EnCana-NGTL-001

Reference:

Section 1.2, Introduction and Executive Summary, Page 2, Line 20

Preamble:

NGTL says that it is not proposing any changes to the existing cost allocation methodologies because:

> *NGTL submits that its analysis of the alternative cost allocation methodologies demonstrates that none of the alternatives is clearly better than the existing methodology, based on all relevant factors.*

Request:

(a) What are the criteria or tests used to determine if one cost allocation methodology is better than another? If such tests are quantitative, please explain how these are measured. If they are qualitative, explain the bases.

(b) Please list and explain all the "relevant factors".

Response:

(a) Please refer to the response to CAPP-NGTL-007(a).

(b) Please refer to the response to CAPP-NGTL-007(a).

EnCana-NGTL-002

Reference:

Section 1.2, Introduction and Executive Summary, Page 3, Line 12

Preamble:

> *NGTL presents and discusses in Section 2.4 of the Application potential alternatives to the existing terms for intra-Alberta delivery service. These alternatives could be considered in place of rate design changes to modify cost accountability for inter-Alberta delivery service.*

Request:

(a) How does NGTL define "cost accountability"?

(b) What aspects of rate design alternatives increase or reduce cost accountability?

(c) Why does replacing the FT-A service commodity rate with a demand rate increase accountability?

Response:

(a) In this context customer cost accountability for intra-Alberta delivery service requires that the forecasted revenue associated with the service needs to reasonably account for the costs associated with providing the service over a reasonable time frame. In the case of intra-Alberta delivery meter stations the current customer commitment is for 100% of the owning and operating costs associated with these facilities regardless of time frame. The alternative cost accountability would have the customers sign contracts for a specific term and volume such that the forecasted revenue from these contracts equaled or exceeded the estimated owning and operating costs associated with the specific intra-Alberta delivery facilities.

(b) Customer cost accountability is associated with the terms and conditions of the services provided, such as rate, term, contracted volumes, minimum volume commitments and transfer requirements. Changes to any of these attributes that better align the revenue stream from the services with the expenses incurred to

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provide the service would increase the accountability. Changes that decreased the alignment would reduce accountability.

(c) NGTL did not state that replacing the FT-A commodity with a demand rate would increase accountability. NGTL stated that this change in intra-Alberta accountability would provide better alignment with the accountability provisions associated with transportation services available for export and receipt. NGTL considers both approaches to accountability to be adequate.

EnCana-NGTL-003

Reference:

Section 2.2, Cost Allocation, Page 4, Line 7

Preamble:

> *Ideally there would be a 1-to-1 relationship between each service and its underlying cost structure. However, the ability to segregate costs on a 1-to-1 basis is dependent on the nature of the pipeline system in question.*
>
> *In the case of the Alberta System, it is not possible to directly assign costs to specific services because the nature of the System is such that the majority of its costs are joint or common costs (i.e., costs associated with facilities that are used to provide multiple services).*

Request:

In what respect are NGTL's costs, particularly the existence of joint or common costs, different from those of other pipelines?

Response:

All pipelines that serve multiple customers experience joint or common costs to some degree. However, the Alberta System is complex and highly integrated on physical, operational and commercial levels. It covers a very large geographical area that includes most of Alberta. It is composed of 20,000 + kilometers of pipelines with diameters ranging from 2 to 48 inches, 100 + compressor units, 900 + receipt stations and 100 + delivery stations. NGTL provides transportation to 200 + customers. Services are segmented into two primary components: receipt and delivery. This separation is not based on any physical definition of receipt or delivery facilities or any physical location on the Alberta System. Receipt service provides access onto the system and delivery service provides access from the system. There is no requirement to link the receipt and delivery points and in fact significant volumes may be transported by displacement. Thus there generally is no ability to definitively relate particular facilities to particular services. In addition, other services such as FT-P, FT-X and IT-S also utilize facilities that are required for receipt and delivery services. As a result, most of the Alberta System costs are joint or common costs.

EnCana-NGTL-004

Reference:

Section 2.2.1, Cost Allocation, Page 4, Line 15

Preamble:

Cost allocations must reflect underlying cost relationships that have been demonstrated to be valid (e.g., unit transmission costs increase with distance, all other factors being held constant).

Request:

(a) What is the process by which the validity of this relationship is demonstrated?

(b) Is the basic proposition (that costs increase with distance) still considered to be valid by NGTL even if all other factors are not constant?

Response:

(a) The process includes examination of system operations, discussions with system-design engineers and other company personnel, and the exercise of professional judgement and experience.

(b) The basic proposition generally is only true if all other factors are held constant. For example, unit costs would be significantly higher for a 1 km section of 4 inch pipe that crosses underneath a river gorge than for a 1 km section of 48 inch pipe put through the prairies.

EnCana-NGTL-005

Reference:

Section 2.2.1, Appropriate Cost Allocation for the Alberta System, Page 6, Line 24

Preamble:

> *However, both receipt and delivery services are required in order to obtain a full path transportation service.*

Request:

(a) Please define "a full path transportation service".

(b) Are any customers required to take "a full path transportation service"? If so, who?

(c) What are the requirements and limitations when taking "full path" transportation service as compared to separate receipt or delivery service?

Response:

(a) In this context, a full path transportation service links one or more specified receipt meter stations to one or more specified delivery meter stations.

(b) No customers are required to take full path transportation on the Alberta System. However, FT-P is a full path service option from specified receipt points to a specified intra-Alberta delivery station.

(c) FT-P is the only full path service currently available on the Alberta System. A comparison of FT-P and FT-R services highlights the differences between a full path transportation service and a receipt only service. Specifically, FT-P service differs from FT-R service in that FT-P service has:

- restricted system access – the receipt points where gas can be received and the delivery point where gas can be delivered are defined when the contract is signed and cannot be changed;

- a price based on the system access selected;
- no access to NIT; and
- no secondary term.

EnCana-NGTL-006

Reference:

Section 2.2.1, Appropriate Cost Allocation for the Alberta System, Page 7, Line 11

Preamble:

> *A combined receipt and delivery service Firm Transportation-Alberta Points to Point (FT-P), is also available for intra-Alberta markets.*

Request:

(a) How does "combined receipt and delivery service" differ from "full path" service?

(b) Please explain the nature of "points to point" service. How does this differ from "point to point", "point to points" and "points to points" service?

(c) Why is this combined receipt and delivery service only available for intra-Alberta markets? Would the principles involved be any different in defining this for export customers? If so, how?

Response:

(a) With respect to FT-P service there is no difference. The terms are inter-changeable.

(b) The FT-P service is a points to point service and is described in detail in NGTL's tariff. It provides access from one or more specified receipt points to one specified delivery point.

In contrast, a point to point service would provide access from one specified receipt point to one specified delivery point, a point to points service would provide access from one specified receipt point to one or more specified delivery points, and a points to points service would provide access from one or more specified receipt points to one or more specified delivery points. These are not intra-Alberta services currently offered by NGTL.

EnCana-NGTL-006

(c) Customers have the flexibility to effectively obtain full path service by contracting for both receipt and delivery (intra-Alberta or export) service. A single full path service is generally not required for the export delivery points as the fundamental design of the receipt point specific algorithm takes into account the facilities from each receipt station to the major delivery border stations. In certain situations NGTL provides an export service (LRS) based on limited system access that is effectively a full path service.

EnCana-NGTL-007

Reference:

Section 2.2.1, Appropriate Cost Allocation for the Alberta System

Preamble:

> *Ideally, each service should have a transmission component that reflects its share of the transmission function.*

Request:

(a) Why would this be ideal?

(b) What is meant by "each service" in this statement?

(c) What deviation between cost of service and charges for a service is considered to be material in rate design—1%? 10%? 40%? Please explain.

Response:

(a) For cost allocation purposes the ideal would occur if the cost structure and service is such that it is possible to conclusively and uniquely identify all of the costs of each transportation transaction and administer rates based on these separately-identifiable costs. In this way, every transportation service would pay no more and no less than the cost of providing the service, thereby precisely aligning cost responsibility with rates, and no judgments, disagreements or tradeoffs would exist in making cost allocations.

(b) In the context of the preamble, ideal circumstances would occur if each receipt and delivery combination could be a separately-priced service that pays a unique rate that precisely reflects the unique, identifiable cost of transportation between the two points.

(c) It would depend on the circumstances. Consideration should be given to ensure fairness of specific rates in apportionment of total costs of service among different customers. However, the difference between the rate charged for a service and the cost of providing the service may vary substantially. For example the FT-X

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and IT-S rates for the Alberta System are set to zero, however there are costs associated with providing these services. In this case the deviation between the rate and cost is infinite. However, this variation has been generally accepted by industry.

EnCana-NGTL-008

Reference:

Section 2.2.1, Appropriate Cost Allocation for the Alberta System, Page 12,
Figure 2.2.1-1

Preamble:

The figure shows that the ratio of the average intra-Alberta DOH to the ex-Alberta DOH has ranged from a low of 42.5% to a high of 48.8%.

Request:

(a) Please explain the factors that cause the ratio to increase from 42.5% in 1992 to 48.8% in 2000.

(b) Please explain the factors that cause the ratio to decline from 48.8% in 2000 to 42.8% in 2003.

Response:

(a) The average intra-Alberta DOH has increased relative to the average ex-Alberta DOH over this time frame. Please refer to the response to BR-NGTL-002(h).

(b) The average intra-Alberta DOH has decreased relative to the average ex-Alberta DOH over this time frame. Please refer to the discussion of the relationship between deliveries to the Fort McMurray area, extraction plants and other intra-Alberta deliveries in the response to BR-NGTL-002(h).

EnCana-NGTL-009

Reference:

Section 2.0, Rate Design, Page 14, Line 14

Preamble:

> *The change in the COH ratio from 2002 to 2004 is also greater than the relative change in the DOH ratio from 2002 to 2003, which was only 4.9%.*

Request:

(a) Please explain the factors that cause the COH ratio to vary from 2002 to 2004?

(b) Are these factors different than the factors that cause the DOH ratio variation?

Response:

(a) There are many factors that affect the DOH of an individual delivery station. These include: changes in the volume of gas delivered to the station; changes in the receipt stations the gas is sourced from; and changes in the routing used to transport the gas between the receipt stations, which could change the total distance the gas travels. The routing changes may be the result of changes in system design or operations such as compressor modifications, valve changes or taking facilities out of service to perform maintenance. The DOH for the intra-Alberta market is the sum of the volume weighted DOH of all the individual intra-Alberta delivery stations. Thus the intra-Alberta DOH will vary from year to year as the relative volume delivered to each station varies. For example, if a greater proportion of volume is delivered to intra-Alberta stations with a higher DOH, the intra-Alberta DOH will increase even if the DOH of every individual intra-Alberta delivery station remained the same. The DOH ratio is the DOH for the intra-Alberta market relative to the DOH for the ex-Alberta market. This ratio may decrease or increase even if the absolute DOH for the intra-Alberta market remains the same. In this case, the DOH for the export market would have changed due to the same factors as discussed for the intra-Alberta DOH.

The COH of an individual delivery station is affected by the same factors as the DOH plus additional factors. First the COH incorporates a relative cost index that

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accounts for the different diameters used in the routing between the receipt stations and the delivery station. Thus two paths with the same distance can have different costs of haul due to different proportions of different diameters within their respective path. Second the relative cost index varies each year. Thus even if the path from one year to the next is identical, the COH may not be, due to changes in the relative cost index. The COH for the intra-Alberta market, the COH for the ex-Alberta market and the COH ratio between the two markets will be affected in a similar manner as described for the DOH. These additional factors explain why the annual change in the COH ratio is not the same as the annual change in the DOH ratio.

From the 2003 study to the 2004 study the COH ratio increased by 6.0%. As the DOH ratio decreased by 4.9% for the same time period, the factors common to both methodologies cannot have caused the increase to the COH. In order to determine the impact of change in the COH due to changes in the relative cost index, the 2004 COH study was re-calculated using the 2003 unit cost index. This resulted in the COH ratio being 71.0%. Thus, changes in the cost index caused a 1.3% change in the COH ratio. Since the COH ratio increased by 6.0% and 1.3% of this change is explained by the cost index, the remaining 4.7% change is due to the effect of the cost index applied to changes in the volume-weighted paths. Therefore, it follows that the factor that had the greatest effect on the COH ratio change was the affect of the relative cost index applied to the volume-weighted paths. The changes in the volume-weighted paths to serve the intra-Alberta market incorporated a larger percentage of smaller diameter pipes in the 2004 study than in the 2003 study.

(b) Please refer to the response to (a).

EnCana-NGTL-010

Reference:

Section 2.2.1, Appropriate Cost Allocation for the Alberta System, Page 18, Line 6

Preamble:

> *There are numerous other cost allocation methodologies that could be applied. One alternative NGTL believes may have merit for future consideration is to functionalize receipt services into mainline and lateral components. Under such an approach, the rates would be based on a more detailed segregation of costs than the existing methodologies.*

Request:

(a) What additional information will be necessary in order to develop this approach further?

(b) Would it be possible to apply the same method to delivery services, separating delivery into the mainline and, where appropriate, any delivery extensions (e.g., Simmons or Ventures)? Please explain the answer.

(c) Why does NGTL believe this may have merit for future consideration?

Response:

(a) NGTL would require industry input on issues such as mainline and lateral definition, cost allocation to mainline and lateral components and service structure to further develop this approach.

(b) Yes. In Alternatives 2 and 3 in the Application, NGTL has specifically identified facilities that are associated with receipt to intra-Alberta delivery points. Similarly, NGTL identified in Section 2.6 of the Application facilities associated with receipt to the minor border delivery points.

(c) NGTL believes this approach may have merit because, as stated in the Application, "Under such an approach, the rates would be based on a more detailed segregation of costs than the existing methodology." Use of this

methodology might improve the relationship between services rates and the underlying cost of providing the services. However, NGTL has not fully examined this approach. Whether it should be implemented will depend on an assessment against all relevant criteria.

EnCana-NGTL-011

Reference:

Section 2.4, Intra-Alberta Delivery Service Accountability, Page 42, Table 2.4.1-3

Preamble:

The table shows the cost of service and revenues for the Simmons facilities.

Request:

(a) Please provide the volumes and per-unit charges used to derive the revenues for the various services.

(b) Please provide the calculation of the "additional $2.7 million of indirect FT-R revenue associated with the FT-A service".

Response:

(a) Please refer to the response to ATCO-NGTL-017(d).

(b) The calculation of the additional $2.7 million of indirect FT-R revenue is as follows: FT-R volume (10, 410 MMcf) is subtracted from FT-A volume (25,801 MMcf). The difference is multiplied by the average 2004 FT-R rate of $0.174 Mcf, to get the annual revenue of $2.7 million.

EnCana-NGTL-012(a) and (b)

Reference:

Section 2.4, Intra-Alberta Delivery Service Accountability, Page 47, Table 2.4.2-2

Request:

(a) Please identify the locations of the pipes and meter stations whose costs are summarized in the table.

(b) How many kilometers of pipe of each size are included in the pipes? (Please identify the Simmons assets separately.)

Response:

(a) Please refer to Attachment EnCana-NGTL-012(a).

(b) Please refer to the tables below.

Alberta System Pipe excluding Simmons Pipe	
NPS	Distance (km)
4	29.403
6	35.610
8	5.950
10	33.128
12	18.031
16	10.049
20	0.728
24	0.038
36	0.003
	132.940

Alberta System Simmons Pipe	
NPS	Distance (km)
4	4.245
7	7.158
9	2.784
11	7.230
13	1.316
16	114.490
	137.224

Alberta System Pipe excluding Simmons Pipe

Pipe Number	Location Start	Location End
667	NE-29-022-03-W5	NE-31-022-03-W5
728	NE-11-008-05-W5	NE-11-008-05-W5
1295	NW-23-004-29-W4	NW-23-004-29-W4
3140	NE-28-057-17-W5	15-28-057-17-W5
3379	NW-26-067-05-W6	NE-26-067-05-W6
3441	NE-26-067-05-W6	NE-26-067-05-W6
3442	NE-26-067-05-W6	NE-26-067-05-W6
3444	NE-26-067-05-W6	NE-26-067-05-W6
3654	14-25-064-11-W5	10-25-064-11-W5
3701	NE-26-067-05-W6	NE-26-067-05-W6
4699	NE-35-034-01-W5	NE-35-034-01-W5
4756	SE-23-031-05-W5	NE-27-031-04-W5
5022	NE-09-020-01-W4	NE-09-020-01-W4
5164	NW-04-008-04-W5	NW-04-008-04-W5
5195	SW-15-025-04-W5	SW-15-025-04-W5
5528	SW-08-066-05-W4	SW-08-066-05-W4
5538	SW-15-061-21-W5	SW-15-061-21-W5
5552	SW-15-061-21-W5	NE-17-061-20-W5
5557	NE-17-061-20-W5	NE-17-061-20-W5
5558	NE-17-061-20-W5	NE-17-061-20-W5
5570	SE-16-064-13-W5	04-02-065-13-W5
5642	NE-30-072-04-W5	NE-30-072-04-W5
5643	NE-30-072-04-W5	NE-30-072-04-W5
5648	SE-18-070-04-W5	SE-18-070-04-W5
5649	SE-18-070-04-W5	SE-18-070-04-W5
5651	NE-30-072-04-W5	NE-30-072-04-W5
5662	SE-18-070-04-W5	SE-18-070-03-W5
5681	NE-06-109-07-W6	NE-06-109-07-W6
6314	NE-36-038-27-W4	NE-36-038-27-W4
6315	11-32-039-22-W4	11-32-039-22-W4
6339	NE-18-059-10-W4	NE-18-059-10-W4
6491	SW-21-049-11-W5	SW-21-049-11-W5
6565	SW-34-040-16-W4	SW-34-040-16-W4
6570	SW-34-040-16-W4	SW-34-040-16-W4
6571	SW-34-040-16-W4	SW-34-040-16-W4
6572	SW-34-040-16-W4	SW-34-040-16-W4
6606	07-05-067-04-W4	NE-05-067-04-W4
6650	SW-26-037-14-W4	SW-26-037-14-W4
6684	SE-22-031-14-W4	SE-22-031-14-W4
6685	SE-22-031-14-W4	SE-22-031-14-W4
6702	NE-32-028-13-W4	NE-32-028-13-W4
6703	NE-32-028-13-W4	NE-32-028-13-W4
6704	NE-32-028-13-W4	NE-32-028-13-W4
6810	12-03-010-23-W4	12-03-010-23-W4
6853	13-24-019-15-W4	13-24-019-15-W4
6979	NW-32-043-01-W5	NW-32-043-01-W5
6982	NW-32-043-01-W5	NW-32-043-01-W5
7094	06-11-033-26-W4	06-11-033-26-W4
7095	06-11-033-26-W4	06-11-033-26-W4
7125	04-04-028-20-W4	05-04-028-20-W4
7176	06-30-046-21-W4	SE-30-046-21-W4

Alberta System Pipe excluding Simmons Pipe

Pipe Number	Location Start	Location End
7213	NE-06-042-22-W4	NE-06-042-22-W4
7214	NE-06-042-22-W4	NE-06-042-22-W4
7218	NE-08-043-23-W4	01-17-043-23-W4
7261	NW-34-038-22-W4	NW-34-038-22-W4
7361	NW-14-013-06-W4	NW-14-013-06-W4
7362	NW-14-013-06-W4	NW-14-013-06-W4
7461	06-10-047-14-W5	06-10-047-14-W5
7629	NW-19-027-24-W4	NW-19-027-24-W4
7880	SE-29-022-03-W5	SE-29-022-03-W5
7881	SE-29-022-03-W5	SE-29-022-03-W5
7886	04-35-031-04-W5	04-35-031-04-W5
7906	NW-04-008-04-W5	NW-04-008-04-W5
7965	NW-19-027-24-W4	12-19-027-24-W4
7980	NW-19-027-24-W4	NW-19-027-24-W4
8004	NW-05-038-01-W4	NW-05-038-01-W4
8123	NW-02-013-06-W4	13-02-013-06-W4
8129	SE-18-082-25-W5	SE-18-082-25-W5
8150	NW-05-063-25-W5	NW-05-063-25-W5
8152	NW-05-063-25-W5	NW-05-063-25-W5
8154	SE-15-020-03-W5	SE-15-020-03-W5
8159	NW-04-115-05-W6	12-04-115-05-W6
8237	01-01-057-22-W5	01-01-057-22-W5
8695	NW-36-071-07-W6	12-36-071-07-W6
8886	01-28-050-09-W4	01-28-050-09-W4
8999	05-03-067-13-W4	05-03-067-13-W4
9055	12-19-085-20-W5	04-31-085-20-W5
9089	08-20-085-18-W5	08-20-085-18-W5
9161	SW-25-064-11-W5	SW-25-064-11-W5
9188	SE-03-074-12-W6	SE-03-074-12-W6
9320	12-29-038-25-W4	12-29-038-25-W4
9321	12-29-038-25-W4	12-29-038-25-W4
9322	12-29-038-25-W4	12-29-038-25-W4
9523	13-31-002-28-W4	13-31-002-28-W4
9595	SW-11-013-06-W4	13-02-013-06-W4
9668	16-15-031-03-W5	16-15-031-03-W5
9682	13-13-085-21-W5	13-13-085-21-W5
9683	13-13-085-21-W5	13-13-085-21-W5
9684	13-13-085-21-W5	13-13-085-21-W5
9753	07-11-038-26-W4	12-29-038-25-W4
9773	NE-29-057-21-W4	NE-29-057-21-W4
9776	NE-29-057-21-W4	NW-29-057-21-W4
9778	NE-29-057-21-W4	NE-29-057-21-W4
9965	04-21-020-08-W4	04-21-020-08-W4
10186	SW-19-037-27-W4	SW-19-037-27-W4
10187	SW-19-037-27-W4	SW-19-037-27-W4
10188	SW-19-037-27-W4	SW-19-037-27-W4
10357	09-23-077-09-W4	09-23-077-09-W4
10459	10-01-062-08-W5	10-01-062-08-W5
10488	NE-01-069-05-W4	08-12-069-05-W4
10489	08-12-069-05-W4	08-12-069-05-W4
10657	SE-36-059-10-W5	SE-36-059-10-W5

Alberta System Pipe excluding Simmons Pipe

Pipe Number	Location Start	Location End
10658	SE-36-059-10-W5	SE-36-059-10-W5
10659	SE-36-059-10-W5	SE-36-059-10-W5
10660	SE-36-059-10-W5	SE-36-059-10-W5
10661	SE-36-059-10-W5	06-36-059-10-W5
10947	07-16-059-24-W5	07-16-059-24-W5
11097	15-07-108-06-W6	15-07-108-06-W6
11155	04-17-041-24-W4	04-17-041-24-W4
11237	SW-11-077-16-W5	05-11-077-16-W5
11246	11-20-050-15-W5	07-20-050-15-W5
11251	05-36-048-11-W5	05-36-048-11-W5
11252	05-36-048-11-W5	05-36-048-11-W5
11258	05-03-064-19-W5	02-09-064-19-W5
11270	NE-03-062-19-W5	NE-03-062-19-W5
11301	05-20-063-11-W5	05-20-063-11-W5
11350	03-05-034-06-W5	03-05-034-06-W5
11417	05-11-109-08-W6	02-10-109-08-W6
11420	02-10-109-08-W6	02-10-109-08-W6
11762	11-34-034-06-W5	10-34-034-06-W5
11763	SW-35-040-07-W4	06-27-040-07-W4
11769	08-24-004-01-W5	08-24-004-01-W5
11830	NW-35-012-06-W4	SW-35-012-06-W4
12027	SW-08-066-05-W4	SW-07-066-05-W4
12045	10-01-062-08-W5	10-01-062-08-W5
12101	08-31-068-19-W4	08-31-068-19-W4
12102	08-31-068-19-W4	12-32-068-19-W4
12106	08-31-068-19-W4	08-31-068-19-W4
12197	SE-31-055-20-W5	07-32-055-20-W5
12198	07-32-055-20-W5	07-32-055-20-W5
12283	NE-33-079-14-W4	NE-33-079-14-W4
12284	NE-33-079-14-W4	NE-33-079-14-W4
12285	NE-33-079-14-W4	NE-33-079-14-W4
12373	SE-32-065-04-W4	SE-32-065-04-W4
12374	SE-32-065-04-W4	SE-32-065-04-W4
12375	SE-32-065-04-W4	SE-32-065-04-W4
12376	SE-32-065-04-W4	SE-32-065-04-W4
12378	NE-05-067-04-W4	07-05-067-04-W4
12379	07-05-067-04-W4	07-05-067-04-W4
12469	SE-06-078-20-W5	08-06-078-20-W5
12623	08-22-031-14-W4	SE-22-031-14-W4
12624	08-22-031-14-W4	NE-22-031-14-W4
12628	NE-05-067-04-W4	07-05-067-04-W4
12629	07-05-067-04-W4	07-05-067-04-W4
12759	SW-36-018-03-W5	SW-36-018-03-W5
12760	SW-36-018-03-W5	SW-36-018-03-W5
12768	03-28-049-11-W5	03-28-049-11-W5
12973	11-10-090-03-W5	08-02-090-03-W5
12981	05-29-110-05-W6	05-29-110-05-W6
12982	SE-11-111-05-W6	05-29-110-05-W6
12983	SW-17-111-04-W6	SE-11-111-05-W6
12984	SW-17-111-04-W6	SW-17-111-04-W6
12997	10-30-072-04-W5	10-30-072-04-W5

Alberta System Pipe excluding Simmons Pipe

Pipe Number	Location Start	Location End
13001	NW-14-071-04-W5	NW-14-071-04-W5
13002	NW-14-071-04-W5	NW-14-071-04-W5
13003	NW-14-071-04-W5	NW-14-071-04-W5
13021	15-23-059-11-W5	15-23-059-11-W5
13027	15-09-084-06-W4	15-09-084-06-W4
13028	15-09-084-06-W4	15-09-084-06-W4
13030	15-09-084-06-W4	15-09-084-06-W4
13072	04-05-032-03-W5	04-05-032-03-W5
13073	04-05-032-03-W5	04-05-032-03-W5
13074	04-05-032-03-W5	04-05-032-03-W5
13075	04-05-032-03-W5	04-05-032-03-W5
13078	SW-23-030-28-W4	SW-23-030-28-W4
13090	SE-32-045-21-W4	SE-32-045-21-W4
13105	04-13-035-28-W4	NE-35-034-01-W5
13132	NW-29-038-28-W4	NW-29-038-28-W4
13137	06-16-038-04-W5	06-16-038-04-W5
13178	12-10-044-22-W4	12-10-044-22-W4
13179	12-10-044-22-W4	12-10-044-22-W4
13180	12-10-044-22-W4	12-10-044-22-W4
13181	12-10-044-22-W4	12-10-044-22-W4
13206	11-10-090-03-W5	11-10-090-03-W5
13283	10-07-007-02-W5	NE-07-007-02-W5
13302	04-15-066-23-W4	04-15-066-23-W4
13357	10-25-059-22-W4	10-25-059-22-W4
13358	10-25-059-22-W4	10-25-059-22-W4
13359	16-36-054-06-W4	SW-36-054-06-W4
13362	01-09-055-06-W4	01-09-055-06-W4
13451	13-13-062-02-W4	13-13-062-02-W4
13472	08-05-092-05-W5	08-05-092-05-W5
13481	14-17-077-09-W6	14-17-077-09-W6
13491	07-11-043-04-W5	07-11-043-04-W5
13528	04-33-060-13-W5	04-33-060-13-W5
13578	NE-34-050-15-W4	NE-34-050-15-W4
13579	NE-34-050-15-W4	NE-34-050-15-W4
13580	NE-34-050-15-W4	NE-34-050-15-W4
13581	NE-34-050-15-W4	NE-34-050-15-W4
13582	NE-34-050-15-W4	NE-34-050-15-W4
13828	NW-06-012-01-W5	NW-06-012-01-W5
13830	NW-06-012-01-W5	NW-06-012-01-W5
13872	11-03-064-07-W6	11-03-064-07-W6
13925	01-28-046-27-W4	01-28-046-27-W4
13949	07-20-050-15-W5	07-20-050-15-W5
13992	NW-36-034-06-W5	NW-36-034-06-W5
13993	NE-35-034-06-W5	NW-36-034-06-W5
14008	NW-24-060-26-W4	NW-24-060-26-W4
14011	04-34-067-04-W6	04-34-067-04-W6
14093	02-32-053-13-W5	02-32-053-13-W5
14099	07-10-061-22-W5	07-10-061-22-W5
14100	07-10-061-22-W5	SW-15-061-21-W5
14102	SE-05-045-12-W4	NE-05-045-12-W4
14105	SW-01-049-13-W4	04-01-049-13-W4

Alberta System Pipe excluding Simmons Pipe

Pipe Number	Location Start	Location End
14120	NW-14-013-06-W4	NW-14-013-06-W4
14121	NW-14-013-06-W4	NW-14-013-06-W4
14122	NW-14-013-06-W4	NW-14-013-06-W4
14331	02-06-067-10-W5	02-06-067-10-W5
14332	14-25-064-11-W5	02-06-067-10-W5
14410	05-06-047-12-W5	05-06-047-12-W5
14426	10-12-019-02-W5	01-05-019-02-W5
14428	NE-28-015-02-W5	NE-28-015-02-W5
14429	NE-28-015-02-W5	NE-28-015-02-W5
14472	01-06-105-22-W5	SE-06-105-22-W5
14473	SE-06-105-22-W5	SE-06-105-22-W5
14474	NW-17-047-09-W5	NW-17-047-09-W5
14480	SW-04-033-05-W5	SW-04-033-05-W5
14572	NW-19-073-08-W6	11-19-073-08-W6
14657	10-02-079-08-W6	10-02-079-08-W6
17080	08-33-030-01-W5	08-33-030-01-W5
17089	NE-21-077-21-W5	NE-21-077-21-W5
17514	12-29-038-25-W4	12-29-038-25-W4
17515	12-29-038-25-W4	12-29-038-25-W4
17572	08-15-092-10-W4	08-15-092-10-W4
17573	08-15-092-10-W4	08-15-092-10-W4
17575	12-29-038-25-W4	12-29-038-25-W4
17576	12-29-038-25-W4	12-29-038-25-W4
17580	11-03-060-25-W5	11-03-060-25-W5
17601	SW-29-092-20-W4	SW-29-092-20-W4
17604	SE-03-026-29-W4	SE-03-026-29-W4
17696	NW-06-012-01-W5	SW-07-012-01-W5
17697	SW-07-012-01-W5	SW-07-012-01-W5
17704	15-22-081-11-W6	15-22-081-11-W6
17770	15-32-023-23-W4	15-32-023-23-W4
41780	SE-03-026-29-W4	SE-03-026-29-W4
41803	05-13-076-06-W4	13-05-076-06-W4
41825	NW-11-069-22-W5	05-11-069-22-W5
41898	08-20-085-18-W5	08-20-085-18-W5
47960	05-08-070-04-W4	05-08-070-04-W4
47991	07-33-092-20-W4	07-33-092-20-W4
47993	SW-29-092-20-W4	SW-29-092-20-W4
47994	SW-29-092-20-W4	SW-29-092-20-W4
47995	SW-29-092-20-W4	SW-29-092-20-W4
47996	SW-29-092-20-W4	SW-29-092-20-W4
47997	SW-29-092-20-W4	03-29-092-20-W4
49509	NE-33-079-14-W4	NE-33-079-14-W4
49526	SE-32-067-17-W4	SE-32-067-17-W4
49537	NW-32-079-05-W4	NW-32-079-05-W4
49568	03-24-052-15-W4	03-24-052-15-W4
49569	03-24-052-15-W4	03-24-052-15-W4
49610	SE-32-067-17-W4	SE-32-067-17-W4
49761	09-23-077-09-W4	09-23-077-09-W4
49766	09-23-077-09-W4	09-23-077-09-W4
50843	04-20-034-04-W5	04-20-034-04-W5
60607	SE-32-065-04-W4	SE-12-065-04-W4

Alberta System Simmons Pipe

Pipe Number	Location Start	Location End
49253	09-19-083-11-W4	NW-18-086-18-W4
49254	NW-18-086-18-W4	14-26-084-11-W4
49255	NW-18-086-18-W4	NW-18-086-18-W4
49256	NW-18-086-18-W4	NW-18-086-18-W4
49257	NW-18-086-18-W4	NW-18-086-18-W4
49258	NW-18-086-18-W4	NW-18-086-18-W4
49259	NW-18-086-18-W4	NW-18-086-18-W4
49260	NW-18-086-18-W4	NW-18-086-18-W4
49261	NW-18-086-18-W4	NW-18-086-18-W4
49262	NW-18-086-18-W4	NW-18-086-18-W4
49263	NW-18-086-18-W4	NW-18-086-18-W4
49264	NW-18-086-18-W4	NW-18-086-18-W4
49265	NW-18-086-18-W4	SE-13-020-12-W4
49266	SE-13-020-12-W4	SE-13-020-12-W4
49267	SE-13-020-12-W4	SE-13-020-12-W4
49268	SE-13-020-12-W4	SE-13-020-12-W4
49269	SE-13-020-12-W4	SE-13-020-12-W4
49270	SE-13-020-12-W4	SE-13-020-12-W4
49271	SE-13-020-12-W4	SE-13-020-12-W4
49272	SE-13-020-12-W4	SE-13-020-12-W4
49273	SE-13-020-12-W4	SE-13-020-12-W4
49274	SE-13-020-12-W4	SE-13-020-12-W4
49275	SE-13-020-12-W4	04-04-092-11-W4
49276	SE-13-020-12-W4	SE-13-020-12-W4
49277	SE-13-020-12-W4	SE-13-020-12-W4
49278	SE-13-020-12-W4	SE-13-020-12-W4
49280	SE-13-020-12-W4	SE-13-020-12-W4
49281	SE-13-020-12-W4	SE-13-020-12-W4
49282	SE-13-020-12-W4	SE-13-020-12-W4
49283	SE-13-020-12-W4	SE-13-020-12-W4
49284	SE-13-020-12-W4	SE-13-020-12-W4
49286	SE-13-020-12-W4	SE-13-020-12-W4
49287	SE-13-020-12-W4	03-07-093-10-W4
49288	SE-13-020-12-W4	SE-13-020-12-W4
49289	SE-13-020-12-W4	SE-13-020-12-W4
49290	SE-13-020-12-W4	SE-13-020-12-W4
49302	SE-13-020-12-W4	NW-18-086-18-W4
49303	NW-18-086-18-W4	NW-18-086-18-W4
49304	SE-13-020-12-W4	SE-13-020-12-W4
49305	SE-13-020-12-W4	SE-13-020-12-W4
49306	SE-13-020-12-W4	SE-13-020-12-W4
49308	SE-13-020-12-W4	SE-13-020-12-W4
49309	SE-13-020-12-W4	SE-13-020-12-W4
49310	SE-13-020-12-W4	SE-13-020-12-W4
49311	SE-13-020-12-W4	SE-13-020-12-W4

Meter Stations

MS Number	Location
3061	NW-17-047-09-W5
3088	14-17-077-09-W6
3050	NE-28-015-02-W5
3300	NW-14-071-04-W5
3301	SE-18-070-03-W5
3051	NW-05-063-25-W5
3052	NW-04-008-04-W5
3058	NE-07-007-02-W5
3055	NE-26-067-05-W6
3405	NW-32-043-01-W5
3059	NE-11-008-05-W5
3305	04-17-041-24-W4
3060	02-32-053-13-W5
3304	SW-34-040-16-W4
3416	NW-14-013-06-W4
3418	NW-14-013-06-W4
3406	NW-29-057-21-W4
3413	SE-32-067-17-W4
3423	NE-06-042-22-W4
3062	SE-03-026-29-W4
3410	04-01-049-13-W4
3411	12-03-010-23-W4
3412	05-04-028-20-W4
3414	NE-22-031-14-W4
3063	05-20-063-11-W5
3419	NE-34-050-15-W4
3065	05-36-048-11-W5
3067	SW-15-061-21-W5
3068	NE-03-062-19-W5
3421	06-11-033-26-W4
3424	13-13-062-02-W4
3069	07-11-043-04-W5
3425	01-17-043-23-W4
3427	NW-24-060-26-W4
5007	NE-33-079-14-W4
3071	SW-21-049-11-W5
3074	08-24-004-01-W5
3430	12-10-044-22-W4
3073	SE-29-022-03-W5
3072	03-28-049-11-W5
3076	15-07-108-06-W6
3437	04-05-032-03-W5
3438	NE-29-057-21-W4
3444	NW-23-004-29-W4
3445	11-03-064-07-W6
3446	SE-30-046-21-W4
3429	NE-18-059-10-W4
3439	NE-32-028-13-W4
3077	05-29-110-05-W6
3078	10-25-064-11-W5
3449	SW-26-037-14-W4
3458	NW-14-013-06-W4

Meter Stations

MS Number	Location
3080	SW-25-064-11-W5
3448	SW-35-012-06-W4
3453	NW-05-038-01-W4
3456	01-09-055-06-W4
3457	10-30-072-04-W5
3454	SW-19-037-27-W4
3082	06-10-047-14-W5
3083	NE-06-109-07-W6
3085	NW-05-063-25-W5
3460	SW-36-054-06-W4
3464	06-36-059-10-W5
3465	SE-03-074-12-W6
5024	NE-33-079-14-W4
3462	10-30-072-04-W5
3086	15-28-057-17-W5
3087	04-34-067-04-W6
3468	04-15-066-23-W4
3091	02-09-064-19-W5
3092	02-06-067-10-W5
3093	NE-27-031-04-W5
3094	05-06-047-12-W5
3469	06-16-038-04-W5
3470	07-32-055-20-W5
3472	NE-35-034-01-W5
3474	NW-32-043-01-W5
3471	15-23-059-11-W5
3095	04-02-065-13-W5
3476	05-03-067-13-W4
3097	04-33-060-13-W5
3478	13-24-019-15-W4
3098	SW-07-012-01-W5
3477	03-05-034-06-W5
3483	10-34-034-06-W5
3484	08-12-069-05-W4
3481	NE-30-072-04-W5
3479	01-01-057-22-W5
3482	SW-23-030-28-W4
3485	06-27-040-07-W4
3099	02-10-109-08-W6
3488	11-32-039-22-W4
3609	12-32-068-19-W4
3486	04-35-031-04-W5
3490	NE-36-038-27-W4
3562	SW-07-066-05-W4
3604	SW-08-066-05-W4
3605	SE-32-065-04-W4
3606	07-05-067-04-W4
3368	10-01-062-08-W5
3489	12-19-027-24-W4
3610	01-28-050-09-W4
3107	13-13-085-21-W5
3101	NW-36-034-06-W5

Meter Stations

MS Number	Location
3103	12-04-115-05-W6
3105	08-20-085-18-W5
3600	13-02-013-06-W4
3100	05-11-077-16-W5
3611	12-36-071-07-W6
3615	12-29-038-25-W4
3106	04-31-085-20-W5
3109	13-31-002-28-W4
3613	16-15-031-03-W5
3616	13-02-013-06-W4
3612	09-23-077-09-W4
3110	07-16-059-24-W5
3618	04-21-020-08-W4
3111	07-20-050-15-W5
3621	07-05-067-04-W4
3112	08-06-078-20-W5
3622	15-09-084-06-W4
3623	SE-32-045-21-W4
3624	11-10-090-03-W5
3114	11-19-073-08-W6
3113	08-05-092-05-W5
3117	07-10-061-22-W5
3118	01-15-041-03-W5
3115	01-28-046-27-W4
3120	08-15-092-10-W4
3123	08-15-092-10-W4
3491	12-29-038-25-W4
3492	12-29-038-25-W4
3119	08-33-030-01-W5
3124	11-03-060-25-W5
3493	NW-02-070-25-W4
3494	15-22-081-11-W6
3125	05-11-069-22-W5
3495	15-32-023-23-W4
3497	13-05-076-06-W4
3632	SE-03-026-29-W4
3496	03-29-092-20-W4
3634	05-08-070-04-W4
3635	07-33-092-20-W4
3639	03-24-052-15-W4
3128	04-20-034-04-W5

EnCana-NGTL-012(c)

Reference:

Section 2.4, Intra-Alberta Delivery Service Accountability, Page 47, Table 2.4.2-2

Request:

The company text says that "approximately 30% of the total Simmons facilities" are included in the numbers in Table 2.4.2-2. Please explain what the remaining 70% are for.

Response:

The remaining 70% are primarily associated with receipt services and export delivery services.

EnCana-NGTL-013

Reference:

Section 2.4, Intra-Alberta Delivery Service Accountability, Page 50, Table 2.4.2-4

Preamble:

The table shows the costs and revenues associated with delivery facilities other than export, storage or extraction.

Request:

(a) Please provide the derivation of each of the revenue numbers.

(b) Please explain why the FT-A revenue ($5.32 million) do not cover even the direct metering costs ($7.92 million).

Response:

(a) The derivation of the revenue numbers in Table 2.4.2-4 is shown in Appendix 5 of the Application.

(b) NGTL explained in Section 2.4 of the Application on Page 43, lines 3 to 15, that FT-A service has a commodity rate and therefore only produces revenue to offset costs when the service is used. For this reason, metering costs are fully recovered through the combination of FCS and FT-A revenue. In addition, FT-P service revenue contributes to the recovery of the costs of these meters.

EnCana-NGTL-014

Reference:

Written Testimony of Dr. Gaske, Page 42, Line 17

Preamble:

> *The level of averaging [for metering costs] employed in this approach is reasonable for NGTL's current circumstances and services.*
>
> * * *
>
> *Averaging the system-wide metering costs causes the receipt and delivery components of the single transportation service to split the metering costs equally and is a reasonable method of sharing metering costs.*

Request:

(a) Please provide a list of the other pipelines that, in Dr. Gaske's experience, allocate the costs of metering on a commodity (per-GJ, per-Mcf or per-Dth) basis.

(b) Please provide copies of any testimony and/or written evidence of Dr. Gaske that has discussed (or presented in accompanying schedules) methods for allocating metering costs.

Response:

(a) Dr. Gaske has not conducted a comprehensive study of this topic. However, a few examples of pipelines that in recent years have offered firm transportation services that recover all costs on a volumetric basis include:

- ANR Pipeline's STS (Small Transporter) service for small, full-requirements gas distribution companies;
- Columbia Gas Transmission's GTS (General Transportation) Service that also contains an MFCC (Minimum Fixed Cost Contribution Charge) that levies a surcharge if customers in this class do not achieve at least a minimum load factor;
- East Tennessee Natural Gas's FT-GS Firm Transportation Service;

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- Traditionally El Paso Natural Gas Company has had an FT-2 firm transportation rate for full-requirements East-of-California customers that has been eliminated in recent years;
- Gulf South Pipeline's FTS (small customer option);
- Midwestern Gas Transmission's FT-GS;
- Stingray Pipeline's FTS-2 (Firm Transportation) service for shippers who provide a life of reserves production profile for all proven reserves included under the shipper's commitment; and
- Tennessee Gas Pipeline's FT-GS (Small Customer Transportation) service for small full-requirements customers.

In addition, virtually all interruptible pipeline services recover fixed costs on a volumetric basis.

(b) Attachment EnCana-NGTL-014(b) contains copies of Dr. Gaske's testimony and exhibits with regard to metering costs in the following proceedings:

- Montana-Dakota Utilities Co., North Dakota PSC Docket No. PU-399-03-296
- Montana-Dakota Utilities Co., Montana PSC Docket No. 2003.8.120
- Cap Rock Energy Corp., Texas PUC Docket No. 28813

This testimony represents a large volume of material and a large electronic file. NGTL provides a copy of Attachment EnCana-14(b) on CD to the Board and EnCana. NGTL will provide a CD to other parties on request.

EnCana-NGTL-015

Reference:

Written Testimony of Dr. Gaske, Page 45, Line 13

Preamble:

> *The recovery of fixed FT-A costs on a commodity basis may discourage efficient short-run usage or consumption at the margin, but that also is not a major problem at the current level of the FT-A rate.*

Request:

(a) Given that metering cost is averaged over all FT-A, FT-D and FT-R consumption, should the impact on FT-D and FT-R also be considered? If not, why not?

(b) Given NGTL's concern about competition (with ATCO) and the potential for intra-Alberta or ex-Alberta "bypass", should the impact on these rates be evaluated?

Response:

(a) Any impacts of volumetric collection of FT-A metering costs on FT-R or FT-D customers are mitigated or eliminated by the MAV. However, a fixed demand charge for FT-A services could be appropriate for reasons unrelated to metering costs. For example, once the MAV commitment is satisfied, customers continue to pay a contribution to fixed costs on a commodity basis. This mismatch may cause high-load factor customers to pay a higher portion of fixed costs than a similarly-situated low-load factor customer over the life of their service, even when the fixed costs of serving each customer might be equal.

(b) It is not clear what is being asked in the question. If the question refers to the relationship of a volumetric FT-A charge to competition, the answer is yes, this relationship should be considered.

EnCana-NGTL-016

Reference:

Appendix 2B: COS Study – Alternative Allocation Methodologies, Page 58, Table 7.1-1

Preamble:

The table shows the service categories for Alternative 6.

Request:

NGTL's current requirements for storage service require IT-S customers to meet extensive accountability requirements before receiving the service, at a significant cost to the IT-S customers. Would NGTL be willing to cover this cost if the proposed IT-S rate in this Alternative is implemented?

Response:

No. This IT-S rate reflects the cost of providing access to storage net of any contribution in aid of construction (CIAC) payments made by storage operators. The accountability for storage facilities is comparable to the accountability for other intra-Alberta delivery facilities. Whether the IT-S rate should be uniform for all storage facilities or unique to each specific facility is a separate issue. As each storage facility utilizes different facilities, and the operators of specific storage facilities have made CIAC payments of varying amounts, there may be merit to having station-specific rates. However, NGTL believes the existing methodology with the existing accountability is appropriate at this time.

EnCana-NGTL-017

Reference:

"Connection of Storage Facilities Procedure"

Preamble:

NGTL has the above-referenced procedure to determine its willingness to invest capital and the obligation of the storage operator to apply for connection service and compensate NGTL .

Request:

(a) Please provide a copy of this procedure.

(b) Is this the method by which NGTL seeks to impose accountability on storage operators?

Response:

(a) The Connection of Storage Facilities Procedure, adopted by the TTFP on September 9, 2003 and approved by the Board in Order U2003-376 on September 29, 2003 is provided as Attachment EnCana-NGTL-017.

(b) The Connection of Storage Facilities Procedure establishes the accountability required of storage operators. The procedure was developed collaboratively by industry to provide appropriate procedures for the connection of storage facilities and storage facility accountability.

Connection of Storage Facilities Procedure (the "Storage Procedure")

Note: Capitalized terms not defined herein shall have the meaning ascribed thereto in NGTL's Tariff and will be cross-referenced with NGTL's electronic version of the Tariff on the TransCanada web site.

Availability

NOVA Gas Transmission Ltd. ("NGTL") may construct (own/operate) the meter station and pipeline Facilities required to connect new storage facilities and/or additions to existing storage facilities to the NGTL system (the "Connection Facilities") pursuant to Rate Schedule FCS of the NGTL Gas Transportation Tariff ("Tariff") and in accordance with this Storage Procedure.

Requirements for Storage Connection Service

In order for a customer (the "Storage Operator") to apply for storage connection service, the Storage Operator must complete an Application for Service (refer to Applying for Service Procedure) and forward it to the appropriate Customer Sales Representative at NGTL.

The request for connection of a new storage facility to the NGTL system must satisfy the following criteria:

1. Connection Facilities required are greater than or equal to 12 inches in diameter; and,
2. Peak injection and/or withdrawal volumes are to be greater than 100 MMcf/d.

The request for connection of a new storage facility to the NGTL system and/or additions to existing storage facilities to the NGTL system must satisfy the following additional criteria:

3. The storage facility is a commercial project. NGTL will consider the storage facility to be a commercial project if it determines in its sole discretion that the Storage Operator:
    a) provides initial and ongoing open access to more than one non-affiliated customers; and
    b) routinely allows for new contracts, which could translate into additional requests for IT-S contracts from NGTL Customers.

    The storage operation must be perceived as a commercial project by other NGTL customers. Customers that do not perceive the storage facility to be operating as a commercial project may use the Collaborative Process to raise the issue or formally complain to the Alberta Energy Utilities Board ("EUB").

4. The storage facility is technically viable (see Section A).

Section A - Technical Review

Upon receipt of the application, NGTL will undertake the following technical review to determine the technical viability of the storage facility.

NGTL will perform a hydraulic review to ensure that the storage facility design and operating parameters are compatible with NGTL's system hydraulics at the proposed location. NGTL will work with the Storage Operator to determine the most cost efficient technically viable alternative for the Connection Facilities.

The Storage Operator is also required to demonstrate to NGTL that its detailed design of its storage facility will meet the advertised performance parameters upon which the Connection Facilities are based. The Storage Operator must provide NGTL with a steady state performance simulation, which includes a reservoir and facilities model, unless relieved of such an obligation by NGTL.

The following additional design parameters may also be used by NGTL to evaluate the technical viability of a proposed storage facility.

Reservoir:
- pressure response (permeability, porosity)
- injectivity/deliverability
- cycled volume
- capacity
- cushion
- boundaries

Wells and Gathering System:
- well density
- inflow performance (from well tests)
- gathering system design (length, topography, pressures, size, etc.)

Plant and Facilities:
- compression ratios
- flow requirements
- NGTL line pressure range
- dew point control
- instrumentation and control

Section B - Storage Connection Authorization

If NGTL determines that a storage facility meets all the appropriate requirements for storage connection, NGTL will respond to the Storage Operator with a Project and Expenditure Authorization (PEA), which upon execution by the Storage Operator allows NGTL to spend the capital as defined by the capital threshold cap to construct the required Connection Facilities.

Capital Threshold Cap

All new storage facilities or additions to existing storage facilities that meet all the appropriate requirements for storage connection will be allowed to proceed. Once NGTL determines the requirements of the Connection Facilities and the associated capital costs, the capital threshold cap is applied. NGTL will spend an amount of capital, for each storage facility, up to the lesser of:

a) $300,000/Bcf of working gas capacity that the storage facility provides (referred to as the capital threshold cap); or
b) the total capital cost of the Connection Facilities.

All capital costs above the amount determined to be the capital threshold cap must be paid for by the Storage Operator through a capital contribution to NGTL. NGTL's rate base would only reflect the capital costs spent by NGTL.

In situations where a storage facility requires a staged development such that the initial working gas capacity will be increased in subsequent years, the storage operator is required to share these plans with NGTL in its application. If NGTL determined it would be more economically efficient to size its Connection Facilities to accommodate the ultimate capacity, then those Connection Facilities would be constructed. NGTL would only spend a capital amount associated with the initial stage of development, subject to the capital threshold cap. The remainder of the capital required must be paid for by the Storage Operator through a capital contribution to NGTL. NGTL would reimburse the Storage Operator for that portion of the capital contribution made by the Storage Operator, relative to the subsequent stages of development in accordance with the provisions of the capital threshold cap. This reimbursement would be associated with a corresponding increase in NGTL's rate base. The Storage Operator is eligible for reimbursement of its capital contribution for the term of the FCS Agreement.

Rate Schedule FCS

Along with the PEA, the Storage Operator will also receive a Rate Schedule FCS, an Agreement to Provide Letter of Credit (if required - refer to Tariff, General Terms and Conditions, Section 10, Financial Information and Security) and an FCS Service Agreement (if required) for execution and return to NGTL. Service under Rate Schedule FCS will be provided once all the required Connection Facilities are completed.

Minimum Annual Volume

Rate Schedule FCS requires the Storage Operator to deliver a minimum annual volume ("MAV") through the Connection Facilities to the storage facilities. This MAV requirement ensures that the Connection Facilities are being utilized and provides for an ongoing level of storage facility accountability. The MAV is a test to ensure that the unit cost of service on the storage facility is less than or equal to the system average unit cost of service.

MAV Example (for illustrative purposes only)

Capital Cost of Connection Facilities (using the capital threshold cap)	= $2.4 million
Annual Cost of Service ("ACS") of Connection Facilities	= $380,000
Firm Transportation unit cost of service	= $0.160[1]/Mcf

The MAV requirement would be 2.38 Bcf ($380,000/$0.160/Mcf)

Note: The Cost of Service of the Connection Facilities is calculated on an annual basis using the net book value of the Connection Facilities and only includes the capital as determined by the capital threshold cap.

FCS Charge

If the Storage Operator fails to meet its MAV requirement, it must pay to NGTL an amount equal to the shortfall as calculated pursuant to paragraph 3.4 of Attachment 1 of Rate Schedule FCS as follows:

$$\text{MAV Charge} = \left(\frac{\text{MAV} - \text{C}}{\text{MAV}}\right) \times \text{ACS}$$

Where:

"MAV Charge" = the MAV component of the FCS Charge; and

"C" = the actual volume of gas delivered by NGTL for Customer, as determined by NGTL. NGTL's determination of the Storage Operators' actual volume is based on NGTL's measurement of the Storage Operators' actual physical delivered volume from the Connection Facilities to the storage facilities (i.e. metered

[1] Illustrative NGTL Rates, based on the aggregate revenue requirement and billing determinants for both FT-R and FT-D service.

deliveries), adjusted for offsetting NGTL receipt volumes which has paid a NGTL receipt toll (e.g. native production which occurs during injection mode). This adjusted volume will be compared to the Storage Operators' MAV requirement by NGTL on an annual basis to determine whether or not the Storage Operator will be invoiced for the shortfall. Deemed delivery volumes will not be included in NGTL's determination of the Storage Operators' actual volumes.

FCS Charge Example (for illustrative purposes only)

Per the above MAV example, if the actual volume for the year was zero, the Storage Operator would receive a bill from NGTL for the entire cost of service of the Connection Facilities ($380,000). If the actual volume (metered deliveries plus offsetting receipts) was 1.19 Bcf for the year (half of the MAV requirement), the Storage Operator would be required to pay $190,000 (half of the Cost of Service of the Connection Facilities) to NGTL.

Forms Referenced in this Procedure

Agreement to Provide Letter of Credit
Application for Service
Project and Expenditure Authorization