as presented in Sub-section 3.4, Capital Expenditures. NGTL will apply for approval to construct this facility in a separate application in early 2004.
- (d) Please refer to the response to ATCO-NGTL-063(a).
- (e) Please refer to the response to BR-NGTL-032(d).

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**ATCO-NGTL-064**

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**Issue:**

Fort McMurray Area Delivery Service

**Reference:**

Sub-Section 8.11 – Approval and Timing Issues

**Preamble:**

In Sub-Section 8.11, Page 1 of 2, NGTL requests a decision on the Simmons acquisition by March 1, 2004. NGTL also indicates that if the Simmons acquisition is delayed beyond March 1, 2004, NGTL will have to negotiate a short-term TBO with Simmons or alternatively its customers will have to contract directly with Simmons.

**Request:**

- (a) With the Hearing on NGTL's Application now commencing March 16, 2004, is NGTL maintaining its request for Board approval of the Simmons transaction by March 1, 2004?
- (b) Following issuance of the Board's Notice of Hearing making it clear a hearing would not be held prior to March 1, 2004, did NGTL initiate discussions with Simmons regarding an extension to existing TBO arrangements? If so, what was the outcome of such discussions? If not, why not?

**Response:**

- (a) NGTL acknowledges that it is unlikely that the Board will be able to accommodate NGTL's requested approval date of March 1, 2004. However NGTL and its customers will appreciate an expeditious handling of the Fort McMurray component of the NGTL Phase 1 GRA so that NGTL can provide its customers the applied for service as soon as possible.
- (b) No. NGTL's customers will need to make alternative interim service arrangements.

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**ATCO-NGTL-065**

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**Issue:**

Definition of Mainline and Lateral Facilities

**Reference:**

Sub-Section 8.12, Pages 1 and 2 of 2; Section 8, Appendix F and Section 8, Appendix G

**Preamble:**

ATCO Pipelines wishes to understand NGTL's investment guidelines.

**Request:**

- (a) Please confirm that the EUB has not approved NGTL's Acquisition Guidelines or Guidelines for New Facilities.
- (b) Does NGTL believe that investment guidelines (such as those referred to in (a) above) should be consistent among Alberta gas transmission pipelines? Please explain.

**Response:**

(a) **Acquisition Guidelines**

The Acquisition Guidelines were developed in response to Board directions in Decision U96001. NGTL filed the Acquisition Guidelines with the Board in January 1997 as part of an application to transfer licenses for the Bonnie Glen/ESEP System (Application No. 1005309) and subsequently filed amended Acquisition Guidelines on March 18, 1997.

The Board in its Decision 97-14, issued on October 31, 1997 stated that it "accepts NGTL's acquisition guidelines and criteria as set out in its letter of 18 March 1997."

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**ATCO-NGTL-065**

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**Guidelines for New Facilities**

Please refer to the response to BR-NGTL-38(b).

- (b) No. NGTL believes pipelines should have individual investment guidelines that reflect the particular circumstances of each pipeline. However, such guidelines should not unduly advantage or disadvantage the competitive position of one pipeline relative to another.

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**ATCO-NGTL-066**

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**Issue:**

Definition of Mainline and Lateral Facilities

**Reference:**

Section 8, Appendix G (Guidelines for New Facilities); Section 10.6, page 1 of 5 and page 5 of 5

**Preamble:**

ATCO Pipelines wishes to understand NGTL's Guidelines for New Facilities.

**Request:**

- (a) The Guiding Principles that precede the guidelines state "Guidelines would apply to the majority of situations". Please provide a list of situations when the Guidelines would not apply and explain why.
- (b) On page 3 of 11 of Appendix G, Guidelines for New Facilities, NGTL sets out four criteria and states that "The determination of whether NGTL will construct the extension facility will depend on whether or not the majority of the criteria as described in the table above are met". Do any two of four criteria constitute a majority? Which criterion is/are a necessity? Please provide a detailed explanation.
- (c) Is one customer with two or more meter stations considered "more than one customer" for purposes of the Guidelines? Please explain.
- (d) Are multiple customers at the same meter station considered "more than one customer" for purposes of the Guidelines? Please explain.
- (e) If there are multiple customers along a pipeline, but only one customer at the end of the pipeline, would the last segment of the pipeline serving the single customer still meet the "more than one customer" criteria for purposes of the Guidelines? Please explain.

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**ATCO-NGTL-066**

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**Response:**

- (a) Please refer to the response to BR-NGTL-038(a).
- (b) Please refer to the response to BR-NGTL-038(c).
- (c) Yes, NGTL considers two meter stations to be two facilities.
- (d) Yes, common sense suggests that NGTL building one meter station at a common plant serving many customers, and allowing the Common Stream Operator to allocate flows, is a more effective solution than each customer building their own plant and/or requesting their own service and NGTL building many metering stations.
- (e) No. However, NGTL would consider the other criteria of the Guidelines to determine whether it was appropriate to provide service to this customer.

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**ATCO-NGTL-067**

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**Issue:**

Definition of Mainline and Lateral Facilities

**Reference:**

Sub-Section 10.6, Page 3, Line 11 to 20

**Preamble:**

NGTL states that its lateral and mainline definitions have resulted in only two mainline extensions since 2000 and causes parties to connect their gas to NGTL through other options, which "...discourages uneconomic expansion and increases the accountability of those who have required lateral facilities."

**Request:**

Please confirm that those same definitions were used by NGTL in its proposed Fort Saskatchewan extension and the Board found there was no cost advantage to building that extension (EUB Decision 2002-058, Section 6.4) and noted concerns regarding accountability for that extension (EUB Decision 2002-058, Section 8.4). If not confirmed, please explain.

**Response:**

NGTL applied the Guidelines for New Facilities in its Fort Saskatchewan Application. The Board denied the application for the reasons stated in Decision 2002-58. However, since NGTL made this application significant steps were taken to increase customer cost accountability for intra-Alberta delivery service. Refer to Decision 2003-051 and NGTL's 2004 Phase 2 Application.



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**ATCO-NGTL-068**

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**Issue:**

Definition of Mainline and Lateral Facilities

**Reference:**

Definition of Mainline and Lateral Facilities (Section 10.6)  
Guidelines for New Facilities (Section 8.0, Appendix G) and  
Cost of Service Study (Section 6.0, Appendix A)

**Preamble:**

NGTL has certain physical criteria for lateral and mainline definitions in its Guidelines for New Facilities. NGTL shows lateral and mainline distinctions in its cost of service study that are based on physical and functional criteria.

**Request:**

- (a) The physical criteria for laterals used in the cost of service study are different than the physical criteria for laterals set out in the Guidelines for New Facilities. Please compare the criteria and fully explain the reasons for the differences.
- (b) Given NGTL's adoption of certain physical criteria for Guidelines for New Facilities, please describe the features of the physical and functional criteria used for cost of service purposes that caused NGTL to reject those same criteria for use in the Guidelines.
- (c) If NGTL used the physical definition of lateral as set out in Section 6.0, Appendix A, Pages 15-17 as the definition of lateral applicable to the Guidelines for New Facilities, please quantify the changes in investments that would have occurred since 2001, including all assumptions. If a quantitative response is not possible, please provide a directional response with a full explanation.
- (d) If NGTL used the functional definition of lateral as set out Section 6.0, Appendix A, Pages 15-17 as the definition of lateral applicable to the Guidelines for New Facilities, please quantify the changes in investments that would have occurred since 2001, including all assumptions. If a quantitative response is not possible, please

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provide a directional response with a full explanation.

- (e) Please explain differences in investments (see (c) and (d) above) using:
  - (i) the lateral definition applicable to the Guidelines for New Facilities,
  - (ii) the physical definition in Section 6.0, Appendix A, Pages 15-17; and
  - (iii) the functional definition in Section 6.0, Appendix A, Pages 15-17.
- (f) Is NGTL proposing to use the physical criteria it sets out in the Guidelines for New Facilities, and different physical criteria or functional criteria for cost of service and cost allocation purposes? Please explain.

**Response:**

- (a) to (b) The mainline criteria used in the Guidelines for New Facilities are used to help determine what new extension facilities NGTL may construct. The mainline criteria in the Cost of Service study were used to provide a clearer definition of the costs associated with different functions (i.e. laterals and mainlines) of the Alberta System. A detailed description of the mainline criteria for new facilities and the Cost of Service study is contained in the Application in Section 8 Appendix G pages 2 to 3 and Section 6 Appendix A pages 15-17, respectively. NGTL did not reject the criteria of one definition for consideration in the other. It simply devised alternative definitions appropriate for each application.
- (c) to (e) There would have been no change in investment.
- (f) NGTL uses the mainline definition in the Guideline for New Facilities to help define new extensions NGTL may construct. NGTL does not allocate costs of service on the basis of a mainline/lateral definition. Please refer to the response to ATCO-NGTL-068(a).

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**Issue:**

Definition of Mainline and Lateral Facilities

**Reference:**

Section 8.7

**Preamble:**

Mainline or lateral status for the proposed Simmons acquisition.

**Request:**

If the Board approves the Simmons acquisition, will NGTL make all or part of the proposed Simmons acquisition a mainline asset? Please explain.

**Response:**

NGTL uses a definition of mainline to help determine facilities it may build, purchase, or utilize via TBO arrangements. Once the service solution is approved by the Board there is no requirement to classify the facilities as mainline or lateral.