AP-NGTL-001

Reference:

Application, Section 1.2, Introduction and Executive Summary, A5, Page 2 of 4

Preamble:

NGTL indicates that certain of the alternatives to NGTL's existing cost allocation methodology "…specifically respond to the Board's direction in Decision 2004-097 that NGTL address the allocation of transmission costs to intra-Alberta delivery service."

Request:

(a) Please confirm that the Board direction referred to is that noted in A2 of Sub-Section 1.2, which refers to "…a reasonable allocation of transmission costs greater than zero to the FT-A rate…"(emphasis added).

(b) If (a) is not confirmed, please identify the Board direction referred to above.

Response:

(a) Confirmed.

(b) Not applicable.

AP-NGTL-002

Reference:

Application, Section 1.2, Introduction and Executive Summary, A7, Pages 2 and 3 of 4

Preamble:

NGTL submits that the existing rate design reflects reasonable cost allocation methodologies appropriate to the Alberta System, meets generally accepted rate design criteria, and results in rates, tolls, and charges that are just and reasonable.

Request:

Does NGTL believe each of the alternatives to NGTL's existing cost allocation methodology provided by NGTL in the Application provide reasonable allocations of costs? If so, please provide reasons. If not, please provide reasons.

Response:

Please refer to the response to CG-NGTL-014(a).

AP-NGTL-003

Reference:

Application, Section 2.0, Rate Design, Page 5 of 62

Preamble:

NGTL states that metering, compression and pipe comprise 8%, 21%, and 71% respectively of total net book value.

Request:

Please provide a summary of NGTL's gross and net plant by general ledger prime account to support this statement.

Response:

Contrary to the statement made in the preamble, metering, compression and pipe accounted for 8%, 21% and 71%, respectively, of the pipeline assets, which in turn accounted for approximately 88% of the Alberta System's net book value (NBV) as of December 31, 2003. General plant and working capital accounted for the remaining 12% of the NBV.

The requested information is provided at Page 4 of Appendix 2A of the Application.

AP-NGTL-004

Reference:

Application, Section 2.0, Rate Design, Page 6 of 62

Preamble:

NGTL states that general plant costs are allocated to compression, pipe, and metering using net book value.

Request:

(a) Please fully explain the rationale for using this allocation methodology.

(b) Please provide the derivation of this allocation.

(c) Please provide a complete breakdown of general plant costs by general ledger prime account including net book value for capital related costs and the calculation of depreciation, return, and income taxes.

Response:

(a) As indicated on Page 3 of Appendix 2A of the Application, cost items that have no direct relationship to the pipeline facilities themselves have been allocated using pipeline assets' net book value to be consistent with the cost allocation methodologies used by TransCanada's Mainline System. This approach is not uncommon, is generally acceptable and was simpler for NGTL.

(b) The derivation of this allocation is provided in the table below:

AP-NGTL-004

% of Allocation of Non-Direct costs to Pipeline Assets	Compression	Pipes	M/S
NBV of Pipeline Assets	**21%**	**71%**	**8%**
Non-direct Costs			
General Operating Assets	21%	71%	8%
Calgary Offices	21%	71%	8%
Field/Service Centers, Vehicles	21%	71%	8%
Information Technology	21%	71%	8%
General plant total	**21%**	**71%**	**8%**
Cash Working Capital	21%	71%	8%
Material & Supplies Inventory	21%	71%	8%
Linepack Gas	0%	100%	0%
Unamortized Debt Issue Costs	21%	71%	8%
Working capital total	**19%**	**74%**	**7%**
Maintenance	50%	15%	35%
Other Departments	21%	71%	8%
General Expenses	21%	71%	8%
Other Expenses	21%	71%	8%
G&A total	**33%**	**48%**	**19%**
Total non-direct Costs	**29%**	**55%**	**16%**
Total Direct and Non-direct Costs	**23%**	**69%**	**9%**

(c) For the detailed breakdown of these costs for all units used in the 2003 Cost of Service Study please refer to the response to IGCAA-NGTL-001.

AP-NGTL-005

Reference:

Application, Section 2.0, Rate Design, Page 6 of 62

Preamble:

NGTL states that maintenance costs are allocated based on the following splits:

- 50% to compression,
- 35% to metering, and
- 15% to pipes.

Request:

(a) Please explain how this historical split was determined and when it was last calculated.

(b) Please provide the rationale for the split methodology.

(c) Please recalculate the split using 2004 information.

(d) Please recalculate the split using 2005 information.

Response:

(a) The historical split was determined based on a review of actual maintenance costs from 1989 to 1996. The split of maintenance costs was checked for the calculation of the 2003 COS Study using actual maintenance costs from 2001 to 2003. This check indicated no change was required to these percentages.

(b) Please refer to the response to AP-NGTL-005(a).

(c) NGTL has not yet conducted a COS Study for 2004 and has therefore not analyzed 2004 maintenance costs.

(d) NGTL has not yet incurred full maintenance costs for 2005 so it is unable to perform this calculation.

AP-NGTL-006

Reference:

Application, Section 2.0, Rate Design, Page 10 of 62

Preamble:

NGTL states that the separation of receipt and delivery services is a significant fact for its rate design and allows for the pooling of gas on the Alberta System.

Request:

(a) Please confirm that under normal circumstances, the receipt shipper will be different from the delivery shipper, that is, one shipper will deliver gas into the "pool" while another will take gas from that "pool". If not confirmed, please fully explain.

(b) Given the separation of receipt and delivery services noted in the preamble and part (a) of this question, please confirm that NGTL provides various delivery services, including one from the receipt point to the "pool", and another from the "pool" to the final ex-Alberta or intra-Alberta delivery point. If not confirmed, please fully explain.

Response:

(a) Not confirmed. NGTL would not characterize the situation where the receipt customer is different from the delivery customer as "normal circumstances." In some situations the receipt customer and the delivery customer may be different. In others, one customer may choose to put gas on to the Alberta System and deliver it from the Alberta System.

(b) Not confirmed. NGTL provides various receipt services for gas to be put on the Alberta System and delivery services (ex-Alberta or intra-Alberta) for gas to be delivered from the Alberta System.

AP-NGTL-007

Reference:

Application, Section 2.0, Rate Design, Page 11 of 62

Preamble:

NGTL states that ideally, each service should have a transmission component that reflects its share of the transmission facilities.

Request:

(a) Please fully explain why ideally each service should have a transmission component that reflects its share of the transmission facilities.

(b) With respect to FT-A service, please fully explain why the FT-A rate does not have a transmission component, ignoring for the purposes of responding to this information request that this is the current rate design and also ignoring NGTL's competitive concerns.

Response:

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

(b) NGTL essentially provides transportation to two markets: ex-Alberta and intra-Alberta. Transportation to ex-Alberta markets is provided through the combination of receipt and export delivery services, with the main combination being FT-R and FT-D. Transportation to intra-Alberta markets is provided through the combination of receipt and intra-Alberta delivery services, with the main combination being FT-R and FT-A, and through FT-P service. The transportation to either market consists of a metering component to receive gas on to the System, a transmission component to move gas through the System, and a metering component to deliver gas from the System. The transmission costs associated with FT-A service are recovered in the FT-R rate.

The transmission component of the cost for service to the intra-Alberta market is contained entirely in the FT-R rate and the transmission component to the ex-Alberta market is contained in both the FT-R and FT-D rates. This allows for the

same FT-R service to be used to source gas for both the intra- and ex-Alberta markets while ensuring that, on average, the transmission rate charged to serve each market reflects the relative costs incurred to provide service to each market.

AP-NGTL-008

Reference:

Application, Section 2.0, Page 16 of 62, Rate Design, Table 2.2.1-1

Preamble:

AP seeks clarification on the referenced table.

Request:

(a) Please confirm that beneath the column for Alternative 1(c), FT-R and FT-D (using DOH) should be equal such that they sum to zero as indicated in the table. If not confirmed, please fully explain.

(b) If confirmed, please provide correct figures.

Response:

(a) Not confirmed. The changes to FT-R and FT-D cannot be equal and sum to zero.

An incorrect version of Table 2.2.1-1 was inadvertently included in the Application. The correct table appears below.

Table 2.2.1-1 - Revised
Change in Illustrative Rates Resulting from Application of Cost Allocation Using the DOH & COH Methodologies to Rates Determination
(cents/Mcf/day)

Using DOH	Revised Methodology	Alternative 1a) Functional Mainline Definition	Alternative 1b) Physical Mainline Definition (>= 24")	Alternative 1c) Physical Mainline Definition (>= 12")		Alternative 2 Excluding Extraction
Receipt (FT-R)[1]	0.0	0.2	3.1	(0.1)		(11.6)
Border delivery (FT-D)[1]	0.0	(0.2)	(3.1)	~~1.0~~	0.1	11.6
Total Ex-Alberta Rate[2]	**0.0**	**0.0**	**0.0**	**0.0**		**0.0**
Intra delivery (FT-A)	0.0	0.0	0.0	0.0		0.0
Total Intra-Alberta Rate[3]	**0.0**	**0.2**	**3.1**	**(0.1)**		**(11.6)**
Using COH						
Receipt (FT-R)[1]	6.4	1.3	3.6	4.4		1.4
Border delivery (FT-D)[1]	(6.4)	(1.3)	(3.6)	(4.4)		(1.4)
Total Ex-Alberta Rate[2]	**0.0**	**0.0**	**0.0**	**0.0**		**0.0**
Intra delivery (FT-A)	0.0	0.0	0.0	0.0		0.0
Total Intra-Alberta Rate[3]	**6.4**	**1.3**	**3.6**	**4.4**		**1.4**

[1] FT-R and FT-D rates quoted include the metering charge.
[2] Total Ex-Alberta Rate is the sum of the FT-R and FT-D rates.
[3] Total Intra-Alberta Rate is the sum of the FT-R and FT-A rates.

(b) Not applicable.

AP-NGTL-009

Reference:

Application, Section 2.0, Rate Design, A26, Page 17 of 62

Preamble:

NGTL states: "The COH methodology has some merit for use in allocation of transmission costs to services because it takes into account economies of scale as well as distance. However, the yearly variability associated with use of the COH methodology appears to be greater than that which results from use of the DOH methodology. This could result in greater rate volatility."

Request:

(a) Please provide all studies and analyses that underlie NGTL's conclusion that the yearly variability associated with the use of COH methodology appears to be greater than that which results from use of the DOH methodology.

(b) Please show graphically and by percentage, following the format of Section 2.0, page 12 of 62, Figure 2.2.1-1:

(i) the yearly variability in the COH ratio between intra-Alberta and ex-Alberta deliveries since NGTL began using the COH methodology in developing rates; and

(ii) the average COH ratio between intra-Alberta and ex-Alberta deliveries over that same period.

(c) Please provide the rolling 5-year average of the COH ratio between intra-Alberta and ex-Alberta deliveries since NGTL began using the COH methodology in developing rates.

(d) While the actual DOH ratio fluctuates year-to-year, as shown in Section 2.0, Figure 2.2.1-1 (page 12 of 62), NGTL uses a smoothing assumption of a 50/50 split of transmission costs on a unit basis between receipt and delivery services. Does NGTL believe that to the extent there is undesirable yearly variability

associated with use of the COH methodology, a similar smoothing assumption could be applied? Please fully explain.

Response:

(a) Only two years of results are available since the COH study has only been undertaken since 2003 (for 2002 data). The following table shows that the change in COH (6.0%) over these two years was greater than the change in DOH (-4.9%).

	2002	2003	% Change
COH intra-Alberta to ex-Alberta ratio	67.9%	71.9%	6.0%
DOH intra-Alberta to ex-Alberta ratio	44.9%	42.8%	-4.9%

(b) The COH study is not used to develop rates. Please refer to the table provided in (a) for information about the variability of COH compared with DOH. As the COH study has only been undertaken since 2003, only these years are provided.

(c) A five-year average cannot be calculated since the COH study has only been undertaken since 2003. Please refer to the table provided in (a).

(d) Neither the DOH study nor the COH study is used to develop rates. The DOH study is only used as a reasonableness check for the existing rate design methodology. Since the COH study has only been completed since 2003, it is premature to estimate what the year-to-year variability may be over an extended period.

AP-NGTL-010

Reference:

Application, Section 2.0, Rate Design, A30, Pages 19 to 21 of 62, Appendix 2B

Preamble:

NGTL provides Alternatives that each incorporate into the FT-A rate varying percentages of: (1) the COS for transmission facilities not associated with export, storage, or extraction; and (2) the cost for the Ventures, ATCO, and Kearl Lake TBOs. The percentage scenarios presented are: Alternative 1 (0% / 0%), Alternative 2 (50% / 0%) and Alternative 3 (50% / 50%).

Request:

(a) Please provide further Alternatives with the following percentage scenarios:

COS for Transmission Facilities[1]	Ventures, ATCO and Kearl Lake TBOs
100%	50%
100%	100%

[1] Not associated with export, storage or extraction.

For each such further Alternative, please provide the results in the format used to present Alternatives in the response to ATCO-NGTL-P1 (excel spreadsheets and applicable numbers for diagrams).

(b) Please recalculate Alternatives 1 through 3, along with the additional alternatives in (a) above, using the existing relationship of transmission costs between export and intra-Alberta markets of 2:1. For each recalculated alternative, please provide the results in the format used in the response to ATCO-NGTL-P1 (excel spreadsheets and applicable numbers for diagrams).

(c) Please provide a summary of all scenarios and alternatives from parts (a) and (b) of this question in the format of Section 2.0, page 23 of 62, Table 2.2.2-3.

AP-NGTL-010

Response:

(a) NGTL does not believe that the assumptions in these scenarios would lead to reasonable rates for the Alberta System. Each of these scenarios would result in a significant reallocation of costs to the delivery services that would have significant distributional effects on existing customers. The FT-D rates produced by each of these scenarios would be greater than any historical FT-D rate. This could lead to border bypass or require adjustments to the floor and ceiling FT-R rates or additional LRS offerings to reduce the bypass opportunities.

However, with the above caveats, the requested information is provided in Attachments 1 through 4, AP-NGTL-010(a).

(b) The modification requested for Alternative 1 results in the existing methodology, so the information is provided in Section 5 of the Application. NGTL does not believe that the modifications requested for the scenarios ATCO provided in (a) would lead to reasonable rates for the Alberta System. Each of these scenarios would result in a significant reallocation of costs to the delivery services that would have significant distributional effects on existing customers. The FT-D rates produced by each of these scenarios would be greater than any historical FT-D rate. This could lead to border bypass or require adjustments to the floor and ceiling FT-R rates or additional LRS offerings to reduce the bypass opportunities.

However, with the above caveats, the requested information is provided in Attachments 1 through 8, AP-NGTL-010(b).

(c) Please refer to Attachment AP-NGTL-010(c).

Summary of Rate Calculation: **Alternative ATCO 10a-1**

Revenue Requirement	$1,160.0 million	see Figure 5.1-1 from Phase 2 Application

Less

	(million)	
Other Service Revenue:		
OS	$1.1	
Facility Connection Services	$4.9	
CO_2	$15.4	see Figure 5.1-1 from Phase 2 Application
PTS	$0.9	
Total	$22.3	

Equals

Transportation Revenue Requirement	$1,137.6 million

Less

LRS Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
LRS-1	$43.3	0.65	18.45
LRS-2	$0.7	0.04	1.05
LRS-3	$3.3	0.05	1.41
Total	$47.4	0.74	20.90

Less

Interruptible and STFT Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
FT-RN	$4.4	0.07	1.91
FT-P	$17.8	0.38	10.73
IT-D (for volume see Figure 5.1-1 from Phase 2 Application)	$79.8	1.04	29.36
STFT	$0.0	-	-
FT-DW	$0.0	-	-
IT-R	$99.0	2.07	58.37
FTA (for volume see Figure 5.1-1 from Phase 2 Application)	$12.9	1.03	28.92
Total	$214.0	4.59	129.29

Equals

Firm Transportation Revenue Requirement	$876.2 million

Allocation of Revenue

Average Firm Transportation Receipt Price	$0.1245 /Mcf	4.420 /10^3m^3
Firm Transportation Delivery Price	$0.1909 /Mcf	6.777 /10^3m^3
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	0.504 /10^3m^3
FT-A Transmission Price	$0.0203 /Mcf	0.720 /10^3m^3
Total Firm Transportation Price	$0.0345 /Mcf	1.224 /10^3m^3

Equals

FT-D Revenue Requirement	$512.6
FT-R Revenue Requirement	$363.6
FT-A Revenue Requirement	$12.9

Divided by

Contract Demand	Volumes (Bcf)	Volumes (10^6m^3)	
Delivery (see Figure 5.1-1 from Phase 2 Application)	2,684.74	75,639.9	**Iterative Process**
Receipt (see Figure 5.1-1 from Phase 2 Application)	2,920.10	82,271.0	
Total	5,604.85	157,910.9	

Equals

Average Firm Transportation Receipt Price	$0.1245 /Mcf	$4.420 /$10^3m^3$
Firm Transportation Delivery Price	$0.1909 /Mcf	$6.777 /$10^3m^3$
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	$0.504 /$10^3m^3$
FT-A Transmission Price	$0.0203 /Mcf	$0.720 /$10^3m^3$
Total Firm Transportation Price	$0.0345 /Mcf	$1.224 /$10^3m^3$

DEVELOP RECEIPT SERVICE PRICES USING THE FOLLOWING

	($/Mcf)	($/$10^3m^3$)
Floor Price	0.045	1.581
Ceiling Price	0.205	7.260

Allocate to Receipt Stations Based on Path Attributes - Distance and Diameter

Receipt Service Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)	Avg Service Price ($/Mcf)	Avg Service Price ($/$10^3m^3$)
1-Year	$0.0	-	-	0.131	4.641
3-Year	$363.6	8.00	225.40	0.125	4.420
5-Year	$0.0	-	-	0.118	4.199

LRS Calculation Alternative ATCO 10a-1

LRS 1:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	17,070.8	6.32	39.4
15-Year Term	152.1	7.12	0.4
10-Year Term	1,204.5	7.94	3.5
5-Year Term	19.0	9.50	0.1
Total	18,446.4		43.3

LRS 2:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
Max Volume	1,045.0		
LRS Revenue			0.6
Shareholder Contribution			0.1
Total	1,045.0		0.7

LRS 3:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	1,410.0	6.32	
Revenue:			3.3
Shareholder Contribution			0.06
Total	1,410.0		3.3

FT-P Calculation Alternative ATCO 10a-1

	Volume ($10^3m^3/d$)	Distance Band	Rate ($/$10^3m^3$/mo)	Revenue ($million)	Annual Fuel Est. ($million)	Total Revenue ($million)
1	2,413.90	2	73.05	2.12	0.78	2.90
2	140.00	2	73.05	0.12	0.05	0.17
3	566.60	3	82.66	0.56	0.18	0.75
4	225.00	3	82.66	0.22	0.07	0.30
5	140.00	3	82.66	0.14	0.05	0.18
6	198.70	4	92.26	0.22	0.06	0.28
7	155.00	4	92.26	0.17	0.05	0.22
8	200.00	4	92.26	0.22	0.07	0.29
9	131.00	5	101.86	0.16	0.04	0.20
10	460.00	5	101.86	0.56	0.15	0.71
11	270.00	5	101.86	0.33	0.09	0.42
12	140.00	5	101.86	0.17	0.05	0.22
13	268.80	5	101.86	0.33	0.09	0.42
14	283.30	6	111.47	0.38	0.09	0.47
15	140.00	6	111.47	0.19	0.05	0.23
16	140.00	6	111.47	0.19	0.05	0.23
17	540.00	8	130.67	0.85	0.18	1.02
18	117.39	9	140.28	0.20	0.04	0.24
19	1,408.80	9	140.28	2.37	0.46	2.83
20	537.60	9	140.28	0.90	0.17	1.08
21	967.70	9	140.28	1.63	0.31	1.94
22	211.30	10	149.88	0.38	0.07	0.45
23	806.50	10	149.88	1.45	0.26	1.71
24	267.00	10	149.88	0.48	0.09	0.57
Total	**10,728.6**				**3.5**	**17.8**

FT-RN Calculation Alternative ATCO 10a-1

Total Volume $10^3m^3/d$	**1907.4**
Revenue ($million)	**4.4**

Rate ($/$10^3m^3$/mo)	Volume (10^3m^3/d)	Revenue ($million)
59.91	10.9	0.01
69.12	2.4	0.00
78.21	300	0.28
78.75	0.1	0.00
88.30	0.1	0.00
109.78	122.2	0.16
114.48	0.4	0.00
115.83	25	0.03
122.00	25	0.04
127.16	0.1	0.00
135.84	5	0.01
148.04	10	0.02
150.63	25	0.05
161.69	3.9	0.01
173.99	1	0.00
175.79	3	0.01
186.01	2	0.00
187.68	25.5	0.06
188.86	10	0.02
189.77	2	0.00
190.48	75	0.17
190.85	69.9	0.16
195.67	0.5	0.00
200.70	50	0.12
201.42	25	0.06
203.28	7.1	0.02
206.75	100	0.25
223.20	0.5	0.00
243.06	0.3	0.00
243.06	0.5	0.00
243.06	4	0.01
243.06	0.1	0.00
243.06	88.4	0.26
243.06	150	0.44
243.06	10	0.03
243.06	10	0.03
243.06	5	0.01
243.06	0.1	0.00
243.06	8.6	0.03
243.06	12	0.04
243.06	161.8	0.47
243.06	125	0.36
243.06	30	0.09
243.06	300	0.88
243.06	100	0.29

IT-R Calculation Alternative ATCO 10a-1

Total Volume ($10^3m^3/d$):	**58,372.1**
Revenue ($million)	**99.03**

Rate ($/$10^3m^3/d$)	Volume ($10^3m^3/d$)	Revenue ($million)
1.82	3,037.66	2.02
1.83	80.02	0.05
1.84	239.45	0.16
1.86	82.53	0.06
1.88	69.84	0.05
1.89	28.04	0.02
1.90	88.96	0.06
1.92	29.19	0.02
1.94	137.58	0.10
1.95	90.04	0.06
1.96	13.08	0.01
1.97	73.48	0.05
1.98	48.32	0.03
2.05	42.40	0.03
2.06	161.05	0.12
2.08	88.06	0.07
2.11	337.17	0.26
2.13	9.28	0.01
2.17	64.76	0.05
2.19	414.51	0.33
2.21	2.17	0.00
2.22	92.67	0.08
2.23	22.95	0.02
2.25	191.59	0.16
2.26	209.84	0.17
2.28	28.81	0.02
2.29	298.73	0.25
2.30	13.46	0.01
2.31	274.85	0.23
2.32	184.46	0.16
2.34	62.18	0.05
2.36	326.91	0.28
2.37	372.19	0.32
2.38	11.78	0.01
2.39	78.68	0.07
2.41	68.42	0.06
2.42	313.28	0.28
2.44	125.36	0.11
2.47	4.93	0.00
2.49	35.06	0.03
2.50	144.82	0.13
2.51	522.55	0.48
2.52	5.69	0.01
2.54	565.53	0.52
2.55	84.02	0.08

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
2.56	53.56	0.05
2.62	7.94	0.01
2.66	22.76	0.02
2.67	49.84	0.05
2.68	221.62	0.22
2.69	187.99	0.18
2.70	119.21	0.12
2.71	273.64	0.27
2.73	1,231.82	1.23
2.74	31.08	0.03
2.76	102.37	0.10
2.77	19.81	0.02
2.78	36.70	0.04
2.79	253.57	0.26
2.80	5.18	0.01
2.81	33.72	0.03
2.82	45.79	0.05
2.84	3.62	0.00
2.86	382.64	0.40
2.89	30.28	0.03
2.90	218.24	0.23
2.91	120.66	0.13
2.93	75.46	0.08
2.94	999.51	1.07
2.95	4.37	0.00
2.96	355.40	0.38
2.97	19.29	0.02
2.98	301.78	0.33
2.99	448.12	0.49
3.03	398.29	0.44
3.04	165.72	0.18
3.05	329.32	0.37
3.06	113.35	0.13
3.08	232.14	0.26
3.11	43.59	0.05
3.12	422.52	0.48
3.13	135.25	0.15
3.14	123.22	0.14
3.16	7.33	0.01
3.18	35.22	0.04
3.19	36.72	0.04
3.20	246.25	0.29
3.21	1,853.76	2.17
3.24	52.04	0.06
3.25	100.75	0.12
3.27	427.64	0.51
3.29	122.23	0.15
3.30	531.32	0.64
3.32	222.15	0.27
3.34	51.53	0.06

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
3.35	205.60	0.25
3.36	83.23	0.10
3.37	267.74	0.33
3.38	458.97	0.57
3.39	160.01	0.20
3.41	540.48	0.67
3.42	207.51	0.26
3.43	97.38	0.12
3.44	57.38	0.07
3.45	9.33	0.01
3.46	37.32	0.05
3.47	26.84	0.03
3.48	23.63	0.03
3.50	248.80	0.32
3.51	211.55	0.27
3.52	443.92	0.57
3.53	295.56	0.38
3.55	192.37	0.25
3.57	366.82	0.48
3.60	403.87	0.53
3.61	1,041.80	1.37
3.62	69.20	0.09
3.63	30.56	0.04
3.66	40.97	0.05
3.67	38.39	0.05
3.68	113.31	0.15
3.69	250.36	0.34
3.70	32.12	0.04
3.71	10.43	0.01
3.72	94.43	0.13
3.73	90.21	0.12
3.74	92.10	0.13
3.75	30.30	0.04
3.77	285.98	0.39
3.82	59.45	0.08
3.83	22.10	0.03
3.85	81.01	0.11
3.86	15.15	0.02
3.88	944.60	1.34
3.91	75.72	0.11
3.93	397.95	0.57
3.96	180.63	0.26
3.97	84.15	0.12
3.98	1,475.58	2.14
4.02	52.04	0.08
4.05	273.49	0.40
4.08	10.87	0.02
4.10	330.71	0.49
4.12	11.53	0.02
4.13	1,117.87	1.69

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
4.14	71.49	0.11
4.15	70.00	0.11
4.16	68.94	0.10
4.17	216.71	0.33
4.19	109.63	0.17
4.20	16.98	0.03
4.21	129.98	0.20
4.28	112.02	0.17
4.30	61.40	0.10
4.34	17.45	0.03
4.36	5.67	0.01
4.37	136.44	0.22
4.39	97.17	0.16
4.41	52.59	0.08
4.42	64.10	0.10
4.44	26.78	0.04
4.48	43.69	0.07
4.51	41.42	0.07
4.52	31.75	0.05
4.55	150.30	0.25
4.56	38.44	0.06
4.57	52.50	0.09
4.60	227.82	0.38
4.62	134.68	0.23
4.65	169.88	0.29
4.66	18.17	0.03
4.67	505.06	0.86
4.68	35.79	0.06
4.69	67.25	0.12
4.70	572.33	0.98
4.74	265.66	0.46
4.79	113.62	0.20
4.80	224.24	0.39
4.82	64.66	0.11
4.83	69.16	0.12
4.87	7.62	0.01
4.89	1.17	0.00
4.92	50.17	0.09
4.93	32.60	0.06
4.96	116.64	0.21
4.98	97.97	0.18
5.01	56.49	0.10
5.02	71.19	0.13
5.05	7.21	0.01
5.06	195.28	0.36
5.08	1,043.31	1.93
5.09	14.38	0.03
5.10	119.65	0.22
5.11	192.32	0.36
5.12	97.40	0.18

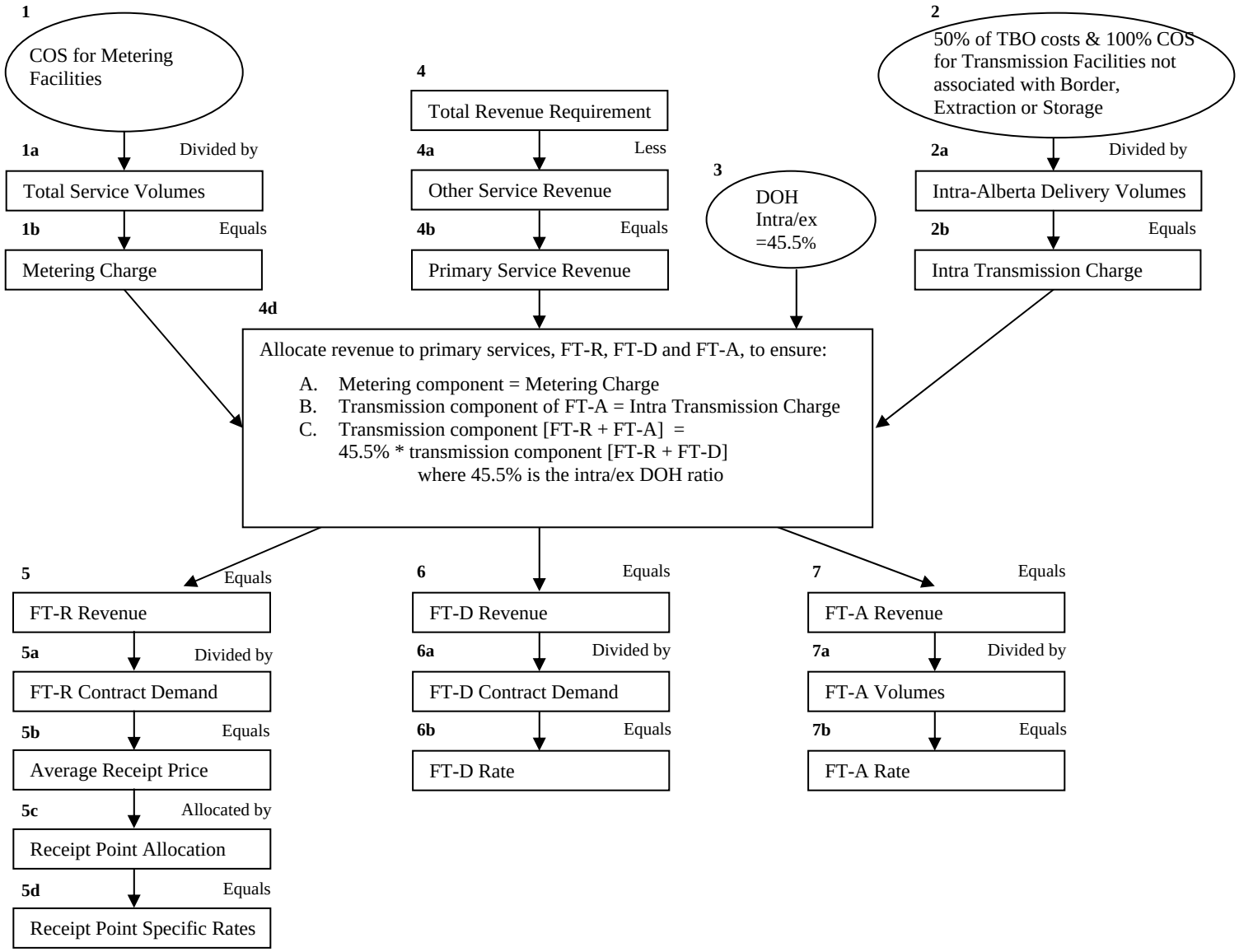
Rate ($/10^{3}m^3/d)	Volume (10^3m^3/d)	Revenue ($million)
5.13	26.68	0.05
5.14	33.34	0.06
5.17	568.67	1.07
5.18	19.93	0.04
5.20	43.93	0.08
5.24	6.05	0.01
5.25	199.56	0.38
5.29	156.38	0.30
5.33	122.24	0.24
5.34	136.37	0.27
5.35	8.51	0.02
5.36	42.09	0.08
5.37	21.74	0.04
5.40	51.71	0.10
5.41	103.74	0.20
5.44	10.82	0.02
5.48	184.10	0.37
5.49	56.79	0.11
5.50	5.98	0.01
5.51	17.56	0.04
5.52	80.46	0.16
5.55	98.12	0.20
5.57	93.41	0.19
5.61	377.39	0.77
5.64	26.74	0.06
5.66	0.97	0.00
5.67	29.27	0.06
5.71	203.79	0.42
5.72	60.50	0.13
5.74	45.73	0.10
5.75	7.25	0.02
5.76	0.16	0.00
5.79	122.23	0.26
5.80	4.05	0.01
5.82	83.02	0.18
5.83	23.92	0.05
5.87	257.57	0.55
5.88	99.93	0.21
5.91	73.41	0.16
5.93	88.19	0.19
5.96	78.75	0.17
5.98	62.91	0.14
6.00	27.43	0.06
6.02	0.42	0.00
6.04	369.84	0.82
6.06	122.22	0.27
6.07	19.98	0.04
6.09	4.29	0.01
6.14	81.44	0.18
6.18	73.96	0.17

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
6.21	62.54	0.14
6.24	83.94	0.19
6.25	9.81	0.02
6.26	22.72	0.05
6.28	51.67	0.12
6.34	158.94	0.37
6.35	33.59	0.08
6.39	21.71	0.05
6.40	7.11	0.02
6.41	50.83	0.12
6.44	22.93	0.05
6.45	177.58	0.42
6.46	109.21	0.26
6.47	237.01	0.56
6.49	351.50	0.83
6.50	11.56	0.03
6.52	190.24	0.45
6.53	47.19	0.11
6.54	392.01	0.94
6.56	38.22	0.09
6.58	77.03	0.18
6.65	24.77	0.06
6.70	67.53	0.17
6.71	161.14	0.39
6.72	86.26	0.21
6.76	161.61	0.40
6.77	46.79	0.12
6.79	68.22	0.17
6.81	17.04	0.04
6.83	28.83	0.07
6.84	67.85	0.17
6.85	6.42	0.02
6.87	182.18	0.46
6.88	13.01	0.03
6.89	444.52	1.12
6.92	391.97	0.99
6.96	88.52	0.22
6.98	180.91	0.46
7.05	70.39	0.18
7.07	31.83	0.08
7.08	49.33	0.13
7.10	217.33	0.56
7.12	330.68	0.86
7.18	149.17	0.39
7.19	11.16	0.03
7.20	40.38	0.11
7.23	39.66	0.10
7.25	230.77	0.61
7.26	28.17	0.07
7.28	72.96	0.19

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
7.32	19.95	0.05
7.35	80.60	0.22
7.37	7.49	0.02
7.38	139.95	0.38
7.39	27.28	0.07
7.42	35.28	0.10
7.43	47.63	0.13
7.44	181.79	0.49
7.45	48.01	0.13
7.50	13.26	0.04
7.51	57.03	0.16
7.53	9.16	0.03
7.55	28.32	0.08
7.56	48.85	0.13
7.58	51.34	0.14
7.59	36.19	0.10
7.62	100.51	0.28
7.64	11.37	0.03
7.66	33.02	0.09
7.67	13.89	0.04
7.69	8.37	0.02
7.71	34.91	0.10
7.73	19.61	0.06
7.75	210.69	0.60
7.77	29.86	0.08
7.80	4.94	0.01
7.82	38.48	0.11
7.83	71.65	0.20
7.84	16.59	0.05
7.89	133.36	0.38
7.91	22.58	0.07
7.92	75.84	0.22
7.93	0.21	0.00
7.94	0.68	0.00
7.95	57.98	0.17
7.99	0.98	0.00
8.03	3.79	0.01
8.04	6.59	0.02
8.09	21.46	0.06
8.10	2.31	0.01
8.11	19.62	0.06
8.13	179.86	0.53
8.14	71.09	0.21
8.15	14.03	0.04
8.16	133.36	0.40
8.21	9.12	0.03
8.26	85.03	0.26
8.28	49.19	0.15
8.29	8.89	0.03
8.30	86.45	0.26

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
8.31	1157.82	3.51
8.32	23.87	0.07
8.33	1.33	0.00
8.35	6,519.18	19.87

Diagram Alternative Illustrative Rate Calculation



Box/Oval	**Diagram Alternative 1**
Oval 1	$114,741,982
Box 1a	22,137,781 Mcf/d
Box 1b	$0.0142 Mcf/d
Oval 2	$10.4 Million
Box 2a	513.7 Bcf/yr
Box 2b	$0.0203 Mcf/d
Oval 3	Intra/Ex DOH 45.5%
Box 4	$1,160 Million
Box 4a	$283.7 Million
Box 4b	$876.2 Million
Box 4d	n/a
Box 5	$363.6 Million
Box 5a	2,920.1 Bcf/yr
Box 5b	$0.1245 Mcf/d
Box 6	$512.6 Million
Box 6a	2,684.7 Bcf/yr
Box 6b	$0.1909 Mcf/d
Box 7	$12.9 Million
Box 7a	374.71 Bcf/yr
Box 7b	$0.0345 Mcf/d

Summary of Rate Calculation:

Alternative ATCO 10a-2

Revenue Requirement	$1,160.0 million	see Figure 5.1-1 from Phase 2 Application

Less

Other Service Revenue:	(million)	
OS	$1.1	see Figure 5.1-1 from Phase 2 Application
Facility Connection Services	$4.9	
CO_2	$15.4	
PTS	$0.9	
Total	$22.3	

Equals

Transportation Revenue Requirement	$1,137.6 million

Less

LRS Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
LRS-1	$43.3	0.65	18.45
LRS-2	$0.7	0.04	1.05
LRS-3	$3.3	0.05	1.41
Total	$47.4	0.74	20.90

Less

Interruptible and STFT Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
FT-RN	$4.1	0.07	1.91
FT-P	$16.4	0.38	10.73
IT-D (for volume see Figure 5.1-1 from Phase 2 Application)	$84.9	1.04	29.36
STFT	$0.0	-	-
FT-DW	$0.0	-	-
IT-R	$90.4	2.07	58.37
FTA (for volume see Figure 5.1-1 from Phase 2 Application)	$17.1	1.03	28.92
Total	$212.9	4.59	129.29

Equals

Firm Transportation Revenue Requirement	$877.3 million

Allocation of Revenue

Average Firm Transportation Receipt Price	$0.1139 /Mcf	4.043 $/10^3m^3$
Firm Transportation Delivery Price	$0.2029 /Mcf	7.202 $/10^3m^3$
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	0.504 $/10^3m^3$
FT-A Transmission Price	$0.0315 /Mcf	1.119 $/10^3m^3$
Total Firm Transportation Price	$0.0457 /Mcf	1.623 $/10^3m^3$

Equals

FT-D Revenue Requirement	$544.7
FT-R Revenue Requirement	$332.6
FT-A Revenue Requirement	$17.1

Divided by

Contract Demand	Volumes (Bcf)	Volumes (10^6m^3)
Delivery (see Figure 5.1-1 from Phase 2 Application)	2,684.74	75,639.9
Receipt (see Figure 5.1-1 from Phase 2 Application)	2,920.10	82,271.0
Total	5,604.85	157,910.9

Iterative Process

Equals

Average Firm Transportation Receipt Price	$0.1139 /Mcf	$4.043 $/10^3m^3$
Firm Transportation Delivery Price	$0.2029 /Mcf	$7.202 $/10^3m^3$
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	$0.504 $/10^3m^3$
FT-A Transmission Price	$0.0315 /Mcf	$1.119 $/10^3m^3$
Total Firm Transportation Price	$0.0457 /Mcf	$1.623 $/10^3m^3$

DEVELOP RECEIPT SERVICE PRICES USING THE FOLLOWING

	($/Mcf)	($/10^3m^3$)
Floor Price	0.034	1.203
Ceiling Price	0.194	6.882

Allocate to Receipt Stations Based on Path Attributes - Distance and Diameter

Receipt Service Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)	Avg Service Price ($/Mcf)	Avg Service Price ($/10^3m^3$)
1-Year	$0.0	-	-	0.120	4.245
3-Year	$332.6	8.00	225.40	0.114	4.043
5-Year	$0.0	-	-	0.108	3.841

LRS Calculation Alternative ATCO 10a-2

LRS 1:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	17,070.8	6.32	39.4
15-Year Term	152.1	7.12	0.4
10-Year Term	1,204.5	7.94	3.5
5-Year Term	19.0	9.50	0.1
Total	18,446.4		43.3

LRS 2:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
Max Volume	1,045.0		
LRS Revenue			0.6
Shareholder Contribution			0.1
Total	1,045.0		0.7

LRS 3:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	1,410.0	6.32	
Revenue:			3.3
Shareholder Contribution			0.06
Total	1,410.0		3.3

FT-P Calculation Alternative ATCO 10a-2

	Volume ($10^3m^3/d$)	Distance Band	Rate ($/$10^3m^3$/mo)	Revenue ($million)	Annual Fuel Est. ($million)	Total Revenue ($million)
1	2,413.90	2	61.56	1.78	0.78	2.57
2	140.00	2	61.56	0.10	0.05	0.15
3	566.60	3	71.17	0.48	0.18	0.67
4	225.00	3	71.17	0.19	0.07	0.27
5	140.00	3	71.17	0.12	0.05	0.17
6	198.70	4	80.77	0.19	0.06	0.26
7	155.00	4	80.77	0.15	0.05	0.20
8	200.00	4	80.77	0.19	0.07	0.26
9	131.00	5	90.37	0.14	0.04	0.18
10	460.00	5	90.37	0.50	0.15	0.65
11	270.00	5	90.37	0.29	0.09	0.38
12	140.00	5	90.37	0.15	0.05	0.20
13	268.80	5	90.37	0.29	0.09	0.38
14	283.30	6	99.98	0.34	0.09	0.43
15	140.00	6	99.98	0.17	0.05	0.21
16	140.00	6	99.98	0.17	0.05	0.21
17	540.00	8	119.18	0.77	0.18	0.95
18	117.39	9	128.79	0.18	0.04	0.22
19	1,408.80	9	128.79	2.18	0.46	2.64
20	537.60	9	128.79	0.83	0.17	1.01
21	967.70	9	128.79	1.50	0.31	1.81
22	211.30	10	138.39	0.35	0.07	0.42
23	806.50	10	138.39	1.34	0.26	1.60
24	267.00	10	138.39	0.44	0.09	0.53
Total	**10,728.6**				**3.5**	**16.4**

FT-RN Calculation Alternative ATCO 10a-2

Total Volume $10^3m^3/d$	**1907.4**
Revenue ($million)	**4.1**

Rate ($/$10^3m^3$/mo)	Volume (10^3m^3/d)	Revenue ($million)
54.00	10.9	0.01
62.43	2.4	0.00
70.73	300	0.25
71.23	0.1	0.00
79.95	0.1	0.00
99.61	122.2	0.15
103.91	0.4	0.00
105.14	25	0.03
110.78	25	0.03
115.50	0.1	0.00
123.43	5	0.01
134.60	10	0.02
136.97	25	0.04
147.08	3.9	0.01
158.33	1	0.00
159.97	3	0.01
169.32	2	0.00
170.85	25.5	0.05
171.93	10	0.02
172.77	2	0.00
173.42	75	0.16
173.75	69.9	0.15
178.16	0.5	0.00
182.75	50	0.11
183.43	25	0.06
185.12	7.1	0.02
188.30	100	0.23
203.34	0.5	0.00
224.00	8.6	0.02
225.59	0.1	0.00
230.42	0.3	0.00
230.42	0.5	0.00
230.42	4	0.01
230.42	0.1	0.00
230.42	88.4	0.24
230.42	150	0.41
230.42	10	0.03
230.42	10	0.03
230.42	5	0.01
230.42	12	0.03
230.42	161.8	0.45
230.42	125	0.35
230.42	30	0.08
230.42	300	0.83
230.42	100	0.28

IT-R Calculation Alternative ATCO 10a-2

Total Volume ($10^3m^3/d$):	**58,372.1**
Revenue ($million)	**90.43**

Rate ($/$10^3m^3/d$)	Volume ($10^3m^3/d$)	Revenue ($million)
1.38	1,479.04	0.74
1.44	33.12	0.02
1.48	158.26	0.09
1.49	296.33	0.16
1.50	90.64	0.05
1.53	41.31	0.02
1.54	211.36	0.12
1.55	325.09	0.18
1.57	22.53	0.01
1.59	15.77	0.01
1.60	312.57	0.18
1.61	22.44	0.01
1.62	29.19	0.02
1.65	319.46	0.19
1.68	82.53	0.05
1.69	69.84	0.04
1.71	117.00	0.07
1.73	29.19	0.02
1.75	227.63	0.15
1.76	13.08	0.01
1.78	121.80	0.08
1.85	203.46	0.14
1.87	63.91	0.04
1.88	24.15	0.02
1.90	337.17	0.23
1.92	9.28	0.01
1.95	58.27	0.04
1.96	6.50	0.00
1.98	414.51	0.30
2.00	94.84	0.07
2.01	22.95	0.02
2.03	191.59	0.14
2.04	209.84	0.16
2.06	28.81	0.02
2.07	298.73	0.23
2.08	13.46	0.01
2.09	442.29	0.34
2.10	17.03	0.01
2.11	62.18	0.05
2.13	326.91	0.25
2.14	372.19	0.29
2.15	11.78	0.01
2.16	78.68	0.06
2.18	68.42	0.05
2.19	313.28	0.25

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
2.21	125.36	0.10
2.23	4.93	0.00
2.25	35.06	0.03
2.26	441.13	0.36
2.27	231.92	0.19
2.29	346.85	0.29
2.30	289.65	0.24
2.31	66.62	0.06
2.37	7.94	0.01
2.40	22.76	0.02
2.41	49.84	0.04
2.42	221.62	0.20
2.43	187.99	0.17
2.44	75.75	0.07
2.45	317.10	0.28
2.47	1231.82	1.11
2.48	31.08	0.03
2.50	122.18	0.11
2.52	239.79	0.22
2.53	55.66	0.05
2.55	79.50	0.07
2.57	3.62	0.00
2.58	191.32	0.18
2.59	191.32	0.18
2.61	30.28	0.03
2.62	218.24	0.21
2.63	120.66	0.12
2.65	75.46	0.07
2.66	943.45	0.92
2.67	60.43	0.06
2.68	355.40	0.35
2.69	19.29	0.02
2.70	301.78	0.30
2.71	448.12	0.44
2.74	10.80	0.01
2.75	553.21	0.56
2.76	329.32	0.33
2.77	113.35	0.11
2.79	232.14	0.24
2.81	5.53	0.01
2.82	460.58	0.47
2.84	258.46	0.27
2.87	7.33	0.01
2.88	35.22	0.04
2.89	219.07	0.23
2.90	63.90	0.07
2.91	1,853.76	1.97
2.94	152.80	0.16
2.96	427.64	0.46
2.98	122.23	0.13

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
2.99	531.32	0.58
3.01	222.15	0.24
3.03	257.13	0.28
3.04	81.66	0.09
3.05	269.31	0.30
3.06	458.97	0.51
3.07	151.94	0.17
3.08	8.07	0.01
3.09	540.48	0.61
3.10	207.51	0.23
3.11	97.38	0.11
3.12	57.38	0.07
3.13	9.33	0.01
3.14	64.16	0.07
3.15	23.63	0.03
3.17	248.80	0.29
3.18	211.55	0.25
3.19	228.19	0.27
3.20	443.89	0.52
3.21	67.40	0.08
3.22	192.37	0.23
3.24	366.82	0.43
3.27	1,279.33	1.53
3.28	235.53	0.28
3.29	30.56	0.04
3.32	40.97	0.05
3.33	46.49	0.06
3.34	334.37	0.41
3.35	21.20	0.03
3.36	32.12	0.04
3.37	104.85	0.13
3.39	182.31	0.23
3.40	30.30	0.04
3.42	285.98	0.36
3.46	59.45	0.08
3.47	22.10	0.03
3.49	81.01	0.10
3.50	15.15	0.02
3.52	944.60	1.21
3.55	75.72	0.10
3.56	249.50	0.32
3.57	148.45	0.19
3.59	180.63	0.24
3.61	1,512.91	1.99
3.62	46.82	0.06
3.65	52.04	0.07
3.68	273.49	0.37
3.70	10.87	0.01
3.72	67.67	0.09
3.73	263.04	0.36

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
3.74	11.53	0.02
3.75	1,117.87	1.53
3.76	71.49	0.10
3.77	70.00	0.10
3.78	68.94	0.10
3.79	216.71	0.30
3.81	126.60	0.18
3.82	18.96	0.03
3.83	111.01	0.16
3.89	112.02	0.16
3.9	61.40	0.09
3.94	17.45	0.03
3.96	5.67	0.01
3.97	136.44	0.20
3.99	97.17	0.14
4.01	52.59	0.08
4.02	64.10	0.09
4.03	26.78	0.04
4.07	43.69	0.06
4.09	41.42	0.06
4.10	31.75	0.05
4.13	93.72	0.14
4.14	95.01	0.14
4.15	52.50	0.08
4.18	227.82	0.35
4.20	134.68	0.21
4.22	63.04	0.10
4.23	106.84	0.16
4.24	523.23	0.81
4.25	35.79	0.06
4.26	67.25	0.10
4.27	35.32	0.06
4.28	537.01	0.84
4.31	265.66	0.42
4.35	23.81	0.04
4.36	89.81	0.14
4.37	224.24	0.36
4.39	133.82	0.21
4.43	7.62	0.01
4.45	1.17	0.00
4.47	50.17	0.08
4.48	32.60	0.05
4.51	116.64	0.19
4.53	97.97	0.16
4.56	127.68	0.21
4.59	7.21	0.01
4.60	195.28	0.33
4.62	1,043.31	1.76
4.63	14.38	0.02
4.64	119.65	0.20

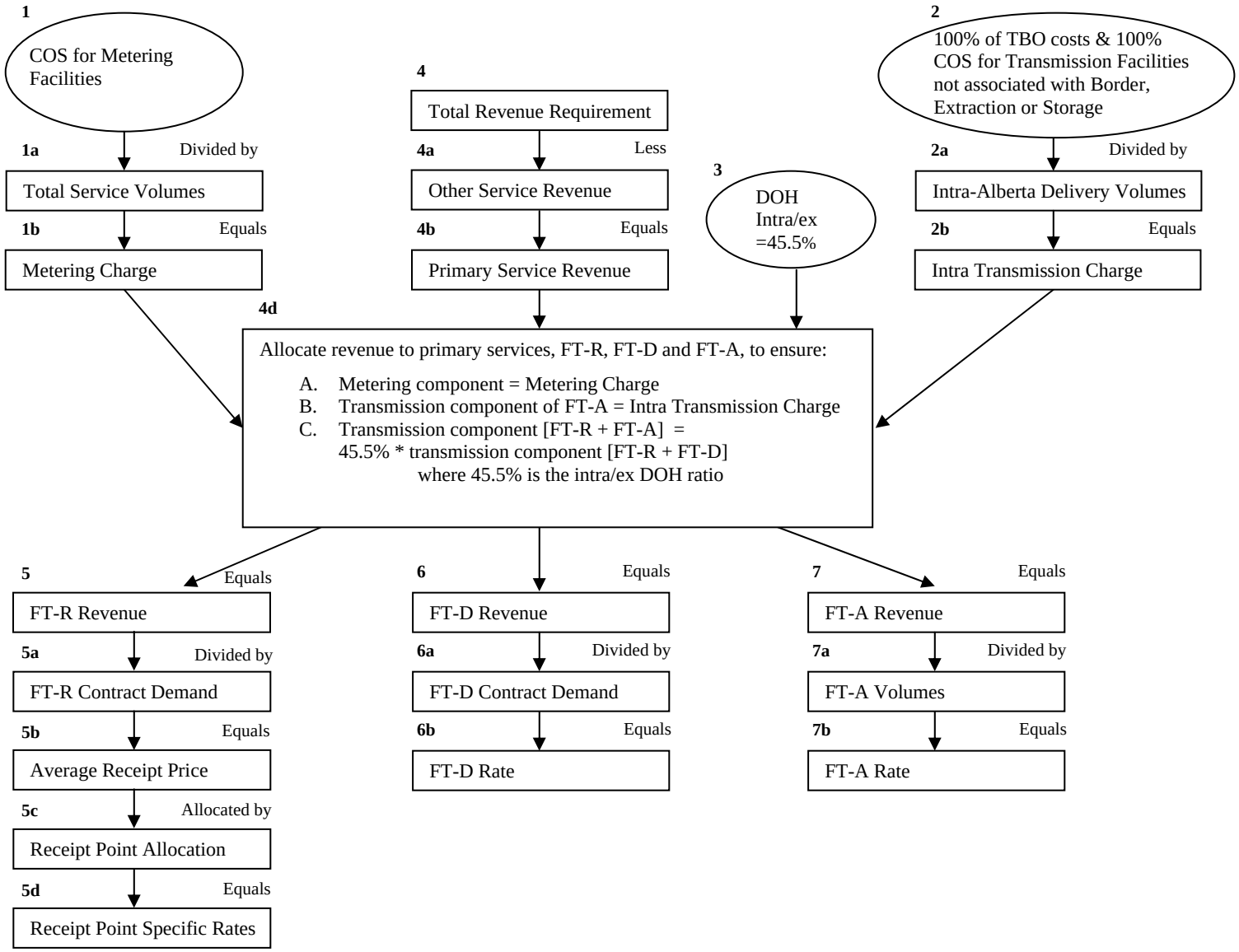
Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
4.65	289.71	0.49
4.66	26.68	0.05
4.67	16.98	0.03
4.68	16.37	0.03
4.70	568.67	0.98
4.71	19.93	0.03
4.73	43.93	0.08
4.76	6.05	0.01
4.77	199.56	0.35
4.81	156.38	0.27
4.85	202.70	0.36
4.86	55.91	0.10
4.87	21.13	0.04
4.88	29.48	0.05
4.89	21.74	0.04
4.91	51.71	0.09
4.92	103.74	0.19
4.94	10.82	0.02
4.98	184.10	0.33
5.00	62.77	0.11
5.02	98.02	0.18
5.05	98.12	0.18
5.06	20.66	0.04
5.07	72.75	0.13
5.10	162.01	0.30
5.11	215.37	0.40
5.13	26.74	0.05
5.15	0.97	0.00
5.16	29.27	0.06
5.19	203.79	0.39
5.20	12.54	0.02
5.21	47.96	0.09
5.22	45.73	0.09
5.23	7.25	0.01
5.24	0.16	0.00
5.27	122.23	0.24
5.28	4.05	0.01
5.29	83.02	0.16
5.30	23.92	0.05
5.34	257.57	0.50
5.35	99.93	0.20
5.38	73.41	0.14
5.39	88.19	0.17
5.42	78.75	0.16
5.44	62.91	0.12
5.46	27.43	0.05
5.48	0.42	0.00
5.49	369.84	0.74
5.51	122.22	0.25
5.53	19.98	0.04

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
5.54	4.29	0.01
5.59	81.44	0.17
5.62	73.96	0.15
5.65	62.54	0.13
5.68	83.94	0.17
5.69	9.81	0.02
5.70	22.72	0.05
5.72	51.67	0.11
5.77	158.94	0.33
5.78	33.59	0.07
5.81	9.49	0.02
5.82	12.22	0.03
5.83	57.94	0.12
5.86	22.93	0.05
5.87	177.58	0.38
5.88	109.21	0.23
5.89	237.01	0.51
5.91	351.50	0.76
5.92	11.56	0.02
5.93	156.39	0.34
5.94	81.04	0.18
5.96	392.01	0.85
5.97	38.22	0.08
5.99	77.03	0.17
6.05	24.77	0.05
6.10	67.53	0.15
6.11	161.14	0.36
6.12	86.26	0.19
6.15	70.20	0.16
6.16	91.41	0.21
6.17	46.79	0.11
6.18	68.22	0.15
6.20	17.04	0.04
6.22	28.83	0.07
6.23	67.85	0.15
6.24	6.42	0.01
6.25	182.18	0.42
6.26	1.15	0.00
6.27	28.70	0.07
6.28	427.69	0.98
6.30	391.97	0.90
6.34	88.52	0.20
6.36	180.91	0.42
6.42	70.39	0.16
6.44	42.91	0.10
6.45	38.25	0.09
6.47	217.33	0.51
6.48	306.84	0.73
6.49	23.84	0.06
6.54	149.17	0.36

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
6.55	11.16	0.03
6.56	40.38	0.10
6.58	39.66	0.10
6.60	45.15	0.11
6.61	213.80	0.52
6.63	72.96	0.18
6.66	6.65	0.02
6.67	13.30	0.03
6.70	80.60	0.20
6.71	7.49	0.02
6.72	11.76	0.03
6.73	155.47	0.38
6.76	82.91	0.20
6.78	229.80	0.57
6.83	13.26	0.03
6.84	57.03	0.14
6.86	9.16	0.02
6.88	28.32	0.07
6.89	48.85	0.12
6.91	87.54	0.22
6.94	100.51	0.25
6.96	11.37	0.03
6.97	6.43	0.02
6.98	40.48	0.10
7.00	8.37	0.02
7.03	34.91	0.09
7.04	6.43	0.02
7.05	13.18	0.03
7.06	210.69	0.54
7.08	29.86	0.08
7.11	4.94	0.01
7.12	38.48	0.10
7.13	7.47	0.02
7.14	80.77	0.21
7.19	133.36	0.35
7.21	98.43	0.26
7.23	0.90	0.00
7.24	57.98	0.15
7.28	0.98	0.00
7.31	1.68	0.00
7.32	2.11	0.01
7.33	6.59	0.02
7.37	21.46	0.06
7.38	2.31	0.01
7.39	19.62	0.05
7.41	244.31	0.66
7.42	6.64	0.02
7.43	15.92	0.04
7.44	131.48	0.36
7.48	9.12	0.02

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
7.53	85.03	0.23
7.55	58.07	0.16
7.57	1244.27	3.44
7.59	25.20	0.07
7.61	2.62	0.01
7.62	157.15	0.44
7.64	219.13	0.61
7.65	25.64	0.07
7.66	7.65	0.02
7.68	28.57	0.08
7.69	13.83	0.04
7.70	97.66	0.27
7.71	142.64	0.40
7.75	23.88	0.07
7.76	25.37	0.07
7.77	18.65	0.05
7.78	24.27	0.07
7.79	47.12	0.13
7.81	3.27	0.01
7.82	3.79	0.01
7.86	4.39	0.01
7.9	18.97	0.05
7.91	5,654.58	16.33

Diagram Alternative 2 Illustrative Rate Calculation



Box/Oval	**Diagram Alternative 2**
Oval 1	$114,741,982
Box 1a	22,137,781 Mcf/d
Box 1b	$0.0142 Mcf/d
Oval 2	$16.2 Million
Box 2a	513.7 Bcf/yr
Box 2b	$0.0315 Mcf/d
Oval 3	Intra/Ex DOH 45.5%
Box 4	$1,160 Million
Box 4a	$282.6 Million
Box 4b	$877.3 Million
Box 4d	n/a
Box 5	$332.6 Million
Box 5a	2,920.1 Bcf/yr
Box 5b	$0.1139 Mcf/d
Box 6	$544.7 Million
Box 6a	2,684.7 Bcf/yr
Box 6b	$0.2029 Mcf/d
Box 7	$17.1 Million
Box 7a	374.71 Bcf/yr
Box 7b	$0.0457 Mcf/d

Summary of Rate Calculation: **Alternative ATCO 10b-1**

Revenue Requirement	$1,160.0 million	see Figure 5.1-1 from Phase 2 Application

Less

Other Service Revenue:	(million)	
OS	$1.1	see Figure 5.1-1 from Phase 2 Application
Facility Connection Services	$4.9	
CO_2	$15.4	
PTS	$0.9	
Total	$22.3	

Equals

Transportation Revenue Requirement	$1,137.6 million

Less

LRS Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
LRS-1	$43.3	0.65	18.45
LRS-2	$0.7	0.04	1.05
LRS-3	$3.3	0.05	1.41
Total	$47.4	0.74	20.90

Less

Interruptible and STFT Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
FT-RN	$5.1	0.07	1.91
FT-P	$21.5	0.38	10.73
IT-D (for volume see Figure 5.1-1 from Phase 2 Application)	$66.9	1.04	29.36
STFT	$0.0	-	-
FT-DW	$0.0	-	-
IT-R	$120.2	2.07	58.37
FTA (for volume see Figure 5.1-1 from Phase 2 Application)	$7.0	1.03	28.92
Total	$220.7	4.59	129.29

Equals

Firm Transportation Revenue Requirement	$869.5 million

Allocation of Revenue

Average Firm Transportation Receipt Price	$0.1508 /Mcf	5.353 /10^3m^3
Firm Transportation Delivery Price	$0.1598 /Mcf	5.674 /10^3m^3
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	0.504 /10^3m^3
FT-A Transmission Price	$0.0045 /Mcf	0.160 /10^3m^3
Total Firm Transportation Price	$0.0187 /Mcf	0.664 /10^3m^3

Equals

FT-D Revenue Requirement	$429.2
FT-R Revenue Requirement	$440.4
FT-A Revenue Requirement	$7.0

Divided by

Contract Demand	Volumes (Bcf)	Volumes (10^6m^3)	
Delivery (see Figure 5.1-1 from Phase 2 Application)	2,684.74	75,639.9	**Iterative Process**
Receipt (see Figure 5.1-1 from Phase 2 Application)	2,920.10	82,271.0	
Total	5,604.85	157,910.9	

Equals

Average Firm Transportation Receipt Price	$0.1508 /Mcf	$5.353 /$10^3m^3$
Firm Transportation Delivery Price	$0.1598 /Mcf	$5.674 /$10^3m^3$
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	$0.504 /$10^3m^3$
FT-A Transmission Price	$0.0045 /Mcf	$0.160 /$10^3m^3$
Total Firm Transportation Price	$0.0187 /Mcf	$0.664 /$10^3m^3$

DEVELOP RECEIPT SERVICE PRICES USING THE FOLLOWING

	($/Mcf)	($/$10^3m^3$)
Floor Price	0.071	2.514
Ceiling Price	0.231	8.193

Allocate to Receipt Stations Based on Path Attributes - Distance and Diameter

Receipt Service Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)	Avg Service Price ($/Mcf)	Avg Service Price ($/$10^3m^3$)
1-Year	$0.0	-	-	0.158	5.621
3-Year	$440.4	8.00	225.40	0.151	5.353
5-Year	$0.0	-	-	0.143	5.085

LRS Calculation Alternative ATCO 10b-1

LRS 1:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	17,070.8	6.32	39.4
15-Year Term	152.1	7.12	0.4
10-Year Term	1,204.5	7.94	3.5
5-Year Term	19.0	9.50	0.1
Total	18,446.4		43.3

LRS 2:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
Max Volume	1,045.0		
LRS Revenue			0.6
Shareholder Contribution			0.1
Total	1,045.0		0.7

LRS 3:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	1,410.0	6.32	
Revenue:			3.3
Shareholder Contribution			0.06
Total	1,410.0		3.3

FT-P Calculation Alternative ATCO 10b-1

	Volume ($10^3m^3/d$)	Distance Band	Rate ($/$10^3m^3$/mo)	Revenue ($million)	Annual Fuel Est. ($million)	Total Revenue ($million)
1	2,413.90	2	101.45	2.94	0.78	3.72
2	140.00	2	101.45	0.17	0.05	0.22
3	566.60	3	111.06	0.76	0.18	0.94
4	225.00	3	111.06	0.30	0.07	0.37
5	140.00	3	111.06	0.19	0.05	0.23
6	198.70	4	120.66	0.29	0.06	0.35
7	155.00	4	120.66	0.22	0.05	0.27
8	200.00	4	120.66	0.29	0.07	0.35
9	131.00	5	130.26	0.20	0.04	0.25
10	460.00	5	130.26	0.72	0.15	0.87
11	270.00	5	130.26	0.42	0.09	0.51
12	140.00	5	130.26	0.22	0.05	0.26
13	268.80	5	130.26	0.42	0.09	0.51
14	283.30	6	139.87	0.48	0.09	0.57
15	140.00	6	139.87	0.23	0.05	0.28
16	140.00	6	139.87	0.23	0.05	0.28
17	540.00	8	159.07	1.03	0.18	1.21
18	117.39	9	168.68	0.24	0.04	0.28
19	1,408.80	9	168.68	2.85	0.46	3.31
20	537.60	9	168.68	1.09	0.17	1.26
21	967.70	9	168.68	1.96	0.31	2.27
22	211.30	10	178.28	0.45	0.07	0.52
23	806.50	10	178.28	1.73	0.26	1.99
24	267.00	10	178.28	0.57	0.09	0.66
Total	**10,728.6**				**3.5**	**21.5**

FT-RN Calculation Alternative ATCO 10b-1

Total Volume $10^3m^3/d$	**1907.4**
Revenue ($million)	**5.1**

Rate ($/$10^3m^3$/mo)	Volume (10^3m^3/d)	Revenue ($million)
84.16	10.9	0.01
85.92	2.4	0.00
96.92	300	0.35
97.57	0.1	0.00
109.13	0.1	0.00
135.16	122.2	0.20
140.84	0.4	0.00
142.48	25	0.04
149.95	25	0.04
156.21	0.1	0.00
166.72	5	0.01
181.49	10	0.02
184.64	25	0.06
198.02	3.9	0.01
212.93	1	0.00
215.11	3	0.01
227.48	2	0.01
229.50	25.5	0.07
230.93	10	0.03
232.03	2	0.01
232.89	75	0.21
233.34	69.9	0.20
239.17	0.5	0.00
245.27	50	0.15
246.15	25	0.07
248.40	7.1	0.02
252.59	100	0.30
272.51	0.5	0.00
274.30	0.3	0.00
274.30	0.5	0.00
274.30	4	0.01
274.30	0.1	0.00
274.30	88.4	0.29
274.30	150	0.49
274.30	10	0.03
274.30	10	0.03
274.30	5	0.02
274.30	0.1	0.00
274.30	8.6	0.03
274.30	12	0.04
274.30	161.8	0.53
274.30	125	0.41
274.30	30	0.10
274.30	300	0.99
274.30	100	0.33

IT-R Calculation Alternative ATCO 10b-1

Total Volume ($10^3m^3/d$):	**58,372.1**
Revenue ($million)	**120.21**

Rate ($/$10^3m^3/d$)	Volume ($10^3m^3/d$)	Revenue ($million)
2.89	6,454.98	6.81
2.91	62.18	0.07
2.93	326.91	0.35
2.94	240.79	0.26
2.95	131.40	0.14
2.96	11.78	0.01
2.97	78.68	0.09
2.99	68.42	0.07
3.01	313.28	0.34
3.03	125.36	0.14
3.07	4.93	0.01
3.09	35.06	0.04
3.10	144.82	0.16
3.11	296.31	0.34
3.12	231.92	0.26
3.15	346.85	0.40
3.16	289.65	0.33
3.17	66.62	0.08
3.25	7.94	0.01
3.29	22.76	0.03
3.31	49.84	0.06
3.32	221.62	0.27
3.33	187.99	0.23
3.34	75.75	0.09
3.35	43.46	0.05
3.36	273.64	0.34
3.38	1,138.42	1.40
3.39	93.40	0.12
3.40	31.08	0.04
3.42	102.37	0.13
3.43	19.81	0.02
3.44	36.70	0.05
3.45	203.09	0.26
3.46	50.47	0.06
3.47	5.18	0.01
3.48	33.72	0.04
3.50	45.79	0.06
3.51	3.62	0.00
3.53	191.32	0.25
3.54	191.32	0.25
3.57	30.28	0.04
3.59	218.24	0.29
3.60	120.66	0.16
3.62	75.46	0.10
3.64	999.51	1.33

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
3.65	4.37	0.01
3.66	355.40	0.47
3.67	19.29	0.03
3.68	37.22	0.05
3.69	264.56	0.36
3.70	448.12	0.61
3.74	10.80	0.01
3.75	387.49	0.53
3.76	165.72	0.23
3.77	329.32	0.45
3.79	113.35	0.16
3.80	232.14	0.32
3.84	5.53	0.01
3.85	460.58	0.65
3.87	135.25	0.19
3.88	123.22	0.17
3.91	7.33	0.01
3.93	35.22	0.05
3.94	36.72	0.05
3.95	246.25	0.36
3.96	1,853.76	2.68
4.00	52.04	0.08
4.01	100.75	0.15
4.03	427.64	0.63
4.06	122.23	0.18
4.07	531.32	0.79
4.10	222.15	0.33
4.12	51.53	0.08
4.13	205.60	0.31
4.14	83.23	0.13
4.15	267.74	0.41
4.16	76.34	0.12
4.17	382.63	0.58
4.18	151.94	0.23
4.19	8.07	0.01
4.20	540.48	0.83
4.22	207.51	0.32
4.23	97.38	0.15
4.24	57.38	0.09
4.25	9.33	0.01
4.27	64.16	0.10
4.28	23.63	0.04
4.31	248.80	0.39
4.32	211.55	0.33
4.34	443.92	0.70
4.35	228.16	0.36
4.36	67.40	0.11
4.38	192.37	0.31
4.40	366.82	0.59
4.44	403.87	0.65

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
4.45	1,041.80	1.69
4.46	69.20	0.11
4.47	30.56	0.05
4.51	40.97	0.07
4.52	38.39	0.06
4.53	8.10	0.01
4.54	355.57	0.59
4.56	32.12	0.05
4.57	10.43	0.02
4.58	94.43	0.16
4.60	90.21	0.15
4.61	106.40	0.18
4.62	16.00	0.03
4.64	285.98	0.48
4.70	59.45	0.10
4.71	22.10	0.04
4.74	81.01	0.14
4.75	15.15	0.03
4.77	944.60	1.64
4.81	75.72	0.13
4.83	249.50	0.44
4.84	148.45	0.26
4.87	180.63	0.32
4.89	1,512.91	2.70
4.90	46.82	0.08
4.94	52.04	0.09
4.99	273.49	0.50
5.02	10.87	0.02
5.04	67.67	0.12
5.05	263.04	0.48
5.07	11.53	0.02
5.08	1,117.87	2.07
5.09	71.49	0.13
5.10	70.00	0.13
5.11	26.05	0.05
5.12	42.88	0.08
5.13	216.71	0.41
5.15	109.63	0.21
5.16	16.98	0.03
5.17	18.96	0.04
5.18	111.01	0.21
5.26	112.02	0.22
5.28	61.40	0.12
5.33	17.45	0.03
5.36	5.67	0.01
5.37	136.44	0.27
5.39	97.17	0.19
5.42	52.59	0.10
5.43	64.10	0.13
5.45	26.78	0.05

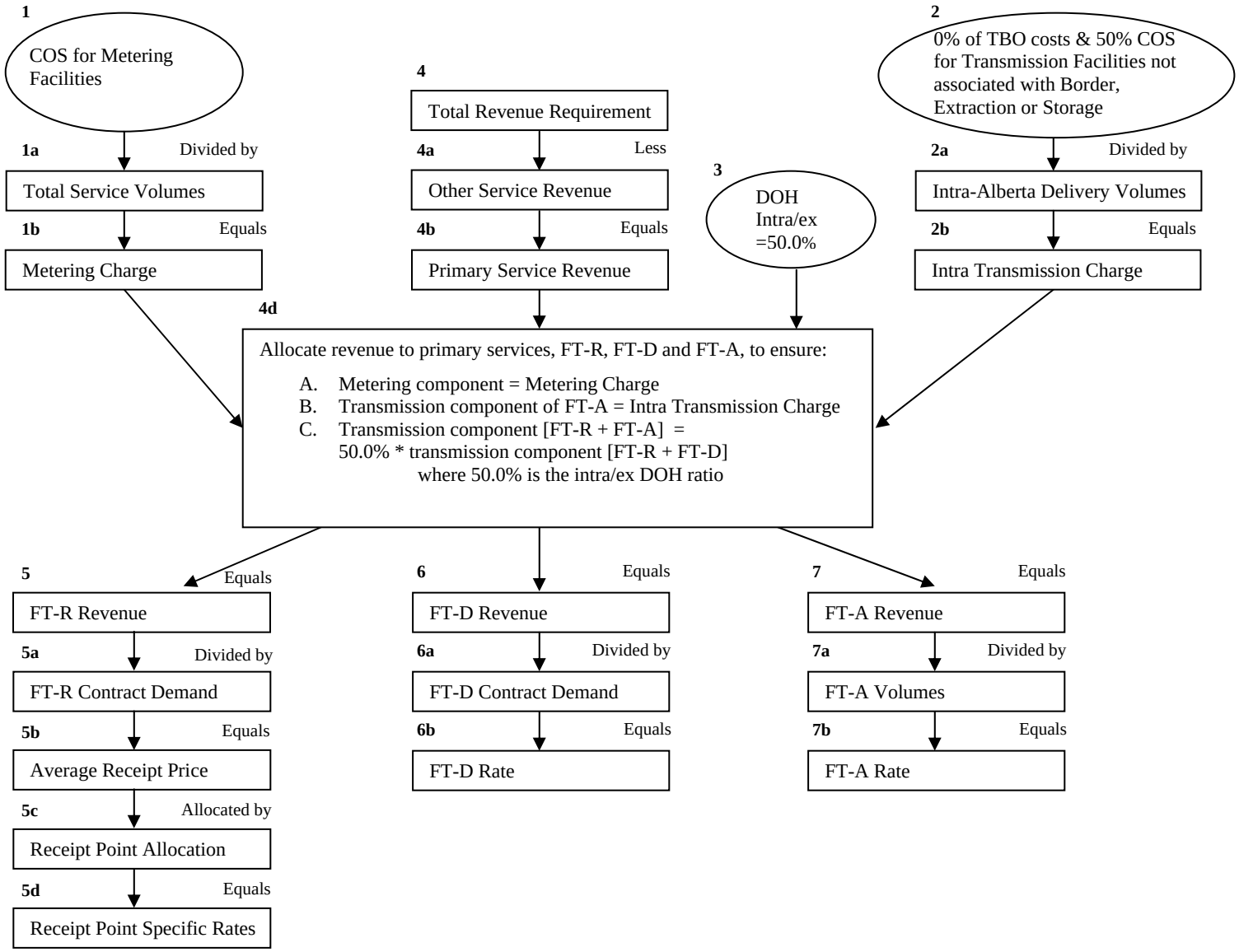
Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
5.51	43.69	0.09
5.53	41.42	0.08
5.54	31.75	0.06
5.58	93.72	0.19
5.59	95.01	0.19
5.61	52.50	0.11
5.65	227.82	0.47
5.67	134.68	0.28
5.70	63.04	0.13
5.71	106.84	0.22
5.72	18.17	0.04
5.73	505.06	1.06
5.74	35.79	0.07
5.75	67.25	0.14
5.76	35.32	0.07
5.77	537.01	1.13
5.82	265.66	0.56
5.87	23.81	0.05
5.88	89.81	0.19
5.89	224.24	0.48
5.92	64.66	0.14
5.93	69.16	0.15
5.98	7.62	0.02
6.00	1.17	0.00
6.04	82.77	0.18
6.08	116.64	0.26
6.11	97.97	0.22
6.15	56.49	0.13
6.16	71.19	0.16
6.19	7.21	0.02
6.20	171.56	0.39
6.21	23.72	0.05
6.23	1,043.31	2.37
6.25	134.03	0.31
6.27	289.71	0.66
6.29	26.68	0.06
6.30	16.98	0.04
6.31	16.37	0.04
6.34	568.67	1.32
6.35	19.93	0.05
6.37	43.93	0.10
6.42	6.05	0.01
6.43	199.56	0.47
6.49	156.38	0.37
6.53	15.00	0.04
6.54	187.70	0.45
6.55	55.91	0.13
6.56	21.13	0.05
6.57	29.48	0.07
6.58	21.74	0.05

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
6.61	51.71	0.12
6.63	103.74	0.25
6.66	10.82	0.03
6.71	184.10	0.45
6.73	62.77	0.15
6.75	32.11	0.08
6.76	65.91	0.16
6.80	98.12	0.24
6.82	93.41	0.23
6.87	377.39	0.95
6.91	26.74	0.07
6.93	0.97	0.00
6.94	29.27	0.07
6.99	203.79	0.52
7.00	12.54	0.03
7.01	47.96	0.12
7.02	45.73	0.12
7.04	7.25	0.02
7.05	0.16	0.00
7.09	122.23	0.32
7.10	4.05	0.01
7.12	83.02	0.22
7.13	23.92	0.06
7.19	257.57	0.68
7.20	99.93	0.26
7.24	73.41	0.19
7.25	88.19	0.23
7.29	78.75	0.21
7.31	62.91	0.17
7.34	27.43	0.07
7.36	0.42	0.00
7.39	369.84	1.00
7.41	122.22	0.33
7.43	19.98	0.05
7.45	4.29	0.01
7.51	71.53	0.20
7.52	9.91	0.03
7.56	73.96	0.20
7.60	62.54	0.17
7.63	83.94	0.23
7.64	9.81	0.03
7.66	22.72	0.06
7.68	51.67	0.14
7.75	158.94	0.45
7.77	33.59	0.10
7.81	21.71	0.06
7.83	12.27	0.04
7.84	45.67	0.13
7.87	22.93	0.07
7.88	140.04	0.40

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
7.89	133.29	0.38
7.90	13.47	0.04
7.91	237.01	0.68
7.93	351.50	1.02
7.95	11.56	0.03
7.97	156.39	0.45
7.98	81.04	0.24
8.00	392.01	1.14
8.01	38.22	0.11
8.05	77.03	0.23
8.12	24.77	0.07
8.19	67.53	0.20
8.20	161.14	0.48
8.22	86.26	0.26
8.26	102.33	0.31
8.27	59.28	0.18
8.28	46.79	0.14
8.30	68.22	0.21
8.33	17.04	0.05
8.34	28.83	0.09
8.36	67.85	0.21
8.37	6.42	0.02
8.39	182.18	0.56
8.41	13.01	0.04
8.42	440.93	1.36
8.43	3.59	0.01
8.45	391.97	1.21
8.51	88.52	0.27
8.53	180.91	0.56
8.62	70.39	0.22
8.64	31.83	0.10
8.65	49.33	0.16
8.68	217.33	0.69
8.70	330.68	1.05
8.77	121.04	0.39
8.78	39.29	0.13
8.79	25.06	0.08
8.80	15.32	0.05
8.83	39.66	0.13
8.85	45.15	0.15
8.86	185.63	0.60
8.87	28.17	0.09
8.89	72.96	0.24
8.94	19.95	0.07
8.98	80.60	0.26
9.00	7.49	0.02
9.01	11.76	0.04
9.02	153.48	0.51
9.03	1.99	0.01
9.06	35.28	0.12

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
9.07	47.63	0.16
9.09	229.80	0.76
9.16	13.26	0.04
9.17	57.03	0.19
9.20	9.16	0.03
9.22	28.32	0.10
9.23	48.85	0.16
9.26	87.54	0.30
9.30	19.44	0.07
9.31	81.07	0.28
9.33	11.37	0.04
9.35	33.02	0.11
9.36	13.89	0.05
9.38	8.37	0.03
9.41	34.91	0.12
9.42	9,076.45	31.21

Diagram Alternative 1 Illustrative Rate Calculation



Box/Oval	**Diagram Alternative 1**
Oval 1	$114,741,982
Box 1a	22,137,781 Mcf/d
Box 1b	$0.0142 Mcf/d
Oval 2	$2.3 Million
Box 2a	513.7 Bcf/yr
Box 2b	$0.0045 Mcf/d
Oval 3	Intra/Ex DOH 50.0%
Box 4	$1,160 Million
Box 4a	$290.4 Million
Box 4b	$869.5 Million
Box 4d	n/a
Box 5	$440.4 Million
Box 5a	2,920.1 Bcf/yr
Box 5b	$0.1508 Mcf/d
Box 6	$429.2 Million
Box 6a	2,684.7 Bcf/yr
Box 6b	$0.1598 Mcf/d
Box 7	$7.0 Million
Box 7a	374.71 Bcf/yr
Box 7b	$0.0187 Mcf/d

Summary of Rate Calculation:

Alternative ATCO 10b-2

Revenue Requirement	$1,160.0 million	see Figure 5.1-1 from Phase 2 Application

Less

Other Service Revenue:	(million)	
OS	$1.1	see Figure 5.1-1 from Phase 2 Application
Facility Connection Services	$4.9	
CO_2	$15.4	
PTS	$0.9	
Total	$22.3	

Equals

Transportation Revenue Requirement	$1,137.6 million

Less

LRS Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
LRS-1	$43.3	0.65	18.45
LRS-2	$0.7	0.04	1.05
LRS-3	$3.3	0.05	1.41
Total	$47.4	0.74	20.90

Less

Interruptible and STFT Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
FT-RN	$4.8	0.07	1.91
FT-P	$20.0	0.38	10.73
IT-D (for volume see Figure 5.1-1 from Phase 2 Application)	$71.9	1.04	29.36
STFT	$0.0	-	-
FT-DW	$0.0	-	-
IT-R	$111.6	2.07	58.37
FTA (for volume see Figure 5.1-1 from Phase 2 Application)	$11.2	1.03	28.92
Total	$219.6	4.59	129.29

Equals

Firm Transportation Revenue Requirement	$870.6 million

Allocation of Revenue

Average Firm Transportation Receipt Price	$0.1402 /Mcf	4.977 /10^3m^3
Firm Transportation Delivery Price	$0.1718 /Mcf	6.096 /10^3m^3
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	0.504 /10^3m^3
FT-A Transmission Price	$0.0158 /Mcf	0.559 /10^3m^3
Total Firm Transportation Price	$0.0300 /Mcf	1.063 /10^3m^3

Equals

FT-D Revenue Requirement	$461.1
FT-R Revenue Requirement	$409.5
FT-A Revenue Requirement	$11.2

Divided by

Contract Demand	Volumes (Bcf)	Volumes (10^6m^3)	
Delivery (see Figure 5.1-1 from Phase 2 Application)	2,684.74	75,639.9	**Iterative Process**
Receipt (see Figure 5.1-1 from Phase 2 Application)	2,920.10	82,271.0	
Total	5,604.85	157,910.9	

Equals

Average Firm Transportation Receipt Price	$0.1402 /Mcf	$4.977 /$10^3m^3$
Firm Transportation Delivery Price	$0.1718 /Mcf	$6.096 /$10^3m^3$
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	$0.504 /$10^3m^3$
FT-A Transmission Price	$0.0158 /Mcf	$0.559 /$10^3m^3$
Total Firm Transportation Price	$0.0300 /Mcf	$1.063 /$10^3m^3$

DEVELOP RECEIPT SERVICE PRICES USING THE FOLLOWING

	($/Mcf)	($/$10^3m^3$)
Floor Price	0.060	2.138
Ceiling Price	0.220	7.817

Allocate to Receipt Stations Based on Path Attributes - Distance and Diameter

Receipt Service Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)	Avg Service Price ($/Mcf)	Avg Service Price ($/$10^3m^3$)
1-Year	$0.0	-	-	0.147	5.226
3-Year	$409.5	8.00	225.40	0.140	4.977
5-Year	$0.0	-	-	0.133	4.729

LRS Calculation Alternative ATCO 10b-2

LRS 1:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	17,070.8	6.32	39.4
15-Year Term	152.1	7.12	0.4
10-Year Term	1,204.5	7.94	3.5
5-Year Term	19.0	9.50	0.1
Total	18,446.4		43.3

LRS 2:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
Max Volume	1,045.0		
LRS Revenue			0.6
Shareholder Contribution			0.1
Total	1,045.0		0.7

LRS 3:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	1,410.0	6.32	
Revenue:			3.3
Shareholder Contribution			0.06
Total	1,410.0		3.3

FT-P Calculation Alternative ATCO 10b-2

	Volume ($10^3m^3/d$)	Distance Band	Rate ($/$10^3m^3$/mo)	Revenue ($million)	Annual Fuel Est. ($million)	Total Revenue ($million)
1	2,413.90	2	90.01	2.61	0.78	3.39
2	140.00	2	90.01	0.15	0.05	0.20
3	566.60	3	99.62	0.68	0.18	0.86
4	225.00	3	99.62	0.27	0.07	0.34
5	140.00	3	99.62	0.17	0.05	0.21
6	198.70	4	109.22	0.26	0.06	0.33
7	155.00	4	109.22	0.20	0.05	0.25
8	200.00	4	109.22	0.26	0.07	0.33
9	131.00	5	118.82	0.19	0.04	0.23
10	460.00	5	118.82	0.66	0.15	0.81
11	270.00	5	118.82	0.38	0.09	0.47
12	140.00	5	118.82	0.20	0.05	0.25
13	268.80	5	118.82	0.38	0.09	0.47
14	283.30	6	128.43	0.44	0.09	0.53
15	140.00	6	128.43	0.22	0.05	0.26
16	140.00	6	128.43	0.22	0.05	0.26
17	540.00	8	147.63	0.96	0.18	1.13
18	117.39	9	157.24	0.22	0.04	0.26
19	1,408.80	9	157.24	2.66	0.46	3.12
20	537.60	9	157.24	1.01	0.17	1.19
21	967.70	9	157.24	1.83	0.31	2.14
22	211.30	10	166.84	0.42	0.07	0.49
23	806.50	10	166.84	1.61	0.26	1.88
24	267.00	10	166.84	0.53	0.09	0.62
Total	**10,728.6**				**3.5**	**20.0**

FT-RN Calculation Alternative ATCO 10b-2

	Total Volume $10^3m^3/d$	1907.4
	Revenue ($million)	4.8
Rate ($/$10^3m^3$/mo)	Volume ($10^3m^3/d)	Revenue ($million)
71.58	10.9	0.01
79.15	2.4	0.00
89.38	300	0.32
89.98	0.1	0.00
100.73	0.1	0.00
124.93	122.2	0.18
130.22	0.4	0.00
131.74	25	0.04
138.69	25	0.04
144.51	0.1	0.00
154.26	5	0.01
168.00	10	0.02
170.93	25	0.05
183.38	3.9	0.01
197.23	1	0.00
199.25	3	0.01
210.77	2	0.01
212.65	25.5	0.07
213.97	10	0.03
215.01	2	0.01
215.80	75	0.19
216.22	69.9	0.18
221.65	0.5	0.00
227.30	50	0.14
228.13	25	0.07
230.22	7.1	0.02
234.12	100	0.28
252.65	0.5	0.00
261.72	0.3	0.00
261.72	0.5	0.00
261.72	4	0.01
261.72	0.1	0.00
261.72	88.4	0.28
261.72	150	0.47
261.72	10	0.03
261.72	10	0.03
261.72	5	0.02
261.72	0.1	0.00
261.72	8.6	0.03
261.72	12	0.04
261.72	161.8	0.51
261.72	125	0.39
261.72	30	0.09
261.72	300	0.94
261.72	100	0.31

IT-R Calculation Alternative ATCO 10b-2

Total Volume ($10^3m^3/d$):	**58,372.1**
Revenue ($million)	**111.65**

Rate ($/$10^3m^3/d$)	Volume ($10^3m^3/d$)	Revenue ($million)
2.46	4,656.16	4.18
2.48	58.27	0.05
2.49	6.50	0.01
2.51	414.51	0.38
2.54	40.61	0.04
2.55	54.23	0.05
2.56	22.95	0.02
2.57	39.82	0.04
2.58	151.78	0.14
2.59	209.84	0.20
2.61	28.81	0.03
2.63	312.19	0.30
2.65	274.85	0.27
2.66	184.46	0.18
2.68	62.18	0.06
2.70	326.91	0.32
2.71	240.79	0.24
2.72	131.40	0.13
2.73	11.78	0.01
2.74	78.68	0.08
2.76	68.42	0.07
2.77	313.28	0.32
2.80	125.36	0.13
2.83	4.93	0.01
2.85	35.06	0.04
2.86	144.82	0.15
2.87	522.55	0.55
2.88	5.69	0.01
2.90	346.85	0.37
2.91	289.65	0.31
2.92	13.06	0.01
2.93	53.56	0.06
3.00	7.94	0.01
3.04	22.76	0.03
3.05	49.84	0.06
3.06	221.62	0.25
3.07	187.99	0.21
3.08	75.75	0.09
3.09	317.10	0.36
3.12	1,231.82	1.40
3.13	31.08	0.04
3.15	102.37	0.12
3.16	19.81	0.02
3.18	239.79	0.28
3.19	50.47	0.06

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
3.20	5.18	0.01
3.21	33.72	0.04
3.22	45.79	0.05
3.24	3.62	0.00
3.26	382.64	0.46
3.30	30.28	0.04
3.31	218.24	0.26
3.32	120.66	0.15
3.34	75.46	0.09
3.35	943.45	1.15
3.36	56.06	0.07
3.37	4.37	0.01
3.38	355.40	0.44
3.39	19.29	0.02
3.40	37.22	0.05
3.41	712.69	0.89
3.46	398.29	0.50
3.47	165.72	0.21
3.48	329.32	0.42
3.49	113.35	0.14
3.51	232.14	0.30
3.54	5.53	0.01
3.55	460.58	0.60
3.57	135.25	0.18
3.58	123.22	0.16
3.61	7.33	0.01
3.63	35.93	0.05
3.64	218.35	0.29
3.65	63.90	0.09
3.66	1,853.76	2.48
3.69	52.04	0.07
3.70	100.75	0.14
3.72	278.58	0.38
3.73	149.06	0.20
3.74	35.48	0.05
3.75	86.74	0.12
3.76	531.32	0.73
3.78	222.15	0.31
3.81	257.13	0.36
3.82	81.66	0.11
3.83	269.31	0.38
3.85	458.97	0.64
3.86	151.94	0.21
3.87	8.07	0.01
3.88	540.48	0.77
3.89	161.75	0.23
3.90	45.77	0.07
3.91	97.38	0.14
3.92	57.38	0.08
3.93	9.33	0.01

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
3.95	64.16	0.09
3.96	23.63	0.03
3.99	460.35	0.67
4.01	443.92	0.65
4.02	228.16	0.33
4.03	67.40	0.10
4.05	192.37	0.28
4.07	366.82	0.54
4.10	403.87	0.60
4.11	1,041.80	1.56
4.12	69.20	0.10
4.13	30.56	0.05
4.17	46.74	0.07
4.18	40.71	0.06
4.19	105.21	0.16
4.20	250.36	0.38
4.21	32.12	0.05
4.23	104.85	0.16
4.25	90.21	0.14
4.26	106.40	0.17
4.27	16.00	0.02
4.29	285.98	0.45
4.34	59.45	0.09
4.35	22.10	0.04
4.38	81.01	0.13
4.39	15.15	0.02
4.41	944.60	1.52
4.45	75.72	0.12
4.47	397.95	0.65
4.50	180.63	0.30
4.52	1,512.91	2.50
4.53	46.82	0.08
4.57	52.04	0.09
4.61	273.49	0.46
4.64	10.87	0.02
4.66	67.67	0.12
4.67	263.04	0.45
4.69	11.53	0.02
4.70	1,189.36	2.04
4.71	70.00	0.12
4.73	68.94	0.12
4.74	216.71	0.37
4.76	109.63	0.19
4.77	16.98	0.03
4.79	129.98	0.23
4.87	112.02	0.20
4.88	61.40	0.11
4.93	17.45	0.03
4.96	124.44	0.23
4.97	17.68	0.03

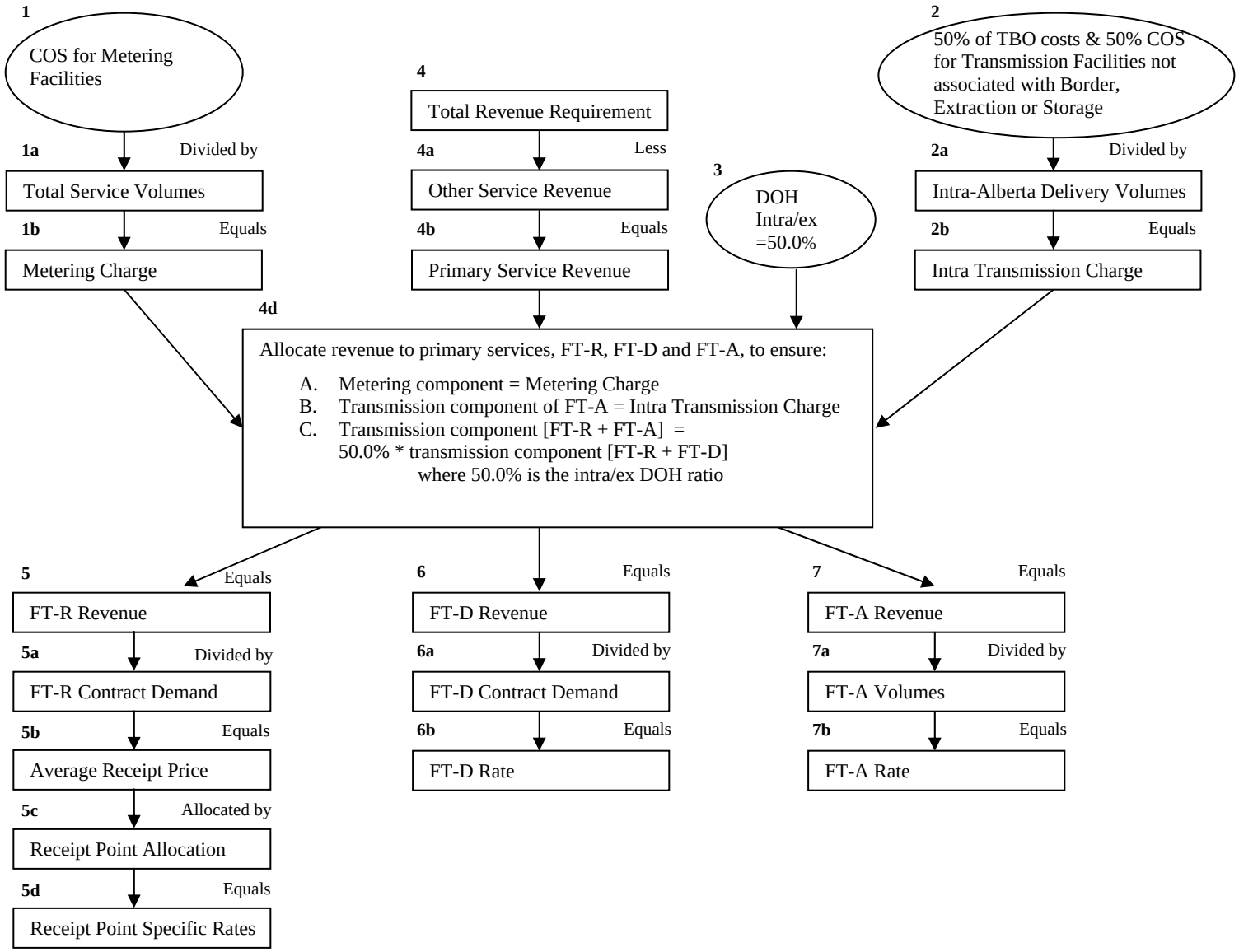
Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
4.99	97.17	0.18
5.01	52.59	0.10
5.03	64.10	0.12
5.04	26.78	0.05
5.09	43.69	0.08
5.12	41.42	0.08
5.13	31.75	0.06
5.16	93.72	0.18
5.17	95.01	0.18
5.19	52.50	0.10
5.23	227.82	0.43
5.24	58.42	0.11
5.25	76.25	0.15
5.28	169.88	0.33
5.29	18.17	0.04
5.30	505.06	0.98
5.31	35.79	0.07
5.32	67.25	0.13
5.33	35.32	0.07
5.34	537.01	1.05
5.38	265.66	0.52
5.43	23.81	0.05
5.44	89.81	0.18
5.45	224.24	0.45
5.48	64.66	0.13
5.49	69.16	0.14
5.53	7.62	0.02
5.55	1.17	0.00
5.59	82.77	0.17
5.63	116.64	0.24
5.65	97.97	0.20
5.69	56.49	0.12
5.70	71.19	0.15
5.73	7.21	0.02
5.74	195.28	0.41
5.77	1,043.31	2.20
5.78	14.38	0.03
5.79	119.65	0.25
5.80	192.32	0.41
5.81	97.40	0.21
5.82	26.68	0.06
5.83	16.98	0.04
5.84	16.37	0.03
5.87	568.67	1.22
5.88	19.93	0.04
5.90	43.93	0.09
5.94	6.05	0.01
5.95	199.56	0.43
6.01	156.38	0.34
6.05	202.70	0.45

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
6.06	55.91	0.12
6.07	8.51	0.02
6.08	42.09	0.09
6.10	21.74	0.05
6.12	51.71	0.12
6.14	103.74	0.23
6.17	10.82	0.02
6.21	184.10	0.42
6.23	62.77	0.14
6.25	17.56	0.04
6.26	80.46	0.18
6.30	98.12	0.23
6.31	20.66	0.05
6.32	72.75	0.17
6.36	162.01	0.38
6.37	215.37	0.50
6.40	26.74	0.06
6.41	0.97	0.00
6.43	29.27	0.07
6.47	203.79	0.48
6.49	60.50	0.14
6.50	45.73	0.11
6.52	7.25	0.02
6.53	0.16	0.00
6.56	122.23	0.29
6.57	4.05	0.01
6.60	106.94	0.26
6.66	357.50	0.87
6.71	73.41	0.18
6.72	88.19	0.22
6.75	71.42	0.18
6.76	7.33	0.02
6.77	26.19	0.06
6.78	36.72	0.09
6.80	27.43	0.07
6.82	0.42	0.00
6.84	369.84	0.92
6.87	122.22	0.31
6.88	19.98	0.05
6.90	4.29	0.01
6.96	81.44	0.21
7.00	73.96	0.19
7.04	62.54	0.16
7.07	83.94	0.22
7.08	9.81	0.03
7.09	19.78	0.05
7.10	2.94	0.01
7.12	51.67	0.13
7.18	158.94	0.42
7.20	33.59	0.09

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
7.24	21.71	0.06
7.25	0.44	0.00
7.26	57.50	0.15
7.29	22.93	0.06
7.30	140.04	0.37
7.31	133.29	0.36
7.32	13.47	0.04
7.33	237.01	0.63
7.35	351.50	0.94
7.37	11.56	0.03
7.38	156.39	0.42
7.39	33.84	0.09
7.40	47.19	0.13
7.41	392.01	1.06
7.43	38.22	0.10
7.46	77.03	0.21
7.53	24.77	0.07
7.59	67.53	0.19
7.60	161.14	0.45
7.61	86.26	0.24
7.65	70.20	0.20
7.66	91.41	0.26
7.67	46.79	0.13
7.69	68.22	0.19
7.72	17.04	0.05
7.73	28.83	0.08
7.75	67.85	0.19
7.76	6.42	0.02
7.78	182.18	0.52
7.79	13.01	0.04
7.80	16.84	0.05
7.81	427.69	1.22
7.83	367.28	1.05
7.84	24.69	0.07
7.88	88.52	0.25
7.91	180.91	0.52
7.99	70.39	0.21
8.00	18.87	0.06
8.01	24.04	0.07
8.02	38.25	0.11
8.04	217.33	0.64
8.06	306.84	0.90
8.07	23.84	0.07
8.13	149.17	0.44
8.14	11.16	0.03
8.15	25.06	0.07
8.16	15.32	0.05
8.19	39.66	0.12
8.21	230.77	0.69
8.22	28.17	0.08

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
8.24	72.96	0.22
8.28	6.65	0.02
8.29	13.30	0.04
8.33	80.60	0.25
8.34	7.49	0.02
8.35	11.76	0.04
8.36	128.19	0.39
8.37	27.28	0.08
8.40	35.28	0.11
8.41	47.63	0.15
8.42	181.79	0.56
8.43	48.01	0.15
8.49	13.26	0.04
8.50	10.97	0.03
8.51	46.06	0.14
8.53	9.16	0.03
8.55	28.32	0.09
8.56	48.85	0.15
8.58	51.34	0.16
8.59	36.19	0.11
8.62	19.44	0.06
8.63	81.07	0.26
8.65	11.37	0.04
8.67	33.02	0.10
8.68	13.89	0.04
8.70	8.37	0.03
8.73	34.91	0.11
8.75	19.61	0.06
8.77	210.69	0.67
8.79	5.01	0.02
8.80	24.84	0.08
8.83	4.94	0.02
8.85	38.48	0.12
8.86	28.38	0.09
8.87	59.86	0.19
8.93	133.36	0.43
8.95	22.58	0.07
8.96	75.84	0.25
8.97	0.21	0.00
8.98	0.68	0.00
8.99	8,451.95	27.73

Diagram Alternative 2 Illustrative Rate Calculation



Box/Oval	**Diagram Alternative 2**
Oval 1	$114,741,982
Box 1a	22,137,781 Mcf/d
Box 1b	$0.0142 Mcf/d
Oval 2	$8.1 Million
Box 2a	513.7 Bcf/yr
Box 2b	$0.0158 Mcf/d
Oval 3	Intra/Ex DOH 50.0%
Box 4	$1,160 Million
Box 4a	$289.3 Million
Box 4b	$870.6 Million
Box 4d	n/a
Box 5	$409.5 Million
Box 5a	2,920.1 Bcf/yr
Box 5b	$0.1402 Mcf/d
Box 6	$461.1 Million
Box 6a	2,684.7 Bcf/yr
Box 6b	$0.1718 Mcf/d
Box 7	$11.2 Million
Box 7a	374.71 Bcf/yr
Box 7b	$0.0300 Mcf/d

Summary of Rate Calculation: **Alternative ATCO 10b-3**

Revenue Requirement	$1,160.0 million	see Figure 5.1-1 from Phase 2 Application

Less

Other Service Revenue:	(million)	
OS	$1.1	see Figure 5.1-1 from Phase 2 Application
Facility Connection Services	$4.9	
CO_2	$15.4	
PTS	$0.9	
Total	$22.3	

Equals

Transportation Revenue Requirement	$1,137.6 million

Less

LRS Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
LRS-1	$43.3	0.65	18.45
LRS-2	$0.7	0.04	1.05
LRS-3	$3.3	0.05	1.41
Total	$47.4	0.74	20.90

Less

Interruptible and STFT Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
FT-RN	$4.7	0.07	1.91
FT-P	$19.4	0.38	10.73
IT-D (for volume see Figure 5.1-1 from Phase 2 Application)	$73.8	1.04	29.36
STFT	$0.0	-	-
FT-DW	$0.0	-	-
IT-R	$108.2	2.07	58.37
FTA (for volume see Figure 5.1-1 from Phase 2 Application)	$12.9	1.03	28.92
Total	$219.1	4.59	129.29

Equals

Firm Transportation Revenue Requirement	$871.1 million

Allocation of Revenue

Average Firm Transportation Receipt Price	$0.1360 /Mcf	4.827 /10^3m^3
Firm Transportation Delivery Price	$0.1766 /Mcf	6.266 /10^3m^3
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	0.504 /10^3m^3
FT-A Transmission Price	$0.0203 /Mcf	0.720 /10^3m^3
Total Firm Transportation Price	$0.0345 /Mcf	1.224 /10^3m^3

Equals

FT-D Revenue Requirement	$474.0
FT-R Revenue Requirement	$397.1
FT-A Revenue Requirement	$12.9

Divided by

Contract Demand	Volumes (Bcf)	Volumes (10^6m^3)	
Delivery (see Figure 5.1-1 from Phase 2 Application)	2,684.74	75,639.9	**Iterative Process**
Receipt (see Figure 5.1-1 from Phase 2 Application)	2,920.10	82,271.0	
Total	5,604.85	157,910.9	

Equals

Average Firm Transportation Receipt Price	$0.1360 /Mcf	$4.827 /$10^3m^3$
Firm Transportation Delivery Price	$0.1766 /Mcf	$6.266 /$10^3m^3$
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	$0.504 /$10^3m^3$
FT-A Transmission Price	$0.0203 /Mcf	$0.720 /$10^3m^3$
Total Firm Transportation Price	$0.0345 /Mcf	$1.224 /$10^3m^3$

DEVELOP RECEIPT SERVICE PRICES USING THE FOLLOWING

	($/Mcf)	($/$10^3m^3$)
Floor Price	0.056	1.987
Ceiling Price	0.216	7.666

Allocate to Receipt Stations Based on Path Attributes - Distance and Diameter

Receipt Service Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)	Avg Service Price ($/Mcf)	Avg Service Price ($/$10^3m^3$)
1-Year	$0.0	-	-	0.143	5.068
3-Year	$397.1	8.00	225.40	0.136	4.827
5-Year	$0.0	-	-	0.129	4.586

LRS Calculation Alternative ATCO 10b-3

LRS 1:	Volume ($10^3m^3/d$)	Rate ($/10^3m^3$)	Revenue ($million)
20-Year Term	17,070.8	6.32	39.4
15-Year Term	152.1	7.12	0.4
10-Year Term	1,204.5	7.94	3.5
5-Year Term	19.0	9.50	0.1
Total	18,446.4		43.3

LRS 2:	Volume ($10^3m^3/d$)	Rate ($/10^3m^3$)	Revenue ($million)
Max Volume	1,045.0		
LRS Revenue			0.6
Shareholder Contribution			0.1
Total	1,045.0		0.7

LRS 3:	Volume ($10^3m^3/d$)	Rate ($/10^3m^3$)	Revenue ($million)
20-Year Term	1,410.0	6.32	
Revenue:			3.3
Shareholder Contribution			0.06
Total	1,410.0		3.3

FT-P Calculation Alternative ATCO 10b-3

	Volume ($10^3m^3/d$)	Distance Band	Rate ($/$10^3m^3$/mo)	Revenue ($million)	Annual Fuel Est. ($million)	Total Revenue ($million)
1	2,413.90	2	85.43	2.47	0.78	3.26
2	140.00	2	85.43	0.14	0.05	0.19
3	566.60	3	95.04	0.65	0.18	0.83
4	225.00	3	95.04	0.26	0.07	0.33
5	140.00	3	95.04	0.16	0.05	0.21
6	198.70	4	104.64	0.25	0.06	0.31
7	155.00	4	104.64	0.19	0.05	0.25
8	200.00	4	104.64	0.25	0.07	0.32
9	131.00	5	114.24	0.18	0.04	0.22
10	460.00	5	114.24	0.63	0.15	0.78
11	270.00	5	114.24	0.37	0.09	0.46
12	140.00	5	114.24	0.19	0.05	0.24
13	268.80	5	114.24	0.37	0.09	0.46
14	283.30	6	123.85	0.42	0.09	0.51
15	140.00	6	123.85	0.21	0.05	0.25
16	140.00	6	123.85	0.21	0.05	0.25
17	540.00	8	143.05	0.93	0.18	1.10
18	117.39	9	152.66	0.22	0.04	0.25
19	1,408.80	9	152.66	2.58	0.46	3.04
20	537.60	9	152.66	0.98	0.17	1.16
21	967.70	9	152.66	1.77	0.31	2.09
22	211.30	10	162.26	0.41	0.07	0.48
23	806.50	10	162.26	1.57	0.26	1.83
24	267.00	10	162.26	0.52	0.09	0.61
Total	**10,728.6**				**3.5**	**19.4**

FT-RN Calculation Alternative ATCO 10b-3

Total Volume $10^3m^3/d$	**1907.4**
Revenue ($million)	**4.7**

Rate ($/$10^3m^3$/mo)	Volume (10^3m^3/d)	Revenue ($million)
66.54	10.9	0.01
76.43	2.4	0.00
86.35	300	0.31
86.93	0.1	0.00
97.36	0.1	0.00
120.82	122.2	0.18
125.95	0.4	0.00
127.42	25	0.04
134.17	25	0.04
139.81	0.1	0.00
149.28	5	0.01
162.60	10	0.02
165.44	25	0.05
177.51	3.9	0.01
190.95	1	0.00
192.91	3	0.01
204.07	2	0.00
205.90	25.5	0.06
207.19	10	0.02
208.18	2	0.00
208.96	75	0.19
209.35	69.9	0.18
214.62	0.5	0.00
220.11	50	0.13
220.90	25	0.07
222.94	7.1	0.02
226.72	100	0.27
244.68	0.5	0.00
256.69	0.3	0.00
256.69	0.5	0.00
256.69	4	0.01
256.69	0.1	0.00
256.69	88.4	0.27
256.69	150	0.46
256.69	10	0.03
256.69	10	0.03
256.69	5	0.02
256.69	0.1	0.00
256.69	8.6	0.03
256.69	12	0.04
256.69	161.8	0.50
256.69	125	0.39
256.69	30	0.09
256.69	300	0.92
256.69	100	0.31

IT-R Calculation Alternative ATCO 10b-3

Total Volume ($10^3m^3/d$):	**58,372.1**
Revenue ($million)	**108.24**

Rate ($/$10^3m^3/d$)	Volume ($10^3m^3/d$)	Revenue ($million)
2.29	4,221.65	3.53
2.30	63.91	0.05
2.31	24.15	0.02
2.34	337.17	0.29
2.36	9.28	0.01
2.40	58.27	0.05
2.41	6.50	0.01
2.43	414.51	0.37
2.45	40.61	0.04
2.46	54.23	0.05
2.47	22.95	0.02
2.49	191.59	0.17
2.50	209.84	0.19
2.52	28.81	0.03
2.54	312.19	0.29
2.56	274.85	0.26
2.57	184.46	0.17
2.59	62.18	0.06
2.61	326.91	0.31
2.62	260.59	0.25
2.63	111.60	0.11
2.64	90.47	0.09
2.66	68.42	0.07
2.68	313.28	0.31
2.70	125.36	0.12
2.73	4.93	0.00
2.75	35.06	0.04
2.76	144.82	0.15
2.77	522.55	0.53
2.78	5.69	0.01
2.80	346.85	0.35
2.81	289.65	0.30
2.82	13.06	0.01
2.83	53.56	0.06
2.90	7.94	0.01
2.93	22.76	0.02
2.95	135.72	0.15
2.96	135.74	0.15
2.97	187.99	0.20
2.98	75.75	0.08
2.99	317.10	0.35
3.01	1,055.98	1.16
3.02	175.84	0.19
3.03	31.08	0.03
3.05	102.37	0.11

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
3.06	19.81	0.02
3.07	239.79	0.27
3.08	50.47	0.06
3.09	5.18	0.01
3.11	33.72	0.04
3.12	45.79	0.05
3.13	3.62	0.00
3.15	382.64	0.44
3.18	30.28	0.04
3.20	218.24	0.25
3.21	120.66	0.14
3.23	75.46	0.09
3.24	943.45	1.12
3.25	60.43	0.07
3.26	34.14	0.04
3.27	340.55	0.41
3.29	301.78	0.36
3.30	448.12	0.54
3.34	398.29	0.49
3.35	165.72	0.20
3.36	215.49	0.26
3.37	113.83	0.14
3.38	113.35	0.14
3.39	232.14	0.29
3.42	5.53	0.01
3.43	460.58	0.58
3.45	135.25	0.17
3.46	123.22	0.16
3.49	7.33	0.01
3.51	35.93	0.05
3.52	218.35	0.28
3.53	1,917.66	2.47
3.57	52.04	0.07
3.58	100.75	0.13
3.60	427.64	0.56
3.62	35.48	0.05
3.63	618.07	0.82
3.66	222.15	0.30
3.68	51.53	0.07
3.69	205.60	0.28
3.70	83.23	0.11
3.71	267.74	0.36
3.72	458.97	0.62
3.73	151.94	0.21
3.74	8.07	0.01
3.75	540.48	0.74
3.77	207.51	0.29
3.78	97.38	0.13
3.79	57.38	0.08
3.80	9.33	0.01

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
3.81	37.32	0.05
3.82	26.84	0.04
3.83	23.63	0.03
3.85	248.80	0.35
3.86	211.55	0.30
3.87	76.52	0.11
3.88	367.41	0.52
3.89	295.56	0.42
3.91	192.37	0.27
3.93	366.82	0.53
3.97	1,279.33	1.85
3.98	166.34	0.24
3.99	99.76	0.15
4.03	40.97	0.06
4.04	38.39	0.06
4.05	46.09	0.07
4.06	317.57	0.47
4.07	32.12	0.05
4.09	104.85	0.16
4.11	90.21	0.14
4.12	106.40	0.16
4.13	16.00	0.02
4.15	285.98	0.43
4.20	59.45	0.09
4.21	22.10	0.03
4.23	81.01	0.13
4.24	15.15	0.02
4.26	944.60	1.47
4.30	75.72	0.12
4.32	249.50	0.39
4.33	148.45	0.23
4.36	180.63	0.29
4.37	84.15	0.13
4.38	1,475.58	2.36
4.42	52.04	0.08
4.46	273.49	0.45
4.49	10.87	0.02
4.50	67.67	0.11
4.51	263.04	0.43
4.54	11.53	0.02
4.55	1,189.36	1.98
4.56	70.00	0.12
4.58	68.94	0.12
4.59	216.71	0.36
4.61	126.60	0.21
4.63	129.98	0.22
4.71	112.02	0.19
4.73	61.40	0.11
4.77	17.45	0.03
4.80	124.44	0.22

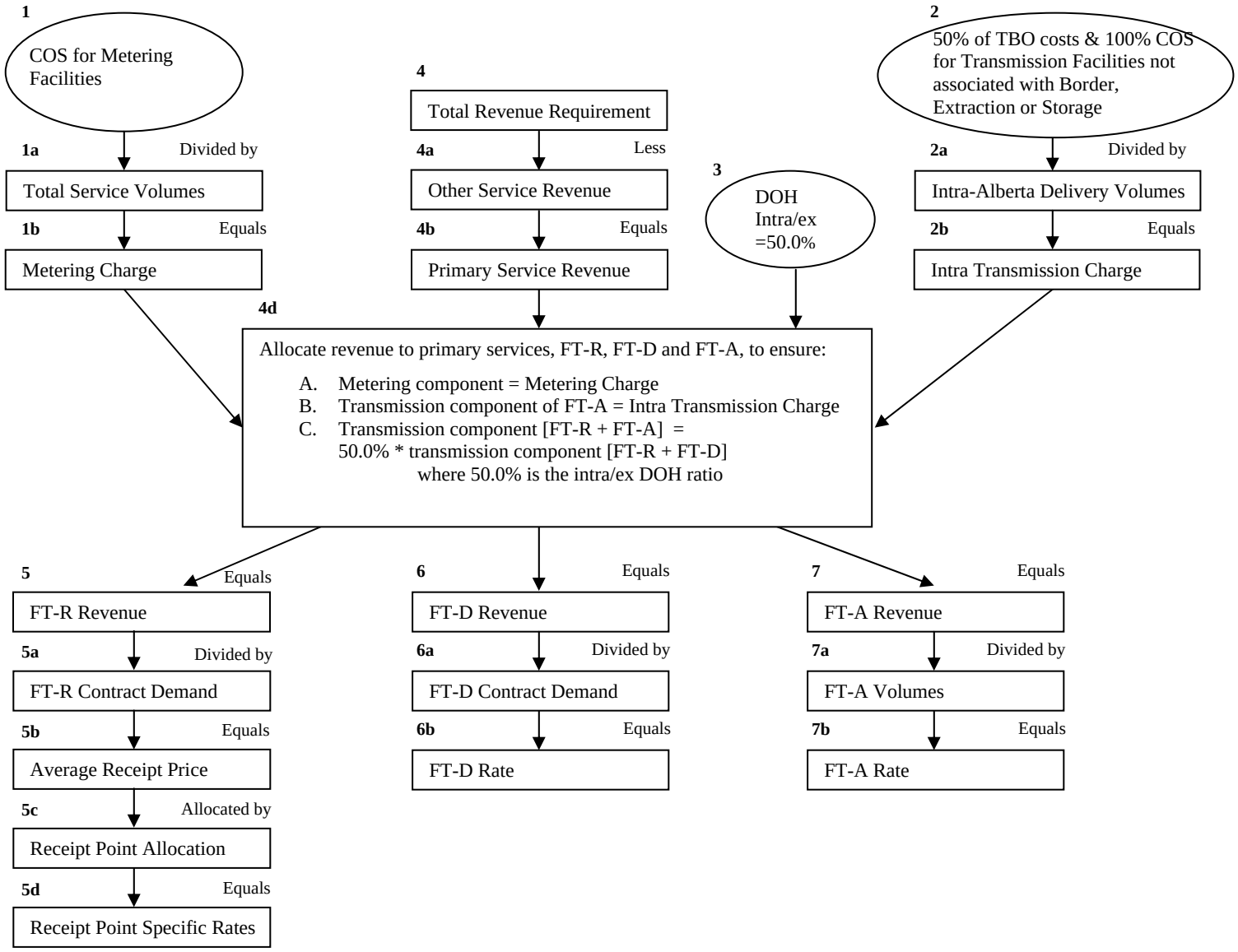
Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
4.81	17.68	0.03
4.82	97.17	0.17
4.85	52.59	0.09
4.86	64.10	0.11
4.88	26.78	0.05
4.93	43.69	0.08
4.95	41.42	0.07
4.96	31.75	0.06
5.00	150.30	0.27
5.01	38.44	0.07
5.02	52.50	0.10
5.06	227.82	0.42
5.08	134.68	0.25
5.11	169.88	0.32
5.12	18.17	0.03
5.13	505.06	0.95
5.14	35.79	0.07
5.15	67.25	0.13
5.16	35.32	0.07
5.17	537.01	1.01
5.21	265.66	0.51
5.26	23.81	0.05
5.27	89.81	0.17
5.28	224.24	0.43
5.30	64.66	0.13
5.31	69.16	0.13
5.35	7.62	0.01
5.38	1.17	0.00
5.41	82.77	0.16
5.45	116.64	0.23
5.47	97.97	0.20
5.51	127.68	0.26
5.54	7.21	0.01
5.55	171.56	0.35
5.56	23.72	0.05
5.58	1,043.31	2.12
5.60	134.03	0.27
5.61	192.32	0.39
5.62	97.40	0.20
5.63	26.68	0.05
5.64	16.98	0.03
5.65	16.37	0.03
5.68	568.67	1.18
5.69	19.93	0.04
5.71	43.93	0.09
5.75	6.05	0.01
5.76	199.56	0.42
5.81	156.38	0.33
5.85	15.00	0.03
5.86	187.70	0.40

Rate ($/10^{3}m^3/d)	Volume (10^3m^3/d)	Revenue ($million)
5.87	55.91	0.12
5.88	21.13	0.05
5.89	29.48	0.06
5.90	21.74	0.05
5.93	51.71	0.11
5.94	103.74	0.22
5.97	10.82	0.02
6.02	184.10	0.40
6.03	62.77	0.14
6.05	32.11	0.07
6.06	65.91	0.15
6.09	4.02	0.01
6.10	94.10	0.21
6.11	93.41	0.21
6.15	129.92	0.29
6.16	247.47	0.56
6.19	26.74	0.06
6.21	0.97	0.00
6.23	29.27	0.07
6.26	156.31	0.36
6.27	47.48	0.11
6.28	60.50	0.14
6.30	45.73	0.11
6.31	7.25	0.02
6.32	0.16	0.00
6.35	122.23	0.28
6.36	4.05	0.01
6.39	106.94	0.25
6.45	357.50	0.84
6.49	73.41	0.17
6.50	88.19	0.21
6.54	78.75	0.19
6.56	62.91	0.15
6.58	27.43	0.07
6.60	0.42	0.00
6.63	369.84	0.89
6.65	122.22	0.30
6.66	19.98	0.05
6.68	4.29	0.01
6.74	81.44	0.20
6.78	73.96	0.18
6.81	62.54	0.16
6.85	93.74	0.23
6.87	22.72	0.06
6.89	51.67	0.13
6.95	158.94	0.40
6.97	33.59	0.09
7.01	21.71	0.06
7.02	0.44	0.00
7.03	57.50	0.15

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
7.06	22.93	0.06
7.07	140.04	0.36
7.08	146.76	0.38
7.09	237.01	0.61
7.12	351.50	0.91
7.13	11.56	0.03
7.15	156.39	0.41
7.16	81.04	0.21
7.18	392.01	1.03
7.19	38.22	0.10
7.22	77.03	0.20
7.29	24.77	0.07
7.35	67.53	0.18
7.36	161.14	0.43
7.37	86.26	0.23
7.41	102.33	0.28
7.42	59.28	0.16
7.43	46.79	0.13
7.45	68.22	0.19
7.47	17.04	0.05
7.49	28.83	0.08
7.50	67.85	0.19
7.51	6.42	0.02
7.53	182.18	0.50
7.55	29.85	0.08
7.56	427.69	1.18
7.59	391.97	1.09
7.64	88.52	0.25
7.66	180.91	0.51
7.74	70.39	0.20
7.75	18.87	0.05
7.76	24.04	0.07
7.77	38.25	0.11
7.79	217.33	0.62
7.80	306.84	0.87
7.81	23.84	0.07
7.87	8.68	0.02
7.88	151.65	0.44
7.89	25.06	0.07
7.90	15.32	0.04
7.93	39.66	0.11
7.95	230.77	0.67
7.96	28.17	0.08
7.98	72.96	0.21
8.02	6.65	0.02
8.03	13.30	0.04
8.06	80.60	0.24
8.08	7.49	0.02
8.09	11.76	0.03
8.10	155.47	0.46

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
8.14	82.91	0.25
8.16	229.80	0.68
8.22	13.26	0.04
8.24	57.03	0.17
8.26	9.16	0.03
8.28	28.32	0.09
8.29	48.85	0.15
8.31	51.34	0.16
8.32	36.19	0.11
8.35	100.51	0.31
8.38	11.37	0.03
8.39	6.43	0.02
8.40	40.48	0.12
8.43	8.37	0.03
8.45	34.91	0.11
8.48	19.61	0.06
8.49	210.69	0.65
8.52	29.86	0.09
8.55	4.94	0.02
8.57	38.48	0.12
8.58	28.38	0.09
8.59	59.86	0.19
8.65	133.36	0.42
8.67	22.58	0.07
8.68	75.84	0.24
8.69	0.21	0.00
8.70	0.68	0.00
8.71	57.98	0.18
8.76	0.98	0.00
8.80	3.79	0.01
8.81	6.59	0.02
8.82	8,382.62	26.99

Diagram Alternative 3 Illustrative Rate Calculation



Box/Oval	**Diagram Alternative 3**
Oval 1	$114,741,982
Box 1a	22,137,781 Mcf/d
Box 1b	$0.0142 Mcf/d
Oval 2	$10.4 Million
Box 2a	513.7 Bcf/yr
Box 2b	$0.0203 Mcf/d
Oval 3	Intra/Ex DOH 50.0%
Box 4	$1,160 Million
Box 4a	$288.9 Million
Box 4b	$871.1 Million
Box 4d	n/a
Box 5	$397.1 Million
Box 5a	2,920.1 Bcf/yr
Box 5b	$0.1360 Mcf/d
Box 6	$474.0 Million
Box 6a	2,684.7 Bcf/yr
Box 6b	$0.1765 Mcf/d
Box 7	$12.9 Million
Box 7a	374.71 Bcf/yr
Box 7b	$0.0345 Mcf/d

Summary of Rate Calculation: **Alternative ATCO 10b-4**

Revenue Requirement	$1,160.0 million	see Figure 5.1-1 from Phase 2 Application

Less

Other Service Revenue:	(million)	
OS	$1.1	see Figure 5.1-1 from Phase 2 Application
Facility Connection Services	$4.9	
CO_2	$15.4	
PTS	$0.9	
Total	$22.3	

Equals

Transportation Revenue Requirement	$1,137.6 million

Less

LRS Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
LRS-1	$43.3	0.65	18.45
LRS-2	$0.7	0.04	1.05
LRS-3	$3.3	0.05	1.41
Total	$47.4	0.74	20.90

Less

Interruptible and STFT Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)
FT-RN	$4.4	0.07	1.91
FT-P	$18.0	0.38	10.73
IT-D (for volume see Figure 5.1-1 from Phase 2 Application)	$78.9	1.04	29.36
STFT	$0.0	-	-
FT-DW	$0.0	-	-
IT-R	$99.7	2.07	58.37
FTA (for volume see Figure 5.1-1 from Phase 2 Application)	$17.1	1.03	28.92
Total	$218.1	4.59	129.29

Equals

Firm Transportation Revenue Requirement	$872.2 million

Allocation of Revenue

Average Firm Transportation Receipt Price	$0.1254 /Mcf	4.451 /10^3m^3
Firm Transportation Delivery Price	$0.1885 /Mcf	6.689 /10^3m^3
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	0.504 /10^3m^3
FT-A Transmission Price	$0.0315 /Mcf	1.119 /10^3m^3
Total Firm Transportation Price	$0.0457 /Mcf	1.623 /10^3m^3

Equals

FT-D Revenue Requirement	$506.0
FT-R Revenue Requirement	$366.2
FT-A Revenue Requirement	$17.1

Divided by

Contract Demand	Volumes (Bcf)	Volumes (10^6m^3)	**Iterative Process**
Delivery (see Figure 5.1-1 from Phase 2 Application)	2,684.74	75,639.9	
Receipt (see Figure 5.1-1 from Phase 2 Application)	2,920.10	82,271.0	
Total	5,604.85	157,910.9	

Equals

Average Firm Transportation Receipt Price	$0.1254 /Mcf	$4.451 /$10^3m^3$
Firm Transportation Delivery Price	$0.1885 /Mcf	$6.689 /$10^3m^3$
Metering Price (see App. 2A, page 11 of PH2 Application)	$0.0142 /Mcf	$0.504 /$10^3m^3$
FT-A Transmission Price	$0.0315 /Mcf	$1.119 /$10^3m^3$
Total Firm Transportation Price	$0.0457 /Mcf	$1.623 /$10^3m^3$

DEVELOP RECEIPT SERVICE PRICES USING THE FOLLOWING

	($/Mcf)	($/$10^3m^3$)
Floor Price	0.045	1.612
Ceiling Price	0.205	7.291

Allocate to Receipt Stations Based on Path Attributes - Distance and Diameter

Receipt Service Revenue	Revenues (million)	Volumes (Bcf/d)	Volumes ($10^6m^3/d$)	Avg Service Price ($/Mcf)	Avg Service Price ($/$10^3m^3$)
1-Year	$0.0	-	-	0.132	4.674
3-Year	$366.2	8.00	225.40	0.125	4.451
5-Year	$0.0	-	-	0.119	4.229

LRS Calculation Alternative ATCO 10b-4

LRS 1:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	17,070.8	6.32	39.4
15-Year Term	152.1	7.12	0.4
10-Year Term	1,204.5	7.94	3.5
5-Year Term	19.0	9.50	0.1
Total	18,446.4		43.3

LRS 2:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
Max Volume	1,045.0		
LRS Revenue			0.6
Shareholder Contribution			0.1
Total	1,045.0		0.7

LRS 3:	Volume ($10^3m^3/d$)	Rate ($/$10^3m^3$)	Revenue ($million)
20-Year Term	1,410.0	6.32	
Revenue:			3.3
Shareholder Contribution			0.06
Total	1,410.0		3.3

FT-P Calculation Alternative ATCO 10b-4

	Volume ($10^3m^3/d$)	Distance Band	Rate ($/$10^3m^3$/mo)	Revenue ($million)	Annual Fuel Est. ($million)	Total Revenue ($million)
1	2,413.90	2	73.99	2.14	0.78	2.93
2	140.00	2	73.99	0.12	0.05	0.17
3	566.60	3	83.60	0.57	0.18	0.75
4	225.00	3	83.60	0.23	0.07	0.30
5	140.00	3	83.60	0.14	0.05	0.19
6	198.70	4	93.20	0.22	0.06	0.29
7	155.00	4	93.20	0.17	0.05	0.22
8	200.00	4	93.20	0.22	0.07	0.29
9	131.00	5	102.80	0.16	0.04	0.20
10	460.00	5	102.80	0.57	0.15	0.72
11	270.00	5	102.80	0.33	0.09	0.42
12	140.00	5	102.80	0.17	0.05	0.22
13	268.80	5	102.80	0.33	0.09	0.42
14	283.30	6	112.41	0.38	0.09	0.47
15	140.00	6	112.41	0.19	0.05	0.23
16	140.00	6	112.41	0.19	0.05	0.23
17	540.00	8	131.61	0.85	0.18	1.03
18	117.39	9	141.22	0.20	0.04	0.24
19	1,408.80	9	141.22	2.39	0.46	2.85
20	537.60	9	141.22	0.91	0.17	1.09
21	967.70	9	141.22	1.64	0.31	1.95
22	211.30	10	150.82	0.38	0.07	0.45
23	806.50	10	150.82	1.46	0.26	1.72
24	267.00	10	150.82	0.48	0.09	0.57
Total	**10,728.6**				**3.5**	**18.0**

FT-RN Calculation Alternative ATCO 10b-4

	Total Volume $10^3m^3/d$	1907.4
	Revenue ($million)	4.4
Rate ($/$10^3m^3$/mo)	Volume (10^3m^3/d)	Revenue ($million)
60.39	10.9	0.01
69.66	2.4	0.00
78.82	300	0.28
79.35	0.1	0.00
88.97	0.1	0.00
110.61	122.2	0.16
115.34	0.4	0.00
116.70	25	0.04
122.91	25	0.04
128.12	0.1	0.00
136.85	5	0.01
149.14	10	0.02
151.75	25	0.05
162.88	3.9	0.01
175.27	1	0.00
177.08	3	0.01
187.37	2	0.00
189.06	25.5	0.06
190.25	10	0.02
191.17	2	0.00
191.87	75	0.17
192.25	69.9	0.16
197.10	0.5	0.00
202.17	50	0.12
202.90	25	0.06
204.77	7.1	0.02
208.26	100	0.25
224.82	0.5	0.00
244.10	0.3	0.00
244.10	0.5	0.00
244.10	4	0.01
244.10	0.1	0.00
244.10	88.4	0.26
244.10	150	0.44
244.10	10	0.03
244.10	10	0.03
244.10	5	0.01
244.10	0.1	0.00
244.10	8.6	0.03
244.10	12	0.04
244.10	161.8	0.47
244.10	125	0.37
244.10	30	0.09
244.10	300	0.88
244.10	100	0.29

IT-R Calculation Alternative ATCO 10b-4

Total Volume ($10^3m^3/d$):	**58,372.1**
Revenue ($million)	**99.70**

Rate ($/$10^3m^3/d$)	Volume ($10^3m^3/d$)	Revenue ($million)
1.85	3,357.12	2.27
1.88	82.53	0.06
1.90	69.84	0.05
1.91	28.04	0.02
1.92	88.96	0.06
1.94	29.19	0.02
1.95	60.12	0.04
1.96	167.51	0.12
1.97	13.08	0.01
1.99	121.80	0.09
2.06	42.40	0.03
2.07	161.05	0.12
2.09	63.91	0.05
2.10	24.15	0.02
2.13	337.17	0.26
2.15	9.28	0.01
2.18	58.27	0.05
2.19	6.50	0.01
2.21	414.51	0.33
2.23	40.61	0.03
2.24	54.23	0.04
2.25	22.95	0.02
2.26	39.82	0.03
2.27	328.28	0.27
2.28	33.33	0.03
2.30	28.81	0.02
2.31	298.73	0.25
2.32	13.46	0.01
2.33	274.85	0.23
2.34	184.46	0.16
2.36	62.18	0.05
2.38	326.91	0.28
2.39	372.19	0.32
2.40	11.78	0.01
2.41	78.68	0.07
2.43	68.42	0.06
2.44	313.28	0.28
2.46	125.36	0.11
2.49	4.93	0.00
2.51	35.06	0.03
2.52	441.13	0.41
2.53	226.24	0.21
2.54	5.69	0.01
2.56	565.53	0.53
2.57	84.02	0.08

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
2.58	53.56	0.05
2.64	7.94	0.01
2.68	22.76	0.02
2.69	49.84	0.05
2.70	221.62	0.22
2.71	187.99	0.19
2.72	75.75	0.08
2.73	317.10	0.32
2.75	1,231.82	1.24
2.76	31.08	0.03
2.78	102.37	0.10
2.79	19.81	0.02
2.80	36.70	0.04
2.81	253.57	0.26
2.82	5.18	0.01
2.84	33.72	0.03
2.85	45.79	0.05
2.86	3.62	0.00
2.88	382.64	0.40
2.91	30.28	0.03
2.92	218.24	0.23
2.93	120.66	0.13
2.95	75.46	0.08
2.96	943.45	1.02
2.97	60.43	0.07
2.98	34.14	0.04
2.99	340.55	0.37
3.00	37.22	0.04
3.01	712.69	0.78
3.05	10.80	0.01
3.06	553.21	0.62
3.07	215.49	0.24
3.08	113.83	0.13
3.09	113.35	0.13
3.10	232.14	0.26
3.13	5.53	0.01
3.14	460.58	0.53
3.16	258.46	0.30
3.19	7.33	0.01
3.21	35.93	0.04
3.22	282.25	0.33
3.23	1,853.76	2.19
3.26	52.04	0.06
3.27	100.75	0.12
3.29	427.64	0.51
3.31	35.48	0.04
3.32	618.07	0.75
3.34	222.15	0.27
3.37	257.13	0.32
3.38	81.66	0.10

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
3.39	269.31	0.33
3.40	458.97	0.57
3.41	151.94	0.19
3.42	8.07	0.01
3.43	540.48	0.68
3.44	161.75	0.20
3.45	45.77	0.06
3.46	97.38	0.12
3.47	66.71	0.08
3.49	64.16	0.08
3.50	23.63	0.03
3.53	460.35	0.59
3.54	76.52	0.10
3.55	367.41	0.48
3.56	295.56	0.38
3.58	192.37	0.25
3.60	366.82	0.48
3.63	403.87	0.54
3.64	1,041.80	1.38
3.65	99.76	0.13
3.69	46.74	0.06
3.70	40.71	0.05
3.71	334.37	0.45
3.72	21.20	0.03
3.73	32.12	0.04
3.74	10.43	0.01
3.75	94.43	0.13
3.76	90.21	0.12
3.77	92.10	0.13
3.78	30.30	0.04
3.80	285.98	0.40
3.85	59.45	0.08
3.86	22.10	0.03
3.88	96.16	0.14
3.90	944.60	1.34
3.94	75.72	0.11
3.96	397.95	0.58
3.99	180.63	0.26
4.00	84.15	0.12
4.01	1,475.58	2.16
4.05	52.04	0.08
4.08	174.36	0.26
4.09	99.13	0.15
4.11	10.87	0.02
4.13	330.71	0.50
4.16	1,129.40	1.71
4.17	71.49	0.11
4.18	70.00	0.11
4.19	26.05	0.04
4.20	259.59	0.40

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
4.22	109.63	0.17
4.23	16.98	0.03
4.24	129.98	0.20
4.32	112.02	0.18
4.33	61.40	0.10
4.37	17.45	0.03
4.40	124.44	0.20
4.41	17.68	0.03
4.42	97.17	0.16
4.45	52.59	0.09
4.46	64.10	0.10
4.47	26.78	0.04
4.52	43.69	0.07
4.54	41.42	0.07
4.55	31.75	0.05
4.58	93.72	0.16
4.59	95.01	0.16
4.61	52.50	0.09
4.64	227.82	0.39
4.65	58.42	0.10
4.66	76.25	0.13
4.68	63.04	0.11
4.69	106.84	0.18
4.70	523.23	0.90
4.71	35.79	0.06
4.72	67.25	0.12
4.73	35.32	0.06
4.74	537.01	0.93
4.78	265.66	0.46
4.82	23.81	0.04
4.83	89.81	0.16
4.84	224.24	0.40
4.86	64.66	0.11
4.87	69.16	0.12
4.91	7.62	0.01
4.93	1.17	0.00
4.96	50.17	0.09
4.97	32.60	0.06
5.00	116.64	0.21
5.02	97.97	0.18
5.05	56.49	0.10
5.06	71.19	0.13
5.09	178.77	0.33
5.10	23.72	0.04
5.12	1,043.31	1.95
5.13	14.38	0.03
5.14	119.65	0.22
5.15	192.32	0.36
5.16	97.40	0.18
5.17	26.68	0.05

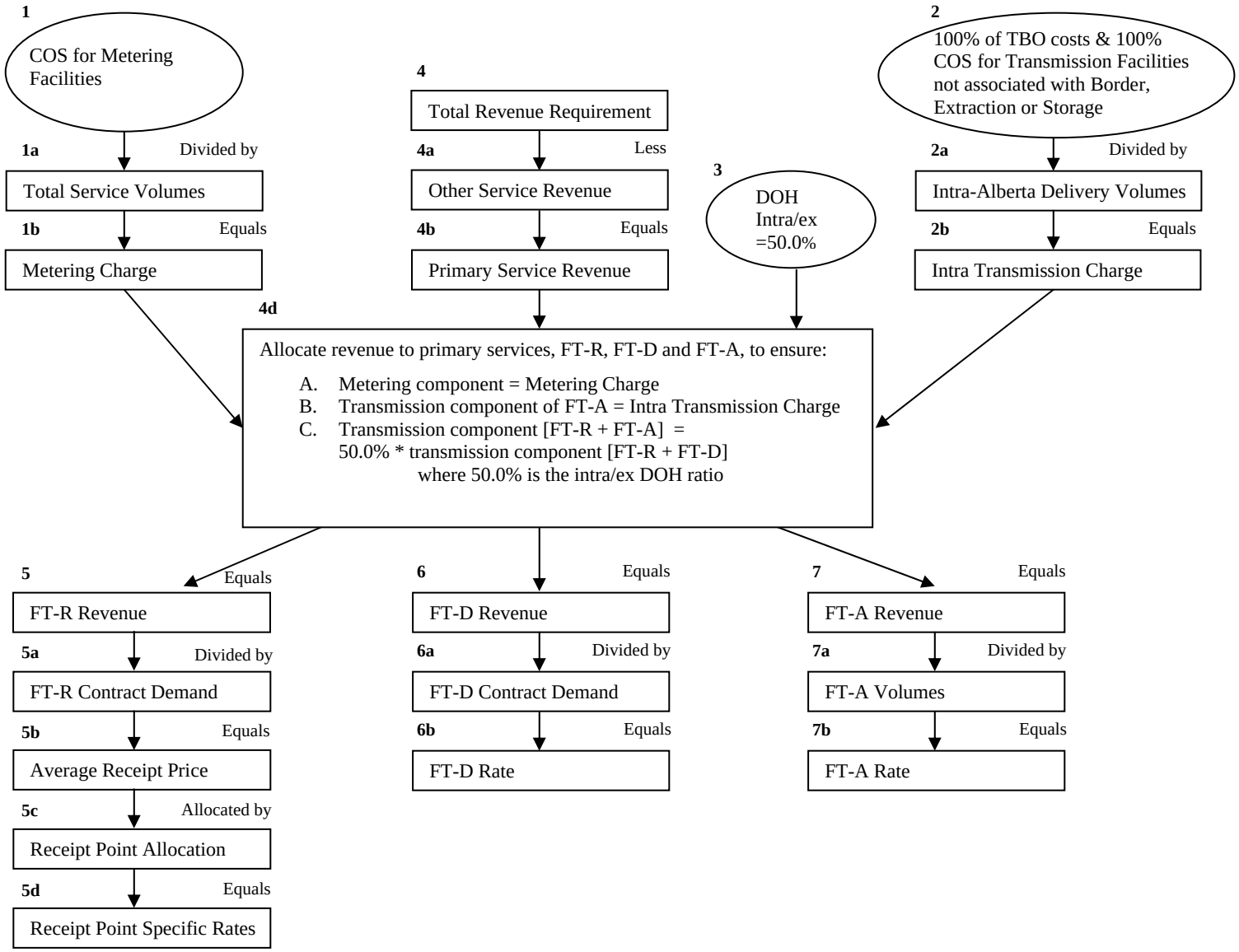
Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
5.18	33.34	0.06
5.21	568.67	1.08
5.22	19.93	0.04
5.24	43.93	0.08
5.28	85.25	0.16
5.29	120.35	0.23
5.33	156.38	0.30
5.37	122.24	0.24
5.38	136.37	0.27
5.39	16.14	0.03
5.40	34.46	0.07
5.41	21.74	0.04
5.44	51.71	0.10
5.45	103.74	0.21
5.48	10.82	0.02
5.52	184.10	0.37
5.53	56.79	0.11
5.54	5.98	0.01
5.55	17.56	0.04
5.56	80.46	0.16
5.59	98.12	0.20
5.61	93.41	0.19
5.65	377.39	0.78
5.68	26.74	0.06
5.70	0.97	0.00
5.71	29.27	0.06
5.75	203.79	0.43
5.76	12.54	0.03
5.77	47.96	0.10
5.78	45.73	0.10
5.79	7.25	0.02
5.80	0.16	0.00
5.83	122.23	0.26
5.84	4.05	0.01
5.86	83.02	0.18
5.87	23.92	0.05
5.92	357.50	0.77
5.96	73.41	0.16
5.97	88.19	0.19
6.00	78.75	0.17
6.02	62.91	0.14
6.04	27.43	0.06
6.06	0.42	0.00
6.08	369.84	0.82
6.10	122.22	0.27
6.12	19.98	0.04
6.13	4.29	0.01
6.18	33.82	0.08
6.19	47.63	0.11
6.23	73.96	0.17

Rate ($/10^{3}m^3/d)	Volume (10^3m^3/d)	Revenue ($million)
6.25	62.54	0.14
6.29	93.74	0.22
6.31	22.72	0.05
6.33	51.67	0.12
6.38	158.94	0.37
6.40	33.59	0.08
6.43	9.49	0.02
6.44	12.22	0.03
6.45	12.27	0.03
6.46	45.67	0.11
6.48	22.93	0.05
6.49	140.04	0.33
6.50	146.76	0.35
6.51	237.01	0.56
6.53	351.50	0.84
6.55	11.56	0.03
6.57	190.24	0.46
6.58	47.19	0.11
6.59	392.01	0.94
6.60	38.22	0.09
6.63	77.03	0.19
6.69	24.77	0.06
6.75	67.53	0.17
6.76	161.14	0.40
6.77	86.26	0.21
6.81	161.61	0.40
6.82	46.79	0.12
6.84	68.22	0.17
6.86	17.04	0.04
6.88	28.83	0.07
6.89	67.85	0.17
6.90	6.42	0.02
6.92	182.18	0.46
6.93	13.01	0.03
6.94	444.52	1.13
6.97	391.97	1.00
7.01	88.52	0.23
7.03	180.91	0.46
7.11	70.39	0.18
7.12	31.83	0.08
7.13	49.33	0.13
7.15	180.29	0.47
7.16	37.04	0.10
7.17	306.84	0.80
7.18	23.84	0.06
7.23	40.85	0.11
7.24	119.47	0.32
7.25	25.06	0.07
7.26	15.32	0.04
7.28	39.66	0.11

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
7.30	45.15	0.12
7.31	213.80	0.57
7.33	72.96	0.20
7.37	19.95	0.05
7.41	80.60	0.22
7.42	7.49	0.02
7.43	11.76	0.03
7.44	155.47	0.42
7.48	82.91	0.23
7.49	181.79	0.50
7.50	48.01	0.13
7.55	13.26	0.04
7.57	57.03	0.16
7.59	9.16	0.03
7.61	28.32	0.08
7.62	48.85	0.14
7.64	87.54	0.24
7.67	19.44	0.05
7.68	81.07	0.23
7.70	11.37	0.03
7.71	6.43	0.02
7.72	40.48	0.11
7.74	8.37	0.02
7.77	34.91	0.10
7.79	19.61	0.06
7.80	210.69	0.60
7.83	29.86	0.09
7.86	4.94	0.01
7.87	7.94	0.02
7.88	30.54	0.09
7.89	88.24	0.25
7.95	133.36	0.39
7.97	22.58	0.07
7.98	75.84	0.22
7.99	0.90	0.00
8.00	52.34	0.15
8.01	5.64	0.02
8.05	0.98	0.00
8.08	1.68	0.00
8.09	2.11	0.01
8.10	6.59	0.02
8.14	21.46	0.06
8.16	2.31	0.01
8.17	19.62	0.06
8.19	244.31	0.73
8.20	6.64	0.02
8.21	14.03	0.04
8.22	133.36	0.40
8.27	9.12	0.03
8.32	85.03	0.26

Rate ($/10^{3}m^3/d)	Volume (10^{3}m^3/d)	Revenue ($million)
8.34	49.19	0.15
8.35	8.89	0.03
8.36	86.45	0.26
8.37	1,157.82	3.54
8.38	6,544.38	20.02

Diagram Alternative 4 Illustrative Rate Calculation



Box/Oval	**Diagram Alternative 4**
Oval 1	$114,741,982
Box 1a	22,137,781 Mcf/d
Box 1b	$0.0142 Mcf/d
Oval 2	$16.2 Million
Box 2a	513.7 Bcf/yr
Box 2b	$0.0315 Mcf/d
Oval 3	Intra/Ex DOH 50.0%
Box 4	$1,160 Million
Box 4a	$287.7 Million
Box 4b	$872.2 Million
Box 4d	n/a
Box 5	$366.2 Million
Box 5a	2,920.1 Bcf/yr
Box 5b	$0.1254 Mcf/d
Box 6	$506.0 Million
Box 6a	2,684.7 Bcf/yr
Box 6b	$0.1885 Mcf/d
Box 7	$17.1 Million
Box 7a	374.71 Bcf/yr
Box 7b	$0.0457 Mcf/d

Table 2.2.3-1
Illustrative Rates and Ratios from Alternative COS Methodologies
(cents/Mcf)

Alternative	Existing	ATCO 10a-1	ATCO 10a-2	ATCO 10 b-1	ATCO 10 b-2	ATCO 10 b-3	ATCO 10 b-4
Rate/Ratio							
Average FT-R	15.51	12.45	11.39	15.08	14.02	13.60	12.54
FT-D	15.51	19.09	20.29	15.98	17.18	17.66	18.85
FT-A	1.42	3.45	4.57	1.87	3.00	3.45	4.57
Average FT-P	15.89	12.83	11.82	15.50	14.42	13.99	12.98
FT-X	-	-	-	-	-	-	-
IT-S	-	-	-	-	-	-	-
Intra Rate	16.93	15.90	15.96	16.95	17.02	17.05	17.11
Export Rate	31.02	31.54	31.68	31.06	31.20	31.26	31.39
Intra/Ex Ratio	54.6%	50.4%	50.4%	54.6%	54.6%	54.5%	54.5%
Intra Transmission	14.09	13.06	13.12	14.11	14.18	14.21	14.27
Ex Transmission	28.18	28.70	28.84	28.22	28.36	28.42	28.55
Intra/Ex Ratio	50.0%	45.5%	45.5%	50.0%	50.0%	50.0%	50.0%
Receipt Rate	15.51	12.45	11.39	15.08	14.02	13.60	12.54
Export Rate	31.02	31.54	31.68	31.06	31.20	31.26	31.39
Receipt/Ex Ratio	50.0%	39.5%	36.0%	48.6%	44.9%	43.5%	39.9%

AP-NGTL-011

Reference:

Application, Section 2.0, Rate Design, Page 26 of 62 and Table 2.2.2-3, Page 23 of 62

Preamble:

NGTL states that Alternative 6 allocates costs to all service categories including FT-X and IT-S.

Request:

Please provide an explanation in tabular form why the introduction of a FT-X rate in Alternative 6 increases the FT-A rate while lowering the FT-P, FT-R, and FT-D rates compared to Alternative 4.

Response:

The explanation in tabular form is provided below:

	Alternative 4	**Alternative 6**	**Difference**
Primary Service Metering Revenue	$88.9 M	$110.4 M	-$21.5 M
Other Services Revenue	$17.4 M	$17.4 M	-
LRS Revenue	$47.3 M	$47.3 M	-
Transportation Revenue Requirement	$1,006.3 M	$984.8 M	$21.5 M
Revenue Requirement	$1,160.0 M	$1,160.0 M	-

	Alternative 4		Alternative 6		Difference in Revenue Requirement
Service Category	**DOH Allocation**	**Revenue Requirement**	**DOH Allocation**	**Revenue Requirement**	
Primary Service Metering Revenue		$88.9 M		$110.4 M	-$21.5 M
Other Services Revenue		$17.4 M		$17.4 M	-
LRS Revenue		$47.3 M		$47.3 M	-
Receipt	52%	$519.8 M	49%	$483.5 M	$36.3 M
Export	47%	$473.4 M	45%	$440.3 M	$33.1 M
Intra-Alberta	1%	$13.2 M	1%	$12.2 M	$1.0 M
FT-P	n/a	n/a	0%	$4.5 M	-$4.5 M
Extraction	n/a	n/a	2%	$20.9 M	-$20.9 M
Storage	n/a	n/a	2%	$23.3 M	-$23.3 M
Revenue Requirement		$1,160.0 M		$1,160.0 M	-

AP-NGTL-011

Service	Alternative 4 Adjusted Revenue Requirement by Service	Alternative 6 Adjusted Revenue Requirement by Service	Difference in Adjusted Revenue Requirement by Service
Primary Service Metering Revenue	$88.9 M	$110.4 M	-$21.5 M
Other Services Revenue	$17.4 M	$17.4 M	-
LRS Revenue	$47.3 M	$47.3 M	-
FT-R	$388.2 M	$366.6 M	$21.6 M
FT-RN	$5.0 M	$4.8 M	$0.2 M
IT-R	$118.1 M	$112.2 M	$5.9 M
FT-P (½)	$8.5 M	n/a	8.5
FT-D	$404.4 M	$375.8 M	$28.6 M
FT-DW	-	-	-
STFT	-	-	-
IT-D	$68.9 M	$64.5 M	$4.4 M
FT-A	-$0.3 M	$7.3 M	-$7.6 M
FT-P (½)	$8.5 M	n/a	$8.5 M
FCS	$4.9 M	$4.9 M	-
FT-P	n/a	$4.5 M	-$4.5 M
FT-X	n/a	$20.9 M	-$20.9 M
IT-S	n/a	$23.3 M	-$23.3 M
Revenue Requirement	$1,160.0 M	$1,160.0 M	-

AP-NGTL-011

Service	Alternative 4		Alternative 6		Difference in Transmission Rate (Mcf/d)
	Demand Quantity (Bcf/y)	Transmission Rate (Mcf/d)	Demand Quantity (Bcf/y)	Transmission Rate (Mcf/d)	
FT-R	2,920.1	13.3	2,920.1	12.6	0.7
FT-D	2,684.7	15.1	2,684.7	14.0	1.1
FT-A	374.7	-0.1	374.7	2.0	-2.0
FT-P	n/a	n/a	139.0	3.3	-3.3
FT-X	n/a	n/a	155.1	13.5	-13.5
IT-S	n/a	n/a	1,361.4	1.7	-1.7

AP-NGTL-012

Reference:

Application, Section 2.0, Rate Design, Page 28 of 62, Lines 16-17

Preamble:

NGTL states in Alternative 6 that including FT-P as a primary service greatly reduces the revenue that this service would be required to generate.

Request:

Please provide a numerical example and fully explain this statement.

Response:

Under the existing rate design the minimum FT-P rate is set to 8.9 ¢/Mcf. Under Alternative 6 the average FT-P rate based on allocated costs is 6.9 ¢/Mcf. Thus every Mcf of volume contracted under FT-P in Alternative 6 would generate at least 2.0 ¢/Mcf less than under the existing design.

AP-NGTL-013

Reference:

Application, Section 2.0, Rate Design, Page 28 of 62, Lines 9-11

Preamble:

NGTL states that "Alternative 5 produces the most precisely measured allocation of transmission costs to the intra-Alberta delivery service. This results from eliminating the FT-A service and requiring intra-Alberta delivery service to be provided only by FT-P service."

Request:

(a) Please fully explain how FT-P service produces the most precisely measured allocation of transmission costs to intra-Alberta delivery service given that FT-P transmission distance is measured "as the crow flies" and not by distance of pipe.

(b) Please fully explain what NGTL means by "most precisely".

Response:

(a) FT-P service is a full path service based on the distance between the receipt points and the delivery point. A more precise determination of the distance required to satisfy each FT-P contract can be made as compared to the FT-A service where the distance is based on the average delivery to all intra-Alberta delivery points.

(b) In this context, "most precisely" means the distance traveled to a delivery point is more exactly determinable than by the methodology used under the other alternatives. Please also refer to the response to AP-NGTL-013(a).

AP-NGTL-014

Reference:

Application, Section 2.0, Rate Design, Page 35 of 62, Lines 11-14

Preamble:

NGTL states "Similarly, a direct FT-A delivery rate of this magnitude provides greater incentive for intra-Alberta bypass or for dually connected receipt producers to choose other service providers such as ATCO Pipelines."

Request:

Given that in each of the Alternatives summarized in Section 2.0, Table 2.2.2-3, the average FT-R rate is lower than the Existing Case, please fully explain why any of these alternatives would provide greater incentive for dually connected receipt producers to choose other service providers such as AP.

Response:

It appears as if the preamble does not provide the appropriate context for the request.

The quotation in the preamble is in reference to an FT-A rate of 5.4¢/Mcf. This rate was calculated as the midpoint between ATCO's proposal in NGTL's 2004 Phase 2 proceeding of 8¢/mcf and the existing FT-A transmission component of 0¢/Mcf, plus the metering component of 1.4¢/Mcf. If the intra-Alberta delivery rate was 5.4¢/Mcf, there would be greater incentive for intra-Alberta bypass or for dually connected receipt producers to choose other service providers, such as ATCO Pipelines.

None of the rates resulting from the alternative cost of service methodologies provided in the Application has an FT-A rate of this magnitude.

Please also refer to the response to BR-NGTL-016(a).

AP-NGTL-015

Reference:

Application, Section 2.0, Rate Design, Figure 2.3-2, Page 37 of 62

Preamble:

NGTL provides the change in throughput of dually connected receipt stations since 1999.

Request:

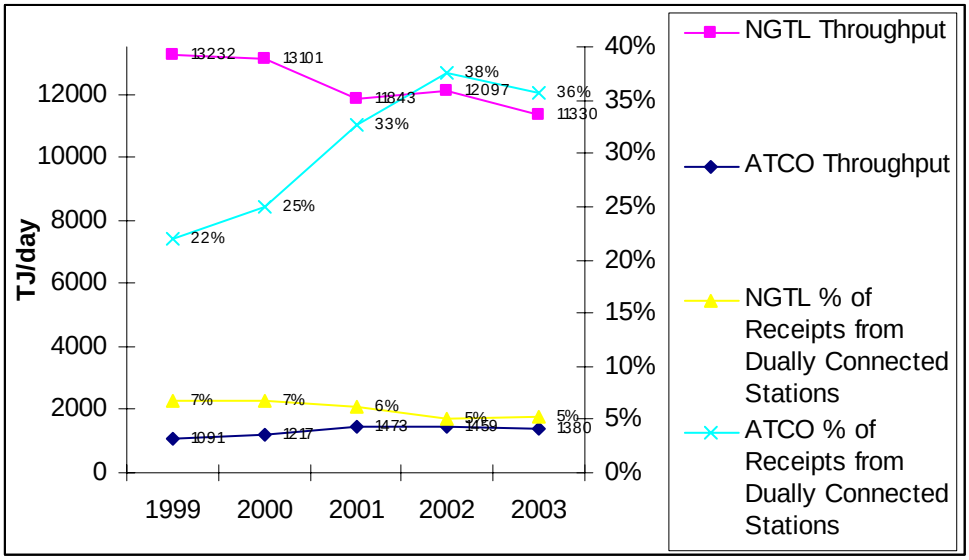
(a) Please provide a graph similar to Figure 2.3-2 showing receipt volumes from dually connected stations compared to total receipt volumes over the same time period included in those graphs, but also including 2004. Please include the numbers used to make the graph.

(b) Please provide the yearly percentage and the 5-year average percentage (for the years included in part (a) of this question) of receipt volumes from dually connected stations compared to total receipt volumes.

Response:

(a) NGTL does not have access to 2004 information on ATCO Pipelines' receipt volumes at these dually connected stations. The information provided on ATCO Pipelines' receipt volumes at dually connected stations in Figure 2.3-2 was obtained from ATCO in prior regulatory proceedings. However, NGTL can provide information on the throughput for the Alberta System and ATCO Pipelines and the receipt volumes for dually connected stations for each system for the period 1999 to 2003.

AP-NGTL-015



Source of ATCO's receipts from dually connected stations:
ATCO Pipelines 2004 GRA – Phase 1, responses to Information Requests CAL-AP-15 (b) and (c). ATCO did not provide information prior to 1999.
Source of ATCO Pipelines system receipts and throughput:
ATCO Website; ATCO Pipelines 2004 GRA Phase 1, Responses to Information requests AUMA-EDM-AP-7 (a) and (b); and ATCO Pipelines 2004 GRA Phase 2, Exhibit 035-16. For years that throughput information was not available from the listed sources, NGTL estimated the throughput by allocating the change between known prior and later years equally amongst the years for which information was available.

(b) The following table summarizes the request for yearly percentages and five year averages:

	1999	2000	2001	2002	2003	Change
NGTL % of Receipts from Dually Connected Stations	7%	7%	6%	5%	5%	-2%
ATCO % of Receipts from Dually Connected Stations	22%	25%	33%	38%	36%	14%

Source of ATCO's receipts from dually connected stations:
ATCO Pipelines 2004 GRA – Phase 1, responses to Information Requests CAL-AP-15 (b) and (c). ATCO did not provide information prior to 1999.
Source of ATCO Pipelines system receipts and throughput:

AP-NGTL-015

ATCO Website; ATCO Pipelines 2004 GRA Phase 1, Responses to Information requests AUMA-EDM-AP-7 (a) and (b); and ATCO Pipelines 2004 GRA Phase 2, Exhibit 035-16. For years that throughput information was not available from the listed sources, NGTL estimated the throughput by allocating the change between known prior and later years equally amongst the years for which information was available.

As can be seen by examining the table above, ATCO's receipts from dually connected stations grew significantly from 1999 to 2003. ATCO's supply growth at dually connected stations equals approximately 87% of its total supply growth over this period. As this information clearly demonstrates, a significant part of ATCO's growth is the result of volumes being offloaded from the Alberta System at the dually connected receipt stations.

AP-NGTL-016

Reference:

Application, Section 2.0, Pages 39 to 42 of 62, Simmons Pipeline

Preamble:

(a) NGTL includes 30% of the Simmons costs in the costs of intra-Alberta delivery facilities not associated with export, storage, or extraction.

(b) Comparing values in Table 2.4.2-3 with the values in Table 2.4.1-2, and using the 30% apportionment of the latter values, there appear to be discrepancies in the amounts allocated to Simmons for intra-Alberta delivery service. For example, in Table 2.4.1-2, the direct transmission costs (compression and pipeline), for Simmons total $3.59 million, 30% of which is $1.08 million, which is different than the $1.16 million in Table 2.4.2-3 under the heading "Simmons Pipe". The same comparison for indirect transmission costs yields $0.49 million from Table 2.4.1-2 and $0.39 million for Table 2.4.2-3.

Request:

(a) Please fully explain the derivation of the 30% used to apportion the Simmons costs.

(b) Please fully explain the discrepancies and provide full details of the derivation of each of the values noted in (b) of the Preamble.

Response:

(a) All pipe upstream of the northernmost receipt point on the Simmons pipe was considered to be not associated with export, storage or extraction. The sum of the NBV values of all pipe units upstream of the northernmost receipt station resulted in approximately 30% of the NBV of the Simmons facilities being not associated with export, storage or extraction.

(b) NGTL is not aware of any discrepancies in the numbers. Different methodologies were used for the different tables. The methodology for determining the direct and indirect costs for the Simmons facilities for Tables 2.4.1-1 to 2.4.1-3 is

AP-NGTL-016

described in Q/A 48, Page 39 to 42 of Section 2 of the Application. The methodology for determining the direct and indirect costs for the Simmons facilities for Tables 2.4.2-1 to 2.4.2-3 is described in Q/A 52, Page 45 to 46 of Section 2 of the Application.

AP-NGTL-017(a)

Reference:

Application, Section 2.0, Rate Design, Pages 42, 47 and 50 of 62, Tables 2.4.1-3, 2.4.2-2 and 2.4.2-4

Preamble:

In Tables 2.4.1-3, 2.4.2-2 and 2.4.2-4, intra-Alberta service costs and revenues are provided.

Request:

For Tables 2.4.1-3 and 2.4.2-4, please confirm that in both cases the FT-P revenue shown includes allocated costs of receipt metering, transmission, and delivery metering.

Response:

Confirmed. Costs for receipt metering, transmission and delivery metering are included because FT-P service is a full path service.

AP-NGTL-017(b) to (k)

Reference:

Application, Section 2.0, Rate Design, Pages 42, 47 and 50 of 62, Tables 2.4.1-3, 2.4.2-2 and 2.4.2-4

Preamble:

In Tables 2.4.1-3, 2.4.2-2 and 2.4.2-4, intra-Alberta service costs and revenues are provided.

Request:

(b) For Table 2.4.1-3:

(i) Please identify the total number of receipt meter stations.

(ii) Please identify the total number of delivery meter stations.

(iii) Please identify the number of receipt stations providing FT-P service.

(iv) Please identify the number of receipt stations providing FT-R service.

(v) Please identify the number of receipt stations providing IT-R service.

(vi) Please identify the number of delivery stations providing FT-P service.

(vii) Please identify the number of delivery stations providing FT-A service.

(viii) If one station provides more than one service, please show the number of those stations and the services provided.

(ix) Are any of the receipt and delivery stations on Simmons paired under a single FT-P service?

(x) If the response to (ix) is affirmative, please identify the number of receipt stations and the number of delivery stations that are paired.

AP-NGTL-017(b) to (k)

(c) For Table 2.4.1-3, please identify the amount of aggregate FT-P revenue associated with:

(i) Receipt meter stations on Simmons;

(ii) Transmission on Simmons; and

(iii) Delivery meter stations on Simmons.

(d) Please provide details of all revenues in Table 2.4.1-3 noting volumes and rates charged.

(e) For Table 2.4.1-3, is the full FT-R and IT-R revenue attributable to receipt points on the Simmons Pipeline?

(f) If the response to part (e) of this question is no, please indicate what amount of each of FT-R and IT-R revenue is attributable to receipt points that are not on the Simmons pipeline.

(g) If the response to part (e) of this question is no, please fully explain why NGTL considers revenue associated with receipt points that are not on the Simmons pipeline to be direct revenue.

(h) What percentage of total FT-P revenue is included in Table 2.4.1-3?

(i) Please provide a full explanation of the derivation of the $7.62 million of FT-P Revenue included in FT-P revenue as follows:

(1) Receipt point is on Simmons and delivery point is on Simmons.

(2) Receipt point is on Simmons and delivery point is off Simmons.

(3) Receipt point is off Simmons and delivery point is on Simmons.

(4) Receipt point is off Simmons and delivery point is off Simmons.

(j) For (i-2), (i-3), and (i-4) of this question, where the receipt and delivery points are not both on the Simmons pipeline, did NGTL include the full FT-P revenue associated with these receipt and/or delivery points in the $7.62 million in Table 2.4.1-3?

AP-NGTL-017(b) to (k)

(k) If the answer to part (j) of this question is yes, please fully explain why the full FT-P revenues for parts (i-2) and (i-3) and (i-4) of this question, are classified as direct revenues.

Response:

(b) Regarding Table 2.4.1-3:

(i)	Total Receipt stations	28
(ii)	Total Delivery stations	4
(iii)	Total Receipt stations for FT-P	19
(iv)	Total Receipt stations for FT-R	15
(v)	Total Receipt stations for IT-R	13
(vi)	Total Delivery stations for FT-P	2
(vii)	Total Delivery stations for FT-A	4
(viii)	Stations providing FT-R and IT-R	13
	Stations providing FT-P and IT-R	5
	Stations providing FT-R, IT-R and CO2	1
	Stations providing FT-P, FT-R and IT-R	5
	Stations providing FT-P and FT-R	6
	Stations providing FT-P and FTA	2

(ix) Yes.

(x) Six Simmons receipt stations are paired with two Simmons delivery stations.

(c) (i), (ii) and (iii)

Of the $7.62 million of aggregate FT-P revenue, $2.12 million is associated with receipt meter stations, $7.62 million is associated with transmission and $7.62 million is associated with delivery meter stations.

AP-NGTL-017(b) to (k)

(d) Please refer to the table provided below.

	Annualized 2004 Revenue ($ million)	Annualized (MMcf)	Effective Rate ($/Mcf)
CO_2	0.02	748	0.028
FT-A	0.41	25,801	0.016
FT-R	2.58	10,410	0.247
IT-R	0.99	3,337	0.296
FT-P	7.62	36,909	0.207

(e) Yes.

(f) Not applicable.

(g) Not applicable.

(h) The $7.62 million in this table is the annualized revenue from December 2004. As a result it may not be representative of the entire year. The total FT-P revenue for 2004 was $20.4 million.

(i) (1) The FT-P revenue is $2.12 million.

(2) None of the delivery stations are off Simmons.

(3) The FT-P revenue is $5.5 million.

(4) None of the delivery stations are off Simmons.

(j) Yes, for (i)(3); no for the other cases.

(k) The full revenue is included when these stations are specifically identified in the contract.

AP-NGTL-017(l) and (m)

Reference:

Application, Section 2.0, Rate Design, Pages 42, 47 and 50 of 62, Tables 2.4.1-3, 2.4.2-2 and 2.4.2-4

Preamble:

In Tables 2.4.1-3, 2.4.2-2 and 2.4.2-4, intra-Alberta service costs and revenues are provided.

Request:

(l) Please provide an analysis similar to Section 2.0, pages 40 to 42, Tables 2.4.1-1, 2.4.1-2, and 2.4.1-3 for each intra-Alberta TBO.

(m) For each intra-Alberta TBO responded to in (l) above, please provide the information requested in (b) to (h) above.

Response:

(l) NGTL does not have the information necessary to perform this analysis because it does not own the TBO facilities.

(m) Please refer to the response to (l).

AP-NGTL-018

Reference:

Application, Section 2.0, Rate Design, Page 43 of 62

Preamble:

NGTL states that as a result of its MAV provisions, "… sufficient revenue will have been generated directly through FT-A and FT-P services, and indirectly through receipt services, to recover the cost associated with metering facilities."

Request:

If the FT-A rate is designed to recover 100% of the cost of intra-Alberta delivery metering facilities, please fully explain why the indirect receipt revenue is needed.

Response:

The FT-A rate is not designed to recover 100% of the metering costs at a particular intra-Alberta delivery station. Due to the integrated nature of the Alberta System, costs are pooled and recovered from the various service rates. Metering costs are recovered from all services, with the exception of FT-X and IT-S, through a standardized metering component based on the system average metering cost. The MAV provision of the FCS is set at a level where the revenue generated through utilizing these intra-Alberta facilities meets or exceeds the annual cost of service of these facilities. If the MAV or greater is delivered through the intra-Alberta delivery station then sufficient revenue has been generated. Otherwise an additional charge is paid by the customer.

AP-NGTL-019

Reference:

Application, Section 2.0, Rate Design, Page 43 of 62, Lines 26-27

Preamble:

NGTL states that "If no volumes were delivered through the metering facilities, the FCS Charge would be equivalent to the ACS as no revenue would have been generated".

Request:

(a) Please complete the following table:

MAV Accountability

ACS	$655,000	
CD	121,000	Mcfd
Annual	44,165,000	Mcf per year at 100% Load Factor

MAV Mcf	Annual Load Factor	C Mcf	FCS/ MAV Charge $	FT-A $/Mcf	FT-A Revenue $	Total Revenue $	(Under)/Over Recovery of ACS $
	0%			0.0142			
	5.00%			0.0142			
	10.00%			0.0142			
	15.00%			0.0142			
	20.00%			0.0142			
	25.00%			0.0142			
	30.00%			0.0142			
	35.00%			0.0142			
	40.00%			0.0142			
	45.00%			0.0142			
	50.00%			0.0142			
	55.00%			0.0142			
	60.00%			0.0142			
	65.00%			0.0142			
	70.00%			0.0142			
	75.00%			0.0142			
	80.00%			0.0142			
	85.00%			0.0142			
	90.00%			0.0142			
	95.00%			0.0142			
	100.00%			0.0142			

ACS = Annual Cost of Service
CD = Contract Demand
MAV = Minimum Annual Volume
C = Actual annual deliveries
Total Revenue = FCS MAV Charge plus FT-A revenue

(b) Please provide your conclusions with respect to under or over recovery of ACS at load factors other than 0%.

Response:

(a) In order to provide the requested information, NGTL has corrected the following assumptions implicit in the request. First, the FT-A rate is a commodity based rate and therefore there is no contract demand. The MAV is directly proportional to the ACS; given the ACS and the FT-A rate, the MAV can be calculated. Second, receipt revenue is generated every time there is gas delivered under FT-A service.

The FT-R rate was assumed to be 16cents/Mcf for the following table.

MAV Mcf/y	Load Factor	C Mcf	FCS Charge $	FT-A $/Mcf	FT-A Revenue $	FT-R Revenue	Total Revenue $	(Under)/Over Recovery of ACS $
23,248,393	0%	-	655,000	0.0142	-	-	655,000	-
23,248,393	5%	1,162,420	622,250	0.0142	16,506	185,987	824,744	169,744
23,248,393	10%	2,324,839	589,500	0.0142	33,013	371,974	994,487	339,487
23,248,393	15%	3,487,259	556,750	0.0142	49,519	557,961	1,164,231	509,231
23,248,393	20%	4,649,679	524,000	0.0142	66,025	743,949	1,333,974	678,974
23,248,393	25%	5,812,098	491,250	0.0142	82,532	929,936	1,503,718	848,718
23,248,393	30%	6,974,518	458,500	0.0142	99,038	1,115,923	1,673,461	1,018,461
23,248,393	35%	8,136,938	425,750	0.0142	115,545	1,301,910	1,843,205	1,188,205
23,248,393	40%	9,299,357	393,000	0.0142	132,051	1,487,897	2,012,948	1,357,948
23,248,393	45%	10,461,777	360,250	0.0142	148,557	1,673,884	2,182,692	1,527,692
23,248,393	50%	11,624,197	327,500	0.0142	165,064	1,859,871	2,352,435	1,697,435
23,248,393	55%	12,786,616	294,750	0.0142	181,570	2,045,859	2,522,179	1,867,179
23,248,393	60%	13,949,036	262,000	0.0142	198,076	2,231,846	2,691,922	2,036,922
23,248,393	65%	15,111,456	229,250	0.0142	214,583	2,417,833	2,861,666	2,206,666
23,248,393	70%	16,273,875	196,500	0.0142	231,089	2,603,820	3,031,409	2,376,409
23,248,393	75%	17,436,295	163,750	0.0142	247,595	2,789,807	3,201,153	2,546,153
23,248,393	80%	18,598,715	131,000	0.0142	264,102	2,975,794	3,370,896	2,715,896
23,248,393	85%	19,761,134	98,250	0.0142	280,608	3,161,781	3,540,640	2,885,640
23,248,393	90%	20,923,554	65,500	0.0142	297,114	3,347,769	3,710,383	3,055,383
23,248,393	95%	22,085,974	32,750	0.0142	313,621	3,533,756	3,880,127	3,225,127
23,248,393	100%	23,248,393	-	0.0142	330,127	3,719,743	4,049,870	3,394,870

(b) In all cases the ACS is recovered.

AP-NGTL-020

Reference:

Application, Section 2.0, Rate Design, A52, Pages 45 and 46 of 62

Preamble:

NGTL states: "For meter station costs, NGTL identified all intra-Alberta delivery meter stations and extracted their related costs from the first and second steps of the functionalization process of the COS Study as described in Section 2.1 of this Application.

For transmission costs, NGTL identified all pipe sections not associated with export deliveries, extraction, or storage. This was accomplished by identifying the pipe upstream of the stations identified as intra-Alberta delivery that were not included in the algorithms utilized to calculate receipt point specific rates."

Please note that for the following requests, pipe sections not associated with export deliveries, extraction, or storage will be referred to as "Intra-Alberta Pipe".

Request:

(a) Please provide a system map showing all intra-Alberta delivery meter stations and for each station, provide its name and legal description.

(b) Please provide a system map showing each piece of Intra-Alberta Pipe and the associated intra-Alberta delivery meter station.

(c) Please provide a table listing all Intra-Alberta Pipe. Include in the table for each pipeline section: (1) diameter, (2) length, (3) original cost, and (4) net book value.

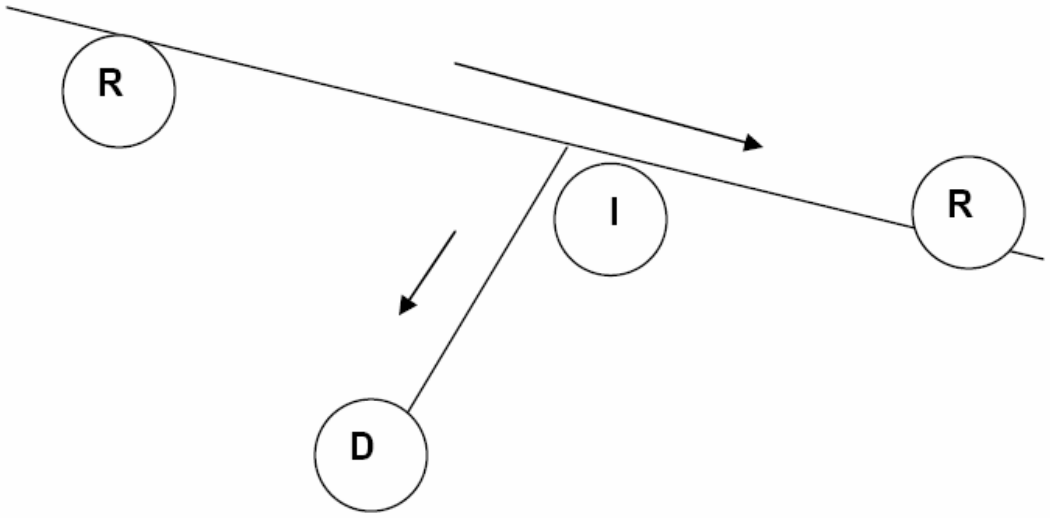
(d) Please describe in detail how NGTL determines what pipe sections are included in the NGTL algorithms that are utilized to calculate receipt point specific rates.

(e) Please identify each intra-Alberta meter delivery station that has no Intra-Alberta Pipe associated with it.

(f) In the diagrams below, R = receipt point, D = intra-Alberta delivery point, I = interconnection and arrows indicate direction of physical gas flow. In the situation where an intra-Alberta delivery pipeline (I to D) only interconnects with a pipeline that has receipt points upstream and downstream of the interconnection (see diagram below):

(i) Would the I to D pipeline be included in NGTL's category of Intra-Alberta pipe? Please fully explain.

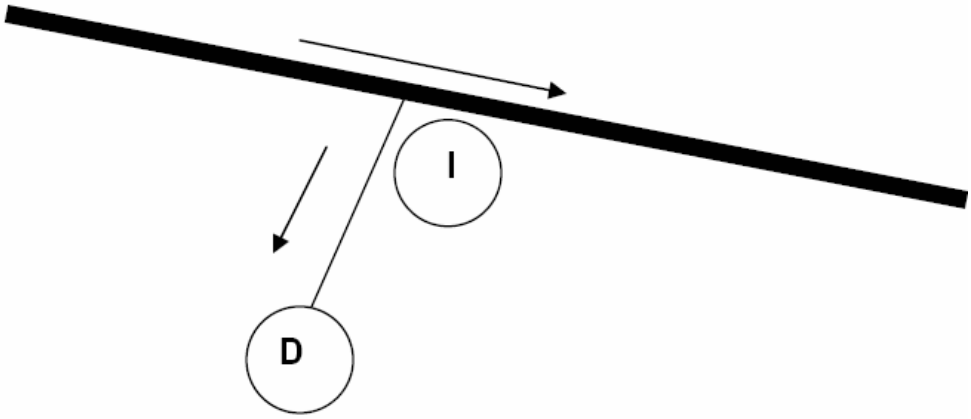
(ii) Is any portion of the lateral pipeline (R to R) included in Intra-Alberta Pipe? Please fully explain.



(g) If an intra-Alberta delivery pipeline (I to D) only interconnects with a mainline pipeline (see diagram below):

(i) Would the I to D pipeline be included in NGTL's category of Intra-Alberta Pipe? Please fully explain.

(ii) Would any portion of the mainline be included in NGTL's category of Intra-Alberta Pipe? Please fully explain.



(h) Please identify each intra-Alberta delivery meter station that is not included in the 2003 COS Study but would qualify as such a station in 2005.

(i) For each station identified in (h), please provide the associated transmission pipe section by its nominal pipe size (NPS) and the length that would be included in NGTL's category of Intra-Alberta Pipe.

(j) For each of 2003 and 2004, what were the total FT-A volumes delivered, and what share of those volumes were delivered through the intra-Alberta delivery meter stations defined by NGTL in its 2003 COS Study?

(k) For each of 2003 and 2004, what were the total FT-P volumes delivered, and what share of those volumes were delivered through the intra-Alberta delivery meter stations defined by NGTL in its 2003 COS Study?

(l) For each of the forecast 2005 FT-A and FT-P volumes, what share of each is expected to be delivered through facilities that NGTL would define as:

(i) intra-Alberta delivery meter stations, and

(ii) intra-Alberta delivery pipelines?

Response:

NGTL does not agree with ATCO's characterization of pipe not associated with export deliveries, extraction or storage being referred to as Intra-Alberta Pipe. Any pipe associated with any delivery must by necessity also be associated with receipts as gas cannot be delivered off the system if it has not first been received.

(a) Please refer to Attachment AP-NGTL-020(a).

(b) Please refer to Attachment AP-NGTL-020(b) for a map of the pipe not associated with export, extraction or storage.

(c) Please refer to Attachment AP-NGTL-020(c) for a table containing the requested information for the pipe not associated with export, extraction or storage.

(d) NGTL utilizes a computer model that identifies every pipe link between the receipt meter station and the major delivery stations of Empress, McNeill and Alberta/BC. This process is accomplished by starting at each receipt meter station and continuing down each path until the borders are reached.

(e) There are none. At a minimum, each station has very small lengths within the meter station yard.

(f)

(i) The pipeline I to D would be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage. As the pipeline I to D is upstream of an intra-Alberta delivery station and only serves that intra-Alberta delivery station, this pipe would not have been included in NGTL's receipt point pricing algorithms. Therefore it would be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage.

(ii) No portion of the pipeline R to R would be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage. As the pipeline R to R is not directly connected to an intra-Alberta delivery station, but is connected to receipts, it would be included in NGTL's receipt point pricing algorithms and therefore would not be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage.

(g)

(i) The pipeline I to D would be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage. As the pipeline I to D is upstream of an intra-Alberta delivery station and only serves that intra-Alberta delivery station, this pipe would not be included in NGTL's receipt point pricing algorithms and therefore would be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage.

(ii) If the pipeline had a receipt point upstream of the arrow and downstream of the arrow, as in the diagram above, then no portion of the pipeline would be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage. As the pipeline is not directly connected to an intra-Alberta delivery station, but is connected to receipts, it would be included in NGTL's receipt point pricing algorithms and therefore would not be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage.

If this section of the pipeline were in fact upstream of the northernmost receipt point on this pipe, then the pipeline would be included in NGTL's facilities not associated with export deliveries, extraction, or storage. As there is no receipt gas upstream of the pipeline I to D, this pipe would not be included in NGTL's receipt point pricing algorithms and it would be included as part of NGTL's facilities not associated with export deliveries, extraction, or storage.

(h) Please refer to the table below for the list of all delivery stations that came on-stream after December 31, 2003.

MS Number	MS Name
3134	WELLING SALES
6011	DOVER SALES
6012	JAPAN CANADA SALES
6014	CHEVRON AURORA SALES
6021	MILDRED LAKE NORTH SALES

(i) The list of pipe not associated with export, storage or extraction associated with the above stations is provided in the following table.

MS Number	NPS Size	Length (km)	NPS Size	Length (km)	NPS Size	Length (km)	Total Length (km)
3134	6	0.002					0.002
6011	16	77.164	4	4.270			81.434
6012	12	0.010	6	7.200	16	9.700	16.910
6014	24	117.226	10	22.000			139.226
6021	24	73.380	16	41.710			115.090

AP-NGTL-020

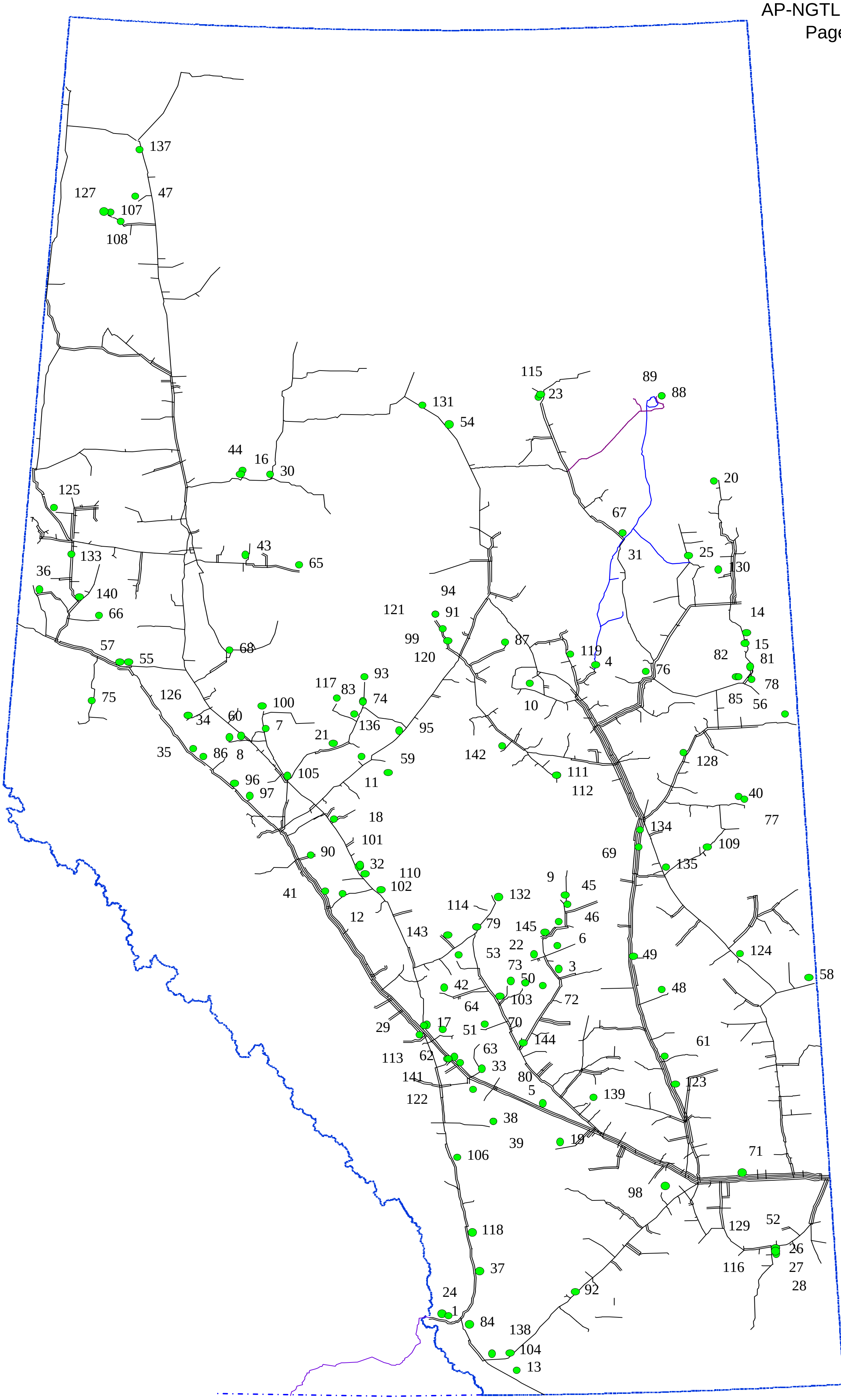
(j) Please refer to the table below.

	2003		**2004**	
	Volume (MMcf/d)	Share (%)	Volume (MMcf/d)	Share (%)
FT-A	787	83	764	70
FT-P	160	17	278	26
FT-A for meter stations o/s after Dec 2003			18	2
FT-P for meter stations o/s after Dec 2003			25	2
Total Delivered Volume	947		1,084	

(k) Please refer to the response to (j).

(l) (i) 100%.

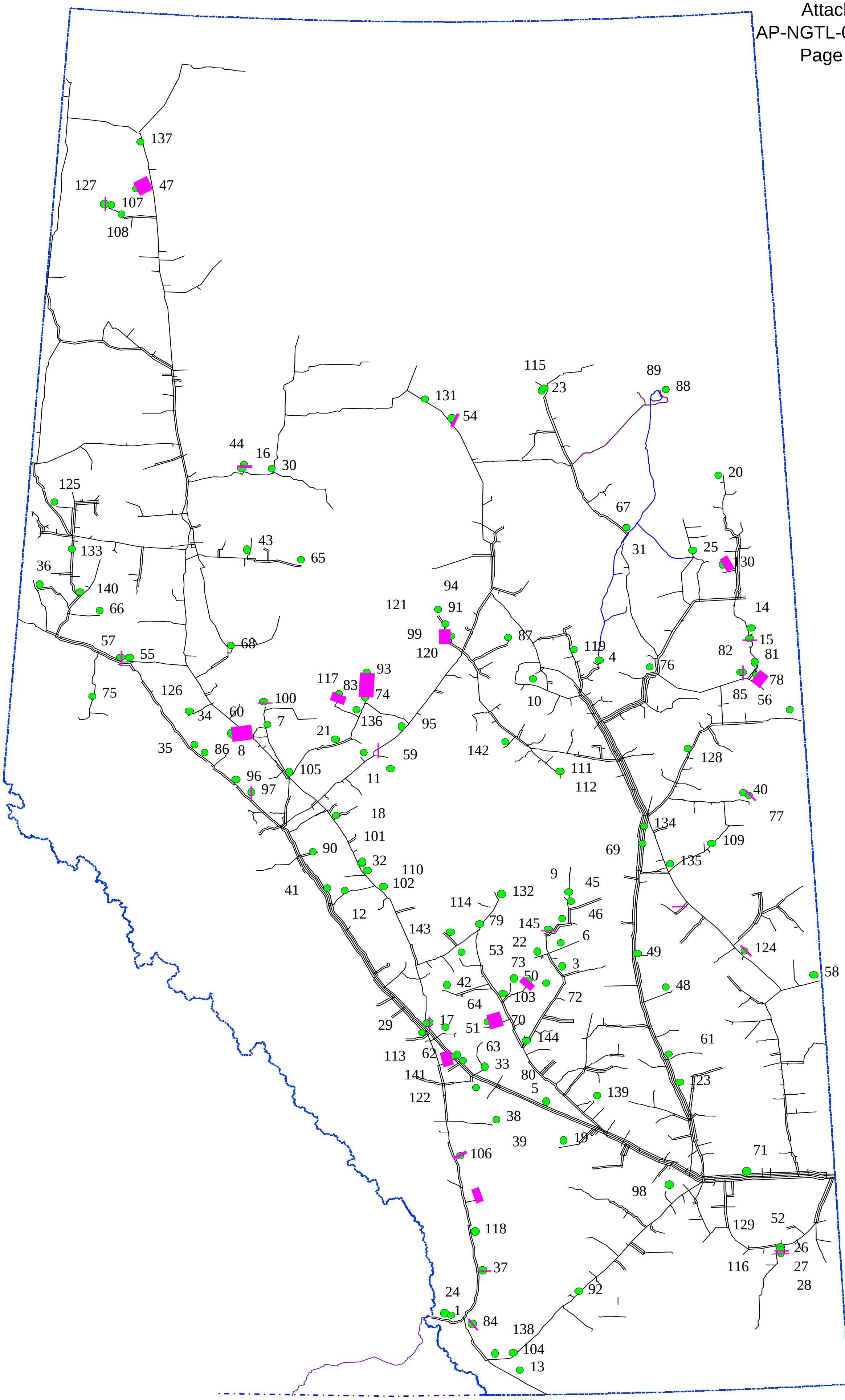
(ii) 100%.


137
127
47
107
108
115
89
23
88
131
54
44
16
30
20
125
67
43
65
31
25
130
133
36
140
94
121
91
14
66
99
87
15
57
68
55
120
119
82
81
4
76
93
117
83
74
78
75
126
100
10
85
56
60
34
136
7
95
21
35
86
8
142
59
128
96
105
111
97
11
112
40
18
77
134
101
109
90
69
32
135
110
102
9
45
41
132
114
12
46
79
143
145
22
6
53
124
73
3
49
58
50
42
48
103
72
64
70
29
17
51
144
61
63
113
62
33
141
80
123
5
122
139
38
39
19
106
71
98
52
129
118
26
116
27
28
37
92
24
1
84
138
104
13

MS No. on Map	MS Name	MS Legal Location
1	ALLISON CRK SLS	NE-11-008-05-W5
2	AMOCO SALES TAP	SW-07-066-05-W4
3	ARDLEY SALES	11-32-039-22-W4
4	ATMORE B SALES	SE-32-067-17-W4
5	ATUSIS CREEK SL	12-19-027-24-W4
6	BASHAW WEST SLS	NE-06-042-22-W4
7	BEAVER HILL SLS	NE-03-062-19-W5
8	BIGSTONE SALES	SW-15-061-21-W5
9	BITTERN LAKE SL	SE-30-046-21-W4
10	BLEAK LAKE SLS	04-15-066-23-W4
11	BLUE RIDGE E SL	15-23-059-11-W5
12	BRAZEAU N SALES	05-06-047-12-W5
13	CALDWELL SALES	13-31-002-28-W4
14	CANOE LAKE SALE	05-08-070-04-W4
15	CARIBOU LAKE SL	08-12-069-05-W4
16	CARMON CREEK SL	04-31-085-20-W5
17	CAROLINE SALES	NW-36-034-06-W5
18	CARROT CREEK SL	02-32-053-13-W5
19	CAVALIER SALES	15-32-023-23-W4
20	CHEECHAM W. SLS	15-09-084-06-W4
21	CHICKADEE CK SL	04-33-060-13-W5
22	CHIGWELL N. SLS	04-17-041-24-W4
23	CHIPEWYAN RIVER	03-29-092-20-W4
24	COLEMAN SALES	NW-04-008-04-W5
25	CONKLIN W SALES	09-23-077-09-W4
26	COUSINS A SALES	NW-14-013-06-W4
27	COUSINS B SALES	NW-14-013-06-W4
28	COUSINS C SALES	NW-14-013-06-W4
29	CRAMMOND SALES	10-34-034-06-W5
30	CRANBERRY LK SL	08-20-085-18-W5
31	CROW LAKE SALES	NE-33-079-14-W4
32	CYNTHIA SALES	SW-21-049-11-W5
33	DEADRICK CK SLS	08-33-030-01-W5
34	DEEP VLLY CR SL	NW-05-063-25-W5
35	DEEP VY CK S SL	11-03-060-25-W5
36	DEMMITT SALES	SE-03-074-12-W6
37	DUTCH CREEK SLS	SW-07-012-01-W5
38	E. CALGARY B SL	SE-03-026-29-W4
39	EAST CALGARY SA	SE-03-026-29-W4
40	ELK POINT SALES	01-09-055-06-W4
41	ELK RIVER S SLS	06-10-047-14-W5
42	EVERGREEN SALES	06-16-038-04-W5
43	FALHER SALES	08-06-078-20-W5
44	FERGUSON SALES	13-13-085-21-W5
45	FERINTOSH N. SL	SE-32-045-21-W4
46	FERINTOSH SALES	12-10-044-22-W4
47	FIRE CREEK SALE	05-29-110-05-W6
48	FLEET SALES	SW-26-037-14-W4
49	FORESTBURG SLS	SW-34-040-16-W4
50	GAETZ LAKE SLS	NE-36-038-27-W4

MS No. on Map	MS Name	MS Legal Location
51	GARRINGTON SALE	04-20-034-04-W5
52	GAS CITY SALES	13-02-013-06-W4
53	GILBY N#2 SALES	01-15-041-03-W5
54	GODS LAKE SALES	11-10-090-03-W5
55	GOLD CREEK SLS	04-34-067-04-W6
56	GRANDE CENTRE S	13-13-062-02-W4
57	GRANDE PRAIR SL	NE-26-067-05-W6
58	GREEN GLADE SLS	NW-05-038-01-W4
59	GREENCOURT W SL	06-36-059-10-W5
60	GRIZZLY SALES	07-10-061-22-W5
61	HANNA S B SALES	NE-22-031-14-W4
62	HARMATTAN SALES	04-05-032-03-W5
63	HARMATTAN-LEDUC	NE-27-031-04-W5
64	HAYNES SALES	12-29-038-25-W4
65	HEART RIVER SLS	05-11-077-16-W5
66	HERMIT LAKE SLS	12-36-071-07-W6
67	HOUSE RIVER	NE-33-079-14-W4
68	HUGGARD CREEK S	05-11-069-22-W5
69	INLAND SALES	NE-34-050-15-W4
70	INNISFAIL SALES	NE-35-034-01-W5
71	JENNER EAST SLS	04-21-020-08-W4
72	JOFFRE SLS #2	12-29-038-25-W4
73	JOFFRE SLS #3	12-29-038-25-W4
74	JUDY CREEK SALE	10-25-064-11-W5
75	KAKWA SALES	11-03-064-07-W6
76	LAC LA BICHE SL	05-03-067-13-W4
77	LANDON LAKE SLS	SW-36-054-06-W4
78	LEMING LAKE SLS	SE-32-065-04-W4
79	LLOYD CREEK SLS	NW-32-043-01-W5
80	LONE PINE CK SL	SW-23-030-28-W4
81	LOSEMAN LAKE SL	07-05-067-04-W4
82	LOSEMAN LK SL#2	07-05-067-04-W4
83	LOUISE CREEK SL	SW-25-064-11-W5
84	LUNDBRECK-COWLE	NE-07-007-02-W5
85	MARGUERITE L SL	SW-08-066-05-W4
86	MARSH HD CR W S	07-16-059-24-W5
87	MEYER B SALES	NW-02-070-25-W4
88	MILDRED LK #2 S	08-15-092-10-W4
89	MILDRED LK SLS	08-15-092-10-W4
90	MINNOW LK S. SL	07-20-050-15-W5
91	MITSUE SALES	10-30-072-04-W5
92	MONARCH N. B SL	12-03-010-23-W4
93	MOOSEHORN R SLS	02-06-067-10-W5
94	NIPISI SALES	10-30-072-04-W5
95	NOEL LAKE SALES	10-01-062-08-W5
96	NOSEHILL CRK N.	01-01-057-22-W5
97	NOSEHILL CRK SL	07-32-055-20-W5
98	ONETREE SALES	13-24-019-15-W4
99	OTAUWAU SALES	NW-14-071-04-W5
100	OUTLET CREEK SL	02-09-064-19-W5

MS No. on Map	MS Name	MS Legal Location
101	PADDY CREEK SLS	03-28-049-11-W5
102	PEMBINA SALES	NW-17-047-09-W5
103	PENHOLD N SALES	SW-19-037-27-W4
104	PINCHER CRK SLS	NW-23-004-29-W4
105	PINE CREEK SLS	15-28-057-17-W5
106	PRIDDIS SALES	SE-29-022-03-W5
107	RAINBOW LK SLS	NE-06-109-07-W6
108	RAINBOW SALES	15-07-108-06-W6
109	RANFURLY SALES	01-28-050-09-W4
110	RAT CREEK SALES	05-36-048-11-W5
111	REDWATER B SL	NE-29-057-21-W4
112	REDWATER SALES	NW-29-057-21-W4
113	RICINUS S SALES	03-05-034-06-W5
114	RIM-WEST SALES	NW-32-043-01-W5
115	ROD LAKE SALES	07-33-092-20-W4
116	ROSS CREEK SLS	SW-35-012-06-W4
117	SAKWATAMAU SALE	04-02-065-13-W5
118	SARATOGA SALES	NE-28-015-02-W5
119	SARRAIL SALES	12-32-068-19-W4
120	SAULTEAUX SALES	SE-18-070-03-W5
121	SAWRIDGE SALES	NE-30-072-04-W5
122	SHANTZ SALES	16-15-031-03-W5
123	SHEERNESS SALES	NE-32-028-13-W4
124	SHORNCLIFFE CRK	06-27-040-07-W4
125	SILVER VLY SLS	15-22-081-11-W6
126	SIMONETTE SALES	NW-05-063-25-W5
127	SOUSA CRK E SLS	02-10-109-08-W6
128	ST. PAUL SALES	NE-18-059-10-W4
129	STORNHAM COULEE	13-02-013-06-W4
130	SUNDAY CREEK SO	13-05-076-06-W4
131	TWINLAKES CK SL	08-05-092-05-W5
132	USONA SALES	01-28-046-27-W4
133	VALHALLA SALES	14-17-077-09-W6
134	VEGREVILLE SALE	03-24-052-15-W4
135	VIKING SALES	04-01-049-13-W4
136	VIRGINIA HLS SL	05-20-063-11-W5
137	VIRGO SALES	12-04-115-05-W6
138	WATERTON SALES	08-24-004-01-W5
139	WAYNE N B SALES	05-04-028-20-W4
140	WEMBLEY SALES	11-19-073-08-W6
141	WESTERDALE SLS	04-35-031-04-W5
142	WESTLOCK SALES	NW-24-060-26-W4
143	WILSON CRK S SL	07-11-043-04-W5
144	WIMBORNE SALES	06-11-033-26-W4
145	WOOD RVR SALES	01-17-043-23-W4


137
127
47
107
108
115
89
88
23
131
54
44
16
30
20
125
67
43
65
133
31
25
130
36
94
140
121
91
66
14
99
87
15
57
55
120
119
82
81
4
76
117
93
83
78
75
126
74
10
85
56
100
34
60
7
136
95
21
35
86
8
142
59
128
111
105
11
96
112
97
40
18
77
134
101
69
109
90
32
135
110
9
45
41
102
132
114
12
46
143
79
145
6
22
53
124
49
73
3
58
50
42
48
103
72
64
70
29
17
51
144
61
113
62
63
33
80
141
123
5
139
122
38
39
19
71
106
98
52
129
118
26
116
27
37
28
92
24
1
84
138
104
13

MS No. on Map	MS Name	MS Legal Location
1	ALLISON CRK SLS	NE-11-008-05-W5
2	AMOCO SALES TAP	SW-07-066-05-W4
3	ARDLEY SALES	11-32-039-22-W4
4	ATMORE B SALES	SE-32-067-17-W4
5	ATUSIS CREEK SL	12-19-027-24-W4
6	BASHAW WEST SLS	NE-06-042-22-W4
7	BEAVER HILL SLS	NE-03-062-19-W5
8	BIGSTONE SALES	SW-15-061-21-W5
9	BITTERN LAKE SL	SE-30-046-21-W4
10	BLEAK LAKE SLS	04-15-066-23-W4
11	BLUE RIDGE E SL	15-23-059-11-W5
12	BRAZEAU N SALES	05-06-047-12-W5
13	CALDWELL SALES	13-31-002-28-W4
14	CANOE LAKE SALE	05-08-070-04-W4
15	CARIBOU LAKE SL	08-12-069-05-W4
16	CARMON CREEK SL	04-31-085-20-W5
17	CAROLINE SALES	NW-36-034-06-W5
18	CARROT CREEK SL	02-32-053-13-W5
19	CAVALIER SALES	15-32-023-23-W4
20	CHEECHAM W. SLS	15-09-084-06-W4
21	CHICKADEE CK SL	04-33-060-13-W5
22	CHIGWELL N. SLS	04-17-041-24-W4
23	CHIPEWYAN RIVER	03-29-092-20-W4
24	COLEMAN SALES	NW-04-008-04-W5
25	CONKLIN W SALES	09-23-077-09-W4
26	COUSINS A SALES	NW-14-013-06-W4
27	COUSINS B SALES	NW-14-013-06-W4
28	COUSINS C SALES	NW-14-013-06-W4
29	CRAMMOND SALES	10-34-034-06-W5
30	CRANBERRY LK SL	08-20-085-18-W5
31	CROW LAKE SALES	NE-33-079-14-W4
32	CYNTHIA SALES	SW-21-049-11-W5
33	DEADRICK CK SLS	08-33-030-01-W5
34	DEEP VLLY CR SL	NW-05-063-25-W5
35	DEEP VY CK S SL	11-03-060-25-W5
36	DEMMITT SALES	SE-03-074-12-W6
37	DUTCH CREEK SLS	SW-07-012-01-W5
38	E. CALGARY B SL	SE-03-026-29-W4
39	EAST CALGARY SA	SE-03-026-29-W4
40	ELK POINT SALES	01-09-055-06-W4
41	ELK RIVER S SLS	06-10-047-14-W5
42	EVERGREEN SALES	06-16-038-04-W5
43	FALHER SALES	08-06-078-20-W5
44	FERGUSON SALES	13-13-085-21-W5
45	FERINTOSH N. SL	SE-32-045-21-W4
46	FERINTOSH SALES	12-10-044-22-W4
47	FIRE CREEK SALE	05-29-110-05-W6
48	FLEET SALES	SW-26-037-14-W4
49	FORESTBURG SLS	SW-34-040-16-W4
50	GAETZ LAKE SLS	NE-36-038-27-W4

MS No. on Map	MS Name	MS Legal Location
51	GARRINGTON SALE	04-20-034-04-W5
52	GAS CITY SALES	13-02-013-06-W4
53	GILBY N#2 SALES	01-15-041-03-W5
54	GODS LAKE SALES	11-10-090-03-W5
55	GOLD CREEK SLS	04-34-067-04-W6
56	GRANDE CENTRE S	13-13-062-02-W4
57	GRANDE PRAIR SL	NE-26-067-05-W6
58	GREEN GLADE SLS	NW-05-038-01-W4
59	GREENCOURT W SL	06-36-059-10-W5
60	GRIZZLY SALES	07-10-061-22-W5
61	HANNA S B SALES	NE-22-031-14-W4
62	HARMATTAN SALES	04-05-032-03-W5
63	HARMATTAN-LEDUC	NE-27-031-04-W5
64	HAYNES SALES	12-29-038-25-W4
65	HEART RIVER SLS	05-11-077-16-W5
66	HERMIT LAKE SLS	12-36-071-07-W6
67	HOUSE RIVER	NE-33-079-14-W4
68	HUGGARD CREEK S	05-11-069-22-W5
69	INLAND SALES	NE-34-050-15-W4
70	INNISFAIL SALES	NE-35-034-01-W5
71	JENNER EAST SLS	04-21-020-08-W4
72	JOFFRE SLS #2	12-29-038-25-W4
73	JOFFRE SLS #3	12-29-038-25-W4
74	JUDY CREEK SALE	10-25-064-11-W5
75	KAKWA SALES	11-03-064-07-W6
76	LAC LA BICHE SL	05-03-067-13-W4
77	LANDON LAKE SLS	SW-36-054-06-W4
78	LEMING LAKE SLS	SE-32-065-04-W4
79	LLOYD CREEK SLS	NW-32-043-01-W5
80	LONE PINE CK SL	SW-23-030-28-W4
81	LOSEMAN LAKE SL	07-05-067-04-W4
82	LOSEMAN LK SL#2	07-05-067-04-W4
83	LOUISE CREEK SL	SW-25-064-11-W5
84	LUNDBRECK-COWLE	NE-07-007-02-W5
85	MARGUERITE L SL	SW-08-066-05-W4
86	MARSH HD CR W S	07-16-059-24-W5
87	MEYER B SALES	NW-02-070-25-W4
88	MILDRED LK #2 S	08-15-092-10-W4
89	MILDRED LK SLS	08-15-092-10-W4
90	MINNOW LK S. SL	07-20-050-15-W5
91	MITSUE SALES	10-30-072-04-W5
92	MONARCH N. B SL	12-03-010-23-W4
93	MOOSEHORN R SLS	02-06-067-10-W5
94	NIPISI SALES	10-30-072-04-W5
95	NOEL LAKE SALES	10-01-062-08-W5
96	NOSEHILL CRK N.	01-01-057-22-W5
97	NOSEHILL CRK SL	07-32-055-20-W5
98	ONETREE SALES	13-24-019-15-W4
99	OTAUWAU SALES	NW-14-071-04-W5
100	OUTLET CREEK SL	02-09-064-19-W5

MS No. on Map	MS Name	MS Legal Location
101	PADDY CREEK SLS	03-28-049-11-W5
102	PEMBINA SALES	NW-17-047-09-W5
103	PENHOLD N SALES	SW-19-037-27-W4
104	PINCHER CRK SLS	NW-23-004-29-W4
105	PINE CREEK SLS	15-28-057-17-W5
106	PRIDDIS SALES	SE-29-022-03-W5
107	RAINBOW LK SLS	NE-06-109-07-W6
108	RAINBOW SALES	15-07-108-06-W6
109	RANFURLY SALES	01-28-050-09-W4
110	RAT CREEK SALES	05-36-048-11-W5
111	REDWATER B SL	NE-29-057-21-W4
112	REDWATER SALES	NW-29-057-21-W4
113	RICINUS S SALES	03-05-034-06-W5
114	RIM-WEST SALES	NW-32-043-01-W5
115	ROD LAKE SALES	07-33-092-20-W4
116	ROSS CREEK SLS	SW-35-012-06-W4
117	SAKWATAMAU SALE	04-02-065-13-W5
118	SARATOGA SALES	NE-28-015-02-W5
119	SARRAIL SALES	12-32-068-19-W4
120	SAULTEAUX SALES	SE-18-070-03-W5
121	SAWRIDGE SALES	NE-30-072-04-W5
122	SHANTZ SALES	16-15-031-03-W5
123	SHEERNESS SALES	NE-32-028-13-W4
124	SHORNCLIFFE CRK	06-27-040-07-W4
125	SILVER VLY SLS	15-22-081-11-W6
126	SIMONETTE SALES	NW-05-063-25-W5
127	SOUSA CRK E SLS	02-10-109-08-W6
128	ST. PAUL SALES	NE-18-059-10-W4
129	STORNHAM COULEE	13-02-013-06-W4
130	SUNDAY CREEK SO	13-05-076-06-W4
131	TWINLAKES CK SL	08-05-092-05-W5
132	USONA SALES	01-28-046-27-W4
133	VALHALLA SALES	14-17-077-09-W6
134	VEGREVILLE SALE	03-24-052-15-W4
135	VIKING SALES	04-01-049-13-W4
136	VIRGINIA HLS SL	05-20-063-11-W5
137	VIRGO SALES	12-04-115-05-W6
138	WATERTON SALES	08-24-004-01-W5
139	WAYNE N B SALES	05-04-028-20-W4
140	WEMBLEY SALES	11-19-073-08-W6
141	WESTERDALE SLS	04-35-031-04-W5
142	WESTLOCK SALES	NW-24-060-26-W4
143	WILSON CRK S SL	07-11-043-04-W5
144	WIMBORNE SALES	06-11-033-26-W4
145	WOOD RVR SALES	01-17-043-23-W4

Pipe Number	NPS	Length (Km)	Estimated Original Book Cost	Estimated NBV
667	4	0.010	179	19
728	4	0.455	47,124	24,301
1295	6	0.020	0	0
3140	4	0.010	3,054	2,317
3379	6	0.130	12,982	9,116
3441	8	0.215	28,549	20,045
3442	8	0.187	24,831	17,435
3444	4	0.008	530	372
3654	6	0.310	14,794	9,934
3701	0	0.000	0	0
4699	6	0.050	810	4
4756	6	7.995	168,210	2,651
5022	4	0.020	14,313	9,018
5164	4	0.012	0	0
5195	8	0.010	42,712	17,998
5528	6	0.010	0	0
5538	4	0.086	0	0
5552	12	7.811	392,677	12,368
5557	12	0.031	1,503	47
5558	12	0.010	485	15
5570	6	7.301	952,472	566,917
5642	4	0.004	0	0
5643	4	0.002	0	0
5648	4	0.031	0	0
5649	4	0.005	0	0
5651	4	0.080	0	0
5662	4	0.085	0	0
5681	4	0.010	0	0
6314	4	0.010	55	12
6315	4	0.087	5,914	4,580
6339	4	0.011	0	0
6491	6	0.050	0	0
6565	6	0.100	65,521	41,581
6570	4	0.003	1,242	788
6571	6	0.011	6,860	4,354
6572	4	0.006	2,484	1,576
6606	12	0.003	245	166
6650	4	0.125	393	270
6684	4	0.002	143	88
6685	4	0.002	72	45
6702	6	0.048	0	0
6703	6	0.003	0	0
6704	6	0.016	0	0
6810	12	0.016	0	0
6853	4	0.010	3,042	2,262
6979	24	0.018	0	0
6982	8	0.025	43,935	29,902
7094	4	0.004	143	83
7095	4	0.060	1,098	640
7125	4	0.015	652	411
7176	6	0.053	15,927	6,731

Pipe Number	NPS	Length (Km)	Estimated Original Book Cost	Estimated NBV
7213	4	0.610	47,278	12,211
7214	4	0.007	665	172
7218	8	0.106	0	0
7261	6	0.033	313	2
7361	20	0.002	0	0
7362	20	0.002	0	0
7461	6	0.068	0	0
7629	16	0.015	819	627
7880	24	0.010	91,235	51,684
7881	12	0.010	47,584	26,956
7886	4	0.062	0	0
7906	4	0.002	0	0
7965	16	0.032	1,747	1,337
7980	16	0.034	1,856	1,420
8004	4	0.010	0	0
8123	4	0.140	3,817	2,993
8129	4	0.007	193	57
8150	8	0.005	0	0
8152	4	0.004	465	335
8154	8	0.003	102	11
8159	4	0.042	0	0
8237	4	0.031	3,027	2,289
8695	6	0.030	0	0
8886	12	0.011	7,891	6,085
8999	4	0.007	1,621	1,331
9055	4	0.010	42,922	32,884
9089	12	0.051	38	29
9161	10	0.013	708	505
9188	4	0.031	206	148
9320	6	0.027	3,018	2,412
9321	8	0.020	1,707	915
9322	8	0.003	256	137
9523	4	0.032	0	0
9595	8	0.035	0	0
9668	4	0.062	0	0
9682	6	0.059	0	0
9683	6	0.014	0	0
9684	6	0.004	0	0
9753	10	8.018	889,556	476,652
9773	10	0.012	96	27
9776	6	0.007	32	9
9778	6	0.018	0	0
9965	4	0.019	0	0
10186	6	0.287	16,492	10,980
10187	6	0.003	172	115
10188	6	0.027	1,552	1,033
10357	10	0.003	114	90
10459	8	0.013	0	0
10488	8	0.800	196,670	123,689
10489	4	0.014	804	506
10657	4	0.048	0	0

Pipe Number	NPS	Length (Km)	Estimated Original Book Cost	Estimated NBV
10658	4	0.046	0	0
10659	4	0.002	0	0
10660	4	0.004	0	0
10661	4	0.007	0	0
10947	4	0.071	0	0
11097	4	0.019	1,345	936
11155	4	0.010	0	0
11237	4	0.010	995	816
11246	4	0.390	0	0
11251	4	0.058	0	0
11252	6	0.009	0	0
11258	8	1.955	370,851	209,328
11270	4	0.050	3,997	2,147
11301	8	0.020	0	0
11350	4	0.586	0	0
11417	8	1.900	464,526	315,179
11420	8	0.500	122,244	82,942
11762	12	0.010	0	0
11763	4	2.021	212,813	110,534
11769	24	0.010	42,217	28,757
11830	6	0.029	66,608	49,643
12027	4	0.010	0	0
12045	10	0.060	0	0
12101	6	0.005	0	0
12102	6	0.252	0	0
12106	6	0.015	0	0
12197	4	1.581	216,722	124,511
12198	4	0.019	1,301	747
12283	6	0.006	526	340
12284	10	0.003	434	281
12285	6	0.059	5,168	3,347
12373	16	0.002	0	0
12374	12	0.013	0	0
12375	36	0.003	0	0
12376	12	0.015	0	0
12378	12	0.002	163	111
12379	8	0.016	872	592
12469	4	0.031	0	0
12623	4	1.025	151,541	93,308
12624	4	0.007	18,554	11,739
12628	12	0.008	0	0
12629	6	0.027	0	0
12759	6	0.004	106	29
12760	6	0.019	528	143
12768	4	0.501	0	0
12973	4	1.100	278,531	229,897
12981	4	0.004	183	83
12982	4	8.893	562,153	254,849
12983	4	4.650	226,925	102,876
12984	4	0.018	1,138	516
12997	4	0.013	17,147	11,944

Pipe Number	NPS	Length (Km)	Estimated Original Book Cost	Estimated NBV
13001	4	0.004	0	0
13002	4	0.010	0	0
13003	4	0.020	0	0
13021	4	0.035	2,989	2,114
13027	4	0.004	0	0
13028	4	0.018	0	0
13030	4	4.019	444,656	352,142
13072	4	0.021	0	0
13073	8	0.004	0	0
13074	4	0.003	0	0
13075	4	0.003	0	0
13078	4	0.019	142	54
13090	4	0.005	0	0
13105	6	11.437	181,509	830
13132	6	0.010	858	587
13137	4	0.007	0	0
13178	4	0.004	0	0
13179	4	0.003	0	0
13180	8	0.004	0	0
13181	4	0.012	0	0
13206	4	0.002	0	0
13283	4	0.007	0	0
13302	4	0.010	2,981	2,217
13357	4	0.002	0	0
13358	4	0.007	0	0
13359	4	0.066	2,107	1,419
13362	6	0.020	0	0
13451	4	0.020	0	0
13472	4	0.051	0	0
13481	4	0.080	195	129
13491	4	0.010	0	0
13528	4	0.013	2,986	2,139
13578	10	0.002	817	515
13579	12	0.010	4,865	3,072
13580	12	0.038	18,488	11,672
13581	10	0.002	817	515
13582	12	0.004	1,946	1,229
13828	4	0.002	0	0
13830	4	0.002	0	0
13872	4	0.039	0	0
13925	12	0.052	0	0
13949	4	0.002	0	0
13992	4	0.010	0	0
13993	4	1.000	0	0
14008	4	0.020	0	0
14011	4	0.010	3,002	2,152
14093	10	0.030	0	0
14099	12	0.010	0	0
14100	12	9.680	486,326	15,318
14102	4	0.036	0	0
14105	8	0.023	0	0

Pipe Number	NPS	Length (Km)	Estimated Original Book Cost	Estimated NBV
14120	4	0.009	0	0
14121	20	0.706	0	0
14122	20	0.018	0	0
14331	12	0.003	477	269
14332	10	24.940	3,442,397	1,943,729
14410	4	0.003	131	70
14426	6	6.859	190,736	51,779
14428	4	0.002	0	0
14429	4	0.020	0	0
14472	4	0.027	0	0
14473	4	0.004	0	0
14474	12	0.006	0	0
14480	4	0.009	4,444	2,030
14572	4	0.021	0	0
14657	4	0.002	0	0
17080	4	0.010	0	0
17089	4	0.010	0	0
17514	8	0.106	0	0
17515	6	0.050	0	0
17572	16	0.017	0	0
17573	10	0.042	0	0
17575	12	0.003	0	0
17576	16	0.003	0	0
17580	6	0.010	5,346	4,842
17601	6	0.012	0	0
17604	12	0.130	0	0
17696	4	0.228	0	0
17697	4	0.010	0	0
17704	4	0.010	3,689	2,764
17770	6	0.003	0	0
41780	6	0.010	0	0
41803	6	0.010	0	0
41825	6	0.050	0	0
41898	6	0.010	1,007	830
47960	6	0.010	0	0
47991	4	0.010	0	0
47993	6	0.010	0	0
47994	6	0.010	0	0
47995	12	0.012	0	0
47996	12	0.035	0	0
47997	12	0.021	0	0
49509	12	0.010	1,806	1,169
49526	12	0.006	254	60
49537	4	0.004	0	0
49568	4	0.015	0	0
49569	4	0.015	0	0
49610	12	0.010	436	103
49761	10	0.003	114	90
49766	12	0.010	469	372
50843	4	0.001	47	31
60607	16	9.946	802,392	601,032

AP-NGTL-021(a) to (d)

Reference:

Section 2.0, Rate Design, Page 47 of 62, Table 2.4.2-2

Preamble:

AP seeks further information on the referenced table.

Request:

With respect to Table 2.4.2-2:

(a) What are the total number of delivery meter stations included in the table?

(b) Please confirm that all intra-Alberta deliveries not associated with storage or extraction are made through the meter stations identified in (a).

(c) If (b) is not confirmed, please fully explain.

(d) Of the delivery meter stations described in (a), how many provide intra-Alberta delivery service under FT-A, how many under FT-P, and how many under both services?

Response:

(a) 145 delivery meter stations.

(b) Confirmed.

(c) Not applicable.

(d) In 2003, 122 delivery meter stations were used for FT-A service, 2 delivery meter stations were used for FT-P service and 2 delivery meter stations were used for both FT-A and FT-P services.

AP-NGTL-021(e) to (h)

Reference:

Section 2.0, Rate Design, Page 47 of 62, Table 2.4.2-2

Preamble:

AP seeks further information on the referenced table.

Request:

With respect to Table 2.4.2-2:

(e) Please confirm that the total cost of meter stations ($14.9 million) is not used to determine the FT-A or FT-P rates.

(f) If (e) is not confirmed, please fully explain how the meter station cost ($14.9 million) is used to derive each of those two rates.

(g) Using the $14.9 million in intra-Alberta metering costs, what is the average unit cost of metering for the stations in (a) based on:

(i) actual 2003 annual volumes delivered, and

(ii) the hypothetical 2003 volumes using a 100% load factor?

(h) Of the $4.6 million in pipe costs, what portion is directly associated with deliveries to stations providing FT-P service, FT-A service, or both?

Response:

The metering costs have been updated from $14.9 to $14.4 million. Please refer to the response to AP-NGTL-022(a) for the revised Table 2.4.2-2.

(e) Not confirmed.

(f) The metering component of these rates is based on the system average meter station cost. For 2005 the meter station cost has been calculated as follows:

AP-NGTL-021(e) to (h)

P = C / (V * D), where:

P = the metering charge in $/Mcf
V = the average volume at all meter stations on the Alberta System in Mcf/day
D = 365 (The number of days in the year)
C = the total of all costs assigned or allocated to the metering function.

For 2005 C = $114.7 million which is comprised of $14.4 million for intra-Alberta meter stations and $100.3 million for other meter stations.

(g) Since FT-A service only has commodity volumes it is not possible to calculate a contractual load factor. Please refer to the response to WEG-NGTL-002(a).

(h) These facilities are part of the integrated Alberta System and as such NGTL is unable to identify portions directly related to each service. However in total 100% of the costs will be associated with the combination of FT-R, FT-RN, IT-R, FT-A, FCS and FT-P services.

AP-NGTL-022(a) and (b)

Reference:

Application, Section 2.0, Rate Design, Page 50 of 62, Table 2.4.2-4

Preamble:

AP seeks further information on the referenced table.

Request:

With respect to Table 2.4.2-4:

(a) Please fully explain the reasons to exclude non-direct FT-R revenue for receipt and transmission services from the analysis shown on the table.

(b) In light of the response to (a), please fully explain the reason that receipt and all transmission revenues under FT-P service are included in the analysis shown on the table.

Response:

(a) The non-direct FT-R revenue should have been included in the table but was shown in the second footnote instead. The table has been updated to reflect this change. In addition, a further amendment to the table is required to correct the metering costs. The corrected table appears below.

AP-NGTL-022(a) and (b)

Table 2.4.2-4 – Revised
Delivery Facilities not Associated with Export, Storage or Extraction Revenues and Costs
($ million)

	Direct		Non-direct	Total		
Cost of Service Analysis:						
Pipe	1.34		1.20	2.54		
Metering	~~7.92~~	7.35	7.00	~~14.92~~	14.35	|
Simmons Related Costs	1.16		0.95	2.10		
TOTAL COSTS	**~~10.41~~**	**9.84**	**9.15**	**~~19.56~~**	**18.99**	|
2005 Forecast Revenue:						
FCS Charges	4.94		-	4.94		
FT-A	5.32		58.08	~~5.32~~	63.4	|
FT-P[1]	22.09		-	22.09		
TOTAL REVENUE:	**32.35**		**58.08**	**~~32.35~~**	**90.43**	|

1. FT-P service direct revenue is based on 100% of the FT-P rate which includes a component for the receipt metering costs and the delivery metering costs, each of which are $2.0 million.

(b) The FT-P contracts specify particular delivery points. As a result the revenues associated with these contracts are directly related to those delivery points. None of those delivery points are export, storage or extraction points and thus should be included as direct revenue in this table.

AP-NGTL-022(c)

Reference:

Application, Section 2.0, Rate Design, Page 50 of 62, Table 2.4.2-4

Preamble:

AP seeks further information on the referenced table.

Request:

With respect to Table 2.4.2-4:

Please provide the number of receipt meter stations associated with the FT-P revenue.

Response:

There are 70 individual receipt stations associated with the FT-P revenue.

AP-NGTL-022(d) and (e)

Reference:

Application, Section 2.0, Rate Design, Page 50 of 62, Table 2.4.2-4

Preamble:

AP seeks further information on the referenced table.

Request:

With respect to Table 2.4.2-4:

(d) Please confirm that each receipt meter station in (c) is directly connected to pipes that are included in the algorithms used for specific receipt point tolls, and provide the aggregate contract demand of FT-P service using those meter stations.

(e) If (d) is not confirmed, please fully explain.

Response:

(d) Confirmed. The FT-P contract information is supplied in Table 5.1-1 of Section 5 of the Application.

(e) Not applicable.

AP-NGTL-022(f)

Reference:

Application, Section 2.0, Rate Design, Page 50 of 62, Table 2.4.2-4

Preamble:

AP seeks further information on the referenced table.

Request:

With respect to Table 2.4.2-4:

Please provide the number of delivery meter stations associated with the FT-P revenue and directly connected to pipes that are included in the algorithms, and provide the aggregate contract demand of FT-P service using those meter stations.

Response:

Zero.

AP-NGTL-022(g)

Reference:

Application, Section 2.0, Rate Design, Page 50 of 62, Table 2.4.2-4

Preamble:

AP seeks further information on the referenced table.

Request:

With respect to Table 2.4.2-4:

Please provide the number of delivery meter stations associated with the FT-P revenue and not directly connected to pipes that are included in the algorithms, and provide the aggregate contract demand of FT-P service using those meter stations.

Response:

There are eight delivery stations associated with the FT-P revenue. The aggregate FT-P contract demand is 0.38 Bcf/day.

AP-NGTL-023

Reference:

Application, Appendix 2A, Cost of Service Study, Page 9, Table 4

Preamble:

Cost of service for laterals is not shown.

Request:

(a) Please subdivide the transmission cost of service into mainline and lateral components using a functional definition of laterals.

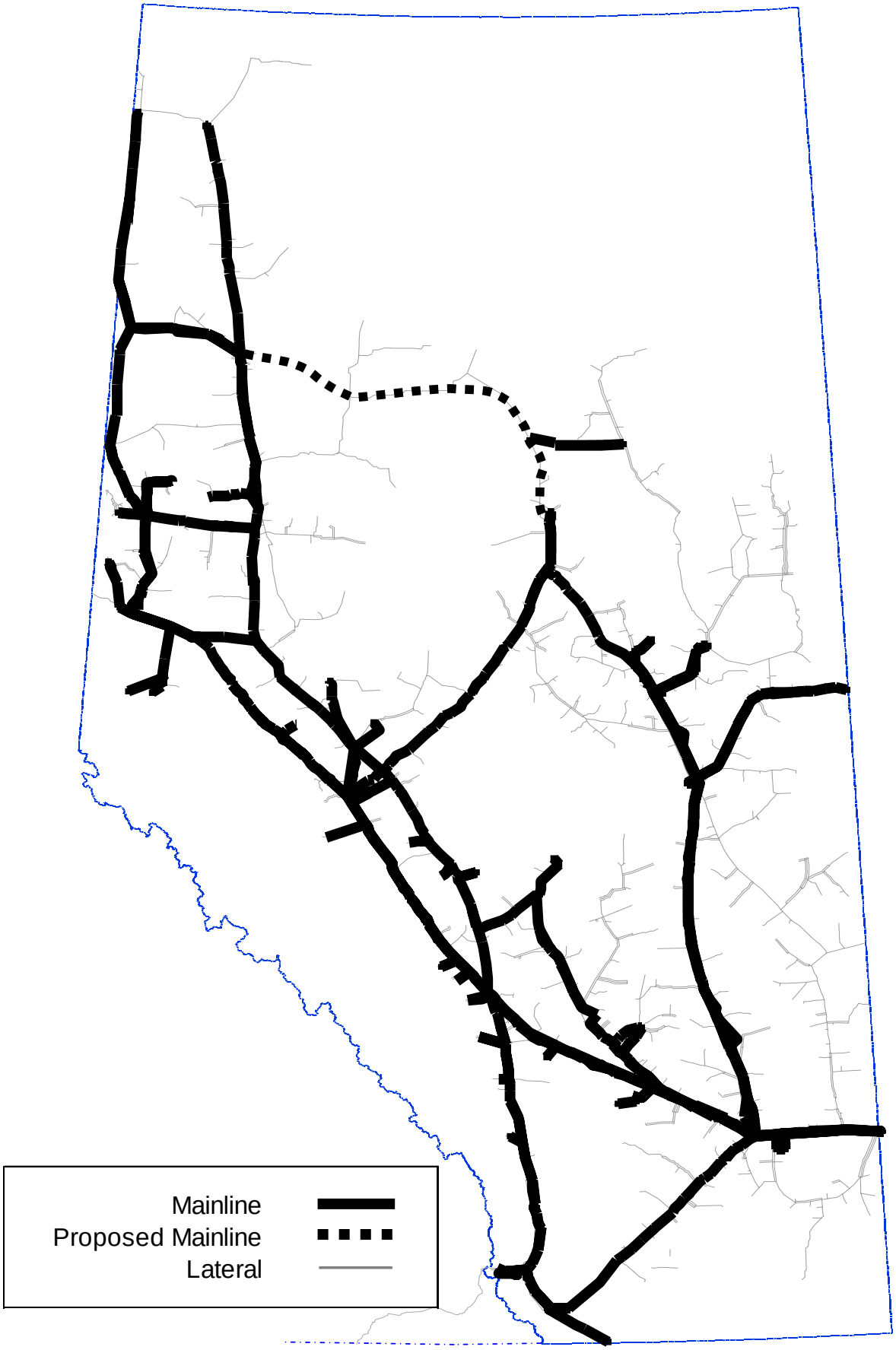
(b) Please provide a system map showing mainline and lateral components.

Response:

(a) The requested information in the following table. The table is based on the functional definition of mainline and lateral which NGTL provided in the 2004 Phase 2 GRA.

	Transmission Cost of Service		Pipe Length	
	($)	(%)	(km)	(%)
Functional Lateral	278,996,313	24%	11,794	52%
Functional Mainline	904,792,705	76%	10,948	48%
Total	1,183,789,018	100%	22,741	100%

(b) Please refer to Attachment AP-NGTL-023(b). It is the same map as was provided in the 2004 Phase 2 GRA.


Mainline
Proposed Mainline
Lateral

AP-NGTL-024

Reference:

Application, Section 2.0 Rate Design, page 11 of 62, lines 1 to 5 EUB Decision 2004-097, page 18

Preamble:

NGTL indicates that in the present Application it did not include meter cost allocation by customer group because the 2004 allocation and use of system-wide average metering costs were accepted by stakeholders and the Board.

In Decision 2004-097, the Board indicated that no party expressed support to account for specific metering costs and that it would not implement such costs based on the large variability of those costs among various customer groups.

AP would like to understand the variability of allocated metering costs among customer groups for the present Application.

Request:

(a) For the 2003 Cost of Service Study, please provide the metering costs by customer group in the same manner as set out in the 2004 Phase 2 GRA Application, Section 2.7.

(b) Please calculate the unit metering costs for each customer group on the basis of:

(i) actual annual volume delivered in 2003; and

(ii) the hypothetical 2003 annual volume using a 100% load factor.

Response:

(a) Please refer to the response to WEG-NGTL-002(a).

(b) Please refer to the response to AP-NGTL-021(g).

AP-NGTL-025

Reference:

Application, Appendix 2B, COS Study – Alternative Allocation Methodologies

Preamble:

In EUB Decision 2004-097, starting at the bottom of page 18, the Board stated:

"The Board reviewed an option that the current NGTL rate design could potentially be modified to reflect the current DOH study in the allocation of costs for determination of the intra-Alberta and ex-Alberta rates. This would require roughly 45% of the transmission costs to be allocated to intra-Alberta service (FT-R plus FT-A rates) and 55% of the transmission costs to be allocated to the FT-D rate.

Further, the Board is of the view that it would be appropriate to increase the FT-A rate in order to provide some recovery of intra-Alberta transmission costs in addition to the proposed 1.8 cents/Mcf for metering. The Board recognizes that given the integrated nature of NGTL's rate design, the increased FT-A rate and revenue would necessitate some adjustment to the FT-R rate, which the Board anticipates could be fairly minor given the respective volumes involved with FT-A and FT-R services. These adjustments would aim to maintain the intra-Alberta cost of 45% of the ex-Alberta cost as supported by the latest DOH study, and at the same time essentially preserve the full path rate."

Request:

(a) For Alternatives 1 to 3, please confirm that the constraint imposed by NGTL is that, when stated in unit terms ($ per Mcf), the sum of the transmission components for FT-R and FT-A must be 45.5% of the sum of the transmission components of FT-R and FT-D. If not confirmed, please fully explain.

(b) Please confirm that in Alternatives 2 and 3, the analysis used 50% of the $4.64 million (Section 2.0, page 49 of 62, Table 2.4.2-3) for the transmission cost of delivery facilities not associated with export, storage, or extraction.

(c) If (b) is not confirmed, please provide the transmission cost that was used for those facilities.

AP-NGTL-025

(d) If (a) is confirmed, for Existing and each Alternative 1 to 3 please provide a table showing the allocated costs of transmission, stated in millions of dollars per year and in $ per Mcf, for each of FT-R, FT-A, and FT-D, and showing the ratio of the annual and unit transmission costs for FT-R and FT-A to those for FT-R and FT-D.

(e) If (a) is confirmed, please provide the results of Alternatives 1 to 3 in the same format as provided in ATCO-NGTL-P1 (excel spreadsheets and numbers for diagrams) when the constraint imposed is that, when stated in absolute terms ($ per year), the sum of the transmission cost components of FT-R and FT-A must be 45.5% of the sum of the transmission cost components of FT-R and FT-D. Please provide these results in $ per year and $ per Mcf.

(f) Using the results from (e), please provide a revised Section 2.0, page 23 of 62, Table 2.2.2-3.

Response:

(a) Confirmed.

(b) Confirmed.

(c) Not applicable.

(d) Please see the table provided below.

AP-NGTL-025

Rates and Revenues
(Rates cents/Mcf)
Revenues ($'s million)

Alternative	Existing	1	2	3
Rate				
Average FT-R	15.51	14.37	13.94	12.88
FT-D	15.51	16.93	17.41	18.61
FT-A	1.42	1.42	1.87	3.00
FT-R Transmission Costs	411.44	378.15	365.60	334.64
FT-A Transmission Costs	-	-	1.69	5.94
FT-D Transmission Costs	378.28	416.40	429.29	461.51
Intra Transmission Rate	14.09	12.95	12.97	13.04
Ex Transmission Rate	28.18	28.46	28.51	28.65
Intra/Ex Ratio - Transmission Rates	50.0%	45.5%	45.5%	45.5%
Intra-ExRatio - Transmission Revenue	52.1%	47.6%	46.1%	42.5%

(e) ATCO has not provided sufficient information for NGTL to provide meaningful results.

(f) Please refer to the response to (e).

AP-NGTL-026

Reference:

Application Appendix 2B, Page 37 of 69, Table 5.1-2
Application Appendix 2B, Page 48 of 69, Table 6.1-2
Application Appendix 2B, Page 59 of 69, Table 7.1-2
Application Appendix 2A, Appendix 1, Page 3 of 13
Application Section 2.0, Page 23 of 62, Table 2.2.2-3

Preamble:

Tables 5.1-2, 6.1-2, and 7.1-2 in Appendix 2B calculate the service category share of Transmission Revenue Requirement using certain DOH factors. Appendix 2A, Appendix 1, Page 3 of 13 shows that the average distance of haul for intra-Alberta deliveries and ex-Alberta deliveries is 239 km and 559 km respectively and that the weighted average of all deliveries (intra-Alberta and ex-Alberta) is 517 km.

Request:

(a) Please confirm that the DOH factors on Appendix 2B Table 5.1-2, Table 6.1-2, and Table 7.1-2 were all based on Appendix 2A, Appendix 1, (Distance of Haul Study - Revised Methodology 2003 Calendar Year) Page 3 of 13. If not confirmed, please fully explain how the DOH factors of these tables were calculated.

(b) Please confirm that there is no evidence that the total combined distance of haul for receipt and export border delivery service is 1076 km (517+559). If not confirmed, please fully explain.

(c) Please fully explain why the Receipt Service Category was given a 517 km DOH factor given that it represents the weighted average of all deliveries (intra-Alberta and ex-Alberta).

(d) Please confirm that by giving the Receipt Service Category a 517 km DOH factor, the distance gas travels from receipt point to ex-Alberta and intra-Alberta delivery points has been double-counted in Table 5.1-2, Table 6.1-2, and Table 7.1-2. If not confirmed, please fully explain.

AP-NGTL-026

(e) Please recalculate Table 5.1-2, Table 6.1-2, and Table 7.1-2 to avoid the double counting of receipt volumes.

Response:

(a) Confirmed, for all factors except storage DOH in table 7.1-2. The storage DOH was calculated using the same methodology used to calculate the other factors, which is explained in the DOH Study, Appendix 1 of Appendix 2A of the Application. Please refer to the response to IGCAA-NGTL-014(a).

(b) Confirmed. There is no such thing as a combined distance of haul, therefore no evidence of it has been provided.

(c) The DOH study is an analysis to determine the distance gas travels to delivery points. The analysis is done by identifying the path of the gas to each delivery point from all upstream receipt points. The DOH study does not provide a DOH for receipt points. However, assuming all gas delivered to the intra-Alberta and ex-Alberta delivery points must have been received at a receipt point, the receipt DOH must equal the volume weighted average for all delivery points.

(d) Not confirmed. Please refer to the response to (c).

(e) The receipt to delivery relationships are stated correctly. The tables do not need to be recalculated as the receipt volumes have not been double counted.

AP-NGTL-027

Reference:

Application Section 2.0, Appendix 2B, Page 45, Diagram 5.2-1 – Illustrative Rate Calculation, Box 10

Preamble:

AP seeks clarification on the referenced diagram.

Request:

(a) Please confirm that the "FCS revenue" included in box 10 does not include FCS MAV revenue, which relates to meters and not to transmission costs.

(b) If (a) is not confirmed, please fully explain why this revenue should be deducted from the transmission revenue requirement.

(c) Please confirm that the "50% FT-P revenue" included in box 10 does not include FT-P revenue related to receipt meters and intra-Alberta delivery meters.

(d) If (c) is not confirmed, please fully explain why this revenue should be deducted from the transmission revenue requirement.

Response:

(a) Not confirmed. The FCS revenue includes the total revenue collected pursuant to these contracts and therefore includes the MAV component.

(b) The FCS provides for cost accountability for facilities when intra-Alberta deliveries do not meet or exceed the MAV. Therefore, the revenue generated through FCS supplements the FT-A revenue and for that reason it is subtracted from the FT-A revenue requirement.

(c) Confirmed.

(d) Not applicable.

AP-NGTL-028

Reference:

Application, Section 2.0, Appendix B, Page 68 of 69, Diagram 7.2-1, Box 10

Preamble:

AP seeks clarification of the referenced diagram.

Request:

(a) Please confirm that the "FCS revenue" included in box 10 does not include FCS MAV revenue, which relates to meters and not to transmission costs.

(b) If (a) is not confirmed, please fully explain why this revenue should be deducted from the transmission revenue requirement.

Response:

(a) Not confirmed.

(b) Please refer to the response to AP-NGTL-027(b).

AP-NGTL-029

Reference:

NGTL 2005-2007 Revenue Requirement Settlement Application, Appendix A: 2005-2007 Revenue Requirement Settlement; Section 4.10 Cost of Service Studies Schedule

Preamble:

In the 2005-2007 Revenue Requirement Settlement, NGTL agreed to provide the forecast numbers for 2005 costs at the level provided in Tables 1 and 2 of its Cost of Service Study and include a breakdown of its TBO costs.

Request:

Please provide a forecast of 2005 cost of service in the detail noted in the preamble above.

Response:

There is no provision in the 2005-2007 Revenue Requirement Settlement Agreement for the breakdown of TBO costs, however the requested information is provided below.

Forecast 2005 costs at the level provided in Tables 1 and 2 of the Cost of Service Study are shown in the tables below.

AP-NGTL-029

Forecast NBV of Assets
2005

	$ Millon	% of Pipeline Assets	% of Total Assets
Compression	819	20%	
Metering	348	9%	
Pipes	2,834	71%	
Pipeline assets total	**4,001**	**100%**	92%
General Operating Assets	34		
Calgary Offices	24		
Field/Service Centres, Vehicles	56		
Information Technology	74		
General plant total	**188**		4%
Cash Working Capital	88		
Material & Supplies Inventory	24		
Linepack Gas	28		
Unamortized Debt Issue Costs	18		
Working capital total	**157**		4%
Grand Total	**4,346**		**100%**

AP-NGTL-029

Forecasted Cost of Service for 2005

	$ Million
Direct Costs	
Operating Return	344.3
Depreciation	279.8
Municipal Tax	65.4
Income Tax	128.9
TBO	83.4
Total Direct Costs	**901.8**
Non-direct Costs	
General Operating Assets	7.0
Calgary Offices	5.0
Field/Service Centers, Vehicles	11.5
Information Technology	15.0
General plant total	**38.5**
Cash Working Capital	22.1
Material & Supplies Inventory	3.4
Linepack Gas	2.9
Unamortized Debt Issue Costs	3.7
Working capital total	**32.2**
Maintenance	102.0
Other Departments	54.0
General Expenses	59.4
Other Expenses	12.2
G&A total	**227.6**
Total Non-direct Costs	**298.2**
Total Direct and Non-direct Cost[1]	**1,200.0**

Notes:

1. In 2005 there is ($40) million in deferrals which, when applied to the total direct and non-direct costs equal the negotiated revenue requirement of $1.160 billion.

AP-NGTL-029

The breakdown of 2005 forecasted TBO costs is set out below:

	$ Million
Foothills Pipe Lines	71.82
TransCanada Pipeline Ventures	9.01
Husky Kearl Lake	1.42
ATCO East Edmonton	1.12
	83.37

AP-NGTL-030(a) to (d)

Reference:

NGTL Response to ATCO-NGTL-P1, Excel spreadsheets provided as attachments (i.e. Exhibit 02-003-003 NGTL Excel Alternative 1 2005-06-01.xls)

Preamble:

NGTL provided excel spreadsheets which show the derivation of the revenue values shown in Tables 2.2-1, 3.2-1, 4.2-1, 5.2-1, 6.2-1, and 7.2-1 of Appendix 2B of the Application.

The formula for Cell D33 in the Alternatives 1, 2, and 3 excel spreadsheets is as follows:

"((($D$30/$D$44)+(-$D$51+$D$50))-0.455*((($D$30/$D$44)+(-$D$51+$D$50)-$D$51)))/(($D$43/$D$44)+0.455*(1-($D$43/$D$44)))"

Request:

(a) Please provide a full derivation of the formula in Cell D33 (Firm Transportation Delivery Price - $/Mcf in each of the excel spreadsheets for Alternatives 1 through 3) and specifically answer the following questions:

(i) "D30/D44" - Please fully explain why NGTL divides the Firm Transportation Revenue Requirement (Cell D30) by Receipt Volumes (Cell D44).

(ii) "-D51+D50" - Please fully explain why NGTL in two instances deducts the Total Firm Transportation Alberta Price (Cell D51) from the FT-A Transmission Price (Cell D50).

(iii) Please fully explain why NGTL designed the result of the formula referred to in part (a)(ii) of this question to be negative for Alternatives 2 and 3 and why Cell D50 was not deducted from Cell D51.

(iv) Please fully explain what the "0.455" represents and why it is included in this calculation. (v) "(-D51+D50) - D51" - Please fully explain why NGTL deducts Total Firm Transportation Alberta Price (Cell D51) from the results of part (a)(ii) of this question.

AP-NGTL-030(a) to (d)

(vi) "D43/D44" - Please fully explain why NGTL divides Delivery Volumes (Cell D43) by Receipt Volumes (Cell D44).

(b) Please fully explain how the results of this formula impact the calculation of FT-D and FT-R Revenue Requirements in Cell D39 and D38 respectively for each of Alternatives 1 through 3.

(c) Please provide a reconciliation showing how the FT-R Revenue Requirements (Cell D39) change from Alternative 1 to Alternative 2 and Alternative 3.

(d) Please provide a reconciliation showing how the FT-D Revenue Requirements (Cell D38) change from Alternative 1 to Alternative 2 and Alternative 3.

Response:

(a) Please refer to the response to BR-NGTL-006(d).

(b) The result of this formula is the FT-D rate. This rate multiplied by the forecast FT-D contract volumes produce the forecast FT-D revenue. The Primary Service revenue less the forecast FT-D revenue less the forecast FT-A revenue equals the forecast FT-R revenue.

(c) The reconciliation is provided in the table below:

Alternative	**1**	**2**	**3**
	($ million)		
Receipt Revenue	419.6	407.2	376.1
Difference from 1	0	(12.4)	(43.5)
Difference from 2	12.4	0	(31.1)
Difference from 3	43.5	31.1	0

(d) The reconciliation is provided in the table below:

Alternative	**1**	**2**	**3**
	($ million)		
Delivery Revenue	454.6	467.4	499.6
Difference from 1	0	12.8	45.0
Difference from 2	(12.8)	0	32.2
Difference from 3	(45.0)	(32.2)	0

AP-NGTL-030(e) to (h)

Reference:

Reference:

NGTL Response to ATCO-NGTL-P1, Excel spreadsheets provided as attachments (i.e. Exhibit 02-003-003 NGTL Excel Alternative 1 2005-06-01.xls)

Preamble:

NGTL provided excel spreadsheets which show the derivation of the revenue values shown in Tables 2.2-1, 3.2-1, 4.2-1, 5.2-1, 6.2-1, and 7.2-1 of Appendix 2B of the Application.

The formula for Cell D33 in the Alternatives 1, 2, and 3 excel spreadsheets is as follows:

"((($D$30/$D$44)+(-$D$51+$D$50))-0.455*((($D$30/$D$44)+(-$D$51+$D$50)-$D$51)))/(($D$43/$D$44)+0.455*(1-($D$43/$D$44)))"

Request:

(e) In Alternative 4, please confirm whether the FT-P Revenue of $17.0 Million (Cell D45), which is taken from worksheet FT-P, includes the total FT-P Revenue or whether it excludes the $3.9 Million metering revenue previously deducted in Cell D9. Please fully explain.

(f) In Alternative 4, the FT-A Transmission Revenue Requirement by Service Category (Cell D51) is calculated by taking the FT-A Transmission Revenue by Service Category (Cell D35) and deducting the FCS Revenue (Cell D44) and one-half of the total FT-P Revenue (Cell D45) including fuel. The FT-A Transmission Revenue Requirement is only designed to recover delivery transmission costs. Why did NGTL deduct one-half of the FT-P revenue from the FT-A Transmission Revenue Requirement instead of just the portion of FT-P revenue that is designed to collect delivery transmission charges? Please fully explain.

(g) Does NGTL agree that there is a mismatch in the calculation described in part (f) of this question between the FT-A Transmission Revenue by Service Category (which recovers only delivery transmission costs) and the one-half of the FT-P

AP-NGTL-030(e) to (h)

Revenue (which recovers delivery metering costs and one-half of transmission costs and fuel)? Please fully explain.

(h) Please recalculate Alternative 4 updating cells as required:

(i) the FT-A Transmission Revenue Requirement by Service Category (Cell D51) is equal to the FT-A Transmission Revenue by Service Category (Cell D35) less the FCS -EAV Revenue (Cell D44) and less only that portion of the FT-P Revenue (Cell D45) designed to collect intra-Alberta delivery transmission charges; and

(ii) restating total FT-P Revenue (Cell D45) to correct any double counting of $3.9 million of FT-P Revenues noted in part (e) of this question.

Response:

(e) The FT-P revenue of $17.0 million excludes the $3.9 million metering revenue.

(f) NGTL did not deduct one half of the FT-P revenue from the FT-A Transmission Revenue Requirement instead of just the portion of FT-P revenue that is designed to collect delivery transmission charges. These two numbers do not include any metering revenue.

(g) There is no mismatch. The one-half FT-P revenue does not include delivery metering costs.

(h)

(i) The removal of the FCS revenue from this calculation will not enable NGTL to generate its revenue requirement. Therefore, NGTL cannot recalculate Alternative 4 on this premise.

(ii) The FT-P revenue in Cell D45 does not include any of the $3.9 million of the FT-P metering revenue.

AP-NGTL-031

Reference:

Application, Appendix 2D, Evidence of Dr. Gaske, Pages 16 and 17

Preamble:

Dr. Gaske states, "Overall average cost is easy to calculate on an aggregate basis if there is a single measure of output, such as throughput, and no attempt is made to further identify factors that can affect the cost of serving one individual customer versus another. Usually, however, there can be significant differences in the costs of serving specific individual customers such that it is rare that the cost of serving any one customer is equal to the average system-wide costs. In an attempt to account for these differences, pipelines often will offer a variety of services, and develop a multi-part rate design that attempts to recover costs in a manner that reasonably reflects the differences in the costs of serving specific customers."

Request:

(a) Please confirm that NGTL provided an allocation of metering cost by service in Section 2.7 of its 2004 Phase II Application. If not confirmed, please fully explain.

(b) Given the preamble, please fully explain the efficacy of using system-wide average metering costs?

Response:

(a) Not confirmed. NGTL provided an allocation of metering costs by five categories (receipt, border, intra-Alberta, extraction and storage) with the intra-Alberta category being further divided into three sub-categories based on the primary customer at each meter station (industrial, producer or utility).

(b) Please refer to Appendix 2D, Section 1.3.3 of the Application. This approach is generally accepted by NGTL's stakeholders, was extensively reviewed in the 2004 GRA Phase 2 proceeding, and was ultimately accepted by the Board in Decision 2004-069 as reasonable. This approach minimizes the substantial

variability in the cost of metering facilities among various customers or customer groups.

AP-NGTL-032

Reference:

Application, Appendix 2D, Evidence of Dr. Gaske, Pages 27 and 28

Preamble:

Dr. Gaske discusses inseparable costs noting the example of parcel delivery service. AP would like Dr. Gaske to make the following assumptions:

(i) There is one parcel delivery company and its rates are regulated by the AEUB.

(ii) One parcel truck takes parcels from Customer A and delivers them to a central warehouse.

(iii) Other parcel trucks take parcels from the central warehouse to Customers B and C.

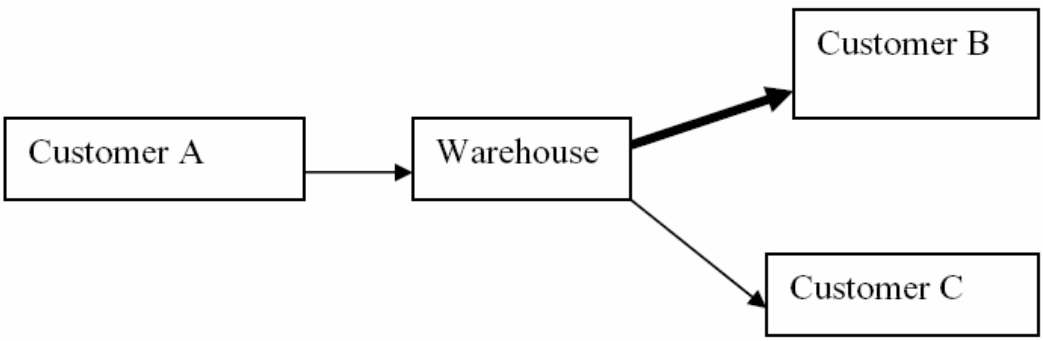
(iv) The parcel contains a homogeneous product.

(v) There are separate charges for both the first parcel delivery from Customer A to the warehouse (paid for by Customer A) and the second parcel delivery from the warehouse to Customer B or C. Each customer (B or C) pays for its delivery from the warehouse.

(vi) Customers B and C are direct competitors.

(vii) The delivery from the warehouse to Customer B requires the use of a toll road while the delivery from Customer A to the warehouse and from the warehouse to Customer C does not. The toll road charge is material to the parcel delivery rate.

This example is set out below in a diagram. The toll road is the thick line between the warehouse and Customer B.



Request:

(a) Who should pay for the toll road charge, Customer A, Customer B, or Customer C? Please fully explain.

(b) How many delivery services are there? Please fully explain.

(c) Assuming the parcel delivery service has no direct competitors to deliver the product to either Customer B or C, should Customer C pay either directly or indirectly (through the charge to deliver the product from Customer A to the warehouse) for the toll road charges to deliver the product to Customer B? Please fully explain.

(d) Would Dr. Gaske's response to part (c) of this question change if the delivery service had direct competition to deliver the product to Customer B but not Customer C? Please fully explain.

(e) Would Dr. Gaske's response to part (c) of this question change if the delivery service had direct competition to deliver the product to Customer C but not Customer B? Please fully explain.

Response:

(a) There is not enough information provided to answer this question definitively. The parcel service(s) described in the question would involve both fixed costs, variable costs and semi-variable costs. The highway toll charge associated with transportation from point A to point B is a semi-variable cost to the parcel delivery company because it is only incurred when there is a delivery (thus, making it variable with respect to the number of pickups and deliveries), but the toll charge would be the same regardless of whether the truck carries one package or one thousand packages on a trip (thus, making it a fixed cost within a potentially wide range of individual package units).

In answering this question, the recovery of fixed costs and variable costs per package will be ignored in order to focus on the semi-variable costs per trip which are the focus of this question. If different trips involve different levels of semi-variable costs it may be inappropriate to recover these costs in a variable charge per package. Instead, it may be appropriate to establish a partially "de-averaged" rate design that recovers all, or a portion, of the semi-variable transportation costs in a separate charge per trip in order to encourage customers to arrange deliveries in full-truckload lots and to account for possible differences in the average truck load factors experienced on each route.

A single average per-trip charge might be developed for all shipments. However, it may be appropriate to establish two different per-trip charges if the average semi-variable costs per trip are markedly different as between A-B transportation and A-C transportation. In determining whether a different per-trip charge is appropriate for different transportation segments, it would be appropriate to directly-assign the additional costs of toll road charges to the per-trip charge for transportation between points A and B so that these costs can be recovered from some combination of either Customer A or Customer B. Obviously the toll charges would be only one factor that affects the semi-variable costs per trip. Other factors that might affect semi-variable costs include road congestion and time involved to make a trip. This factor might be incorporated into the analysis by estimating an average time-related cost involved in A-B trips and A-C trips.

However, if road conditions are unpredictable so that the actual truck and driver time (and possibly fuel) required to make a delivery are highly variable, it may be appropriate to further unbundle the per trip charge into separate time-related, distance-related and solely trip-related (i.e., loading the truck, filling the gas tank, paying any tolls) charges so that every single trip between A-B and A-C would pay a different amount of the semi-variable costs based on the specific time, distance, and trip-related costs incurred. Because fuel costs generally correlate with distance, the distance-related charge might reflect an average of the fuel costs per trip during the year or, if greater precision is desired, the trip-related charge could be further de-averaged to separate out the precise fuel costs incurred on each trip. This could be done by metering the fuel used on each trip and applying the price of fuel on the particular day on which each trip occurred.

In the absence of any other considerations, the toll road costs should be allocated and charged to A-B transportation. However, depending upon the overall cost structure, customer usage characteristics, and the methods used to allocate and collect fixed costs, variable costs and other semi-variable costs, there may or may

not be a difference in the rates charged for A-B transportation and A-C transportation.

(b) There are two transportation services being offered: A-B and A-C. However, parcel delivery services commonly offer both services as part of a single rate schedule and service offering.

(c) Because the question does not provide information that would be relevant for the allocation of fixed costs, there is not enough information to answer this question definitively. However, assuming that the fixed costs of each transportation service can be separately and precisely identified, the very simple facts presented in this parcel delivery example – including only one origination point and only two destination points – suggest that the costs of marketing and administering separate rates might be small relative to the benefits that could be derived by developing separate rates rather than average rates for these two transportation paths. Under these assumptions it generally could be appropriate to include the semi-variable toll road charges only in a per truckload component of rate(s) for A-B transportation. There is not enough information to determine whether the toll road costs could be reasonably recovered on a fixed monthly (possibly demand-) charge basis, or on a variable (commodity-) charge per package basis.

(d) Under the assumptions adopted for answering question (c) the answer would be the same regardless of whether or not there is competition because the service on A-B should not be provided at a rate that is less than the semi-variable cost associated with the toll road charge.

(e) Please refer to the response to (d).

AP-NGTL-033

Reference:

Application Appendix 2D, Evidence of Dr. Gaske, Page 29
Application Section 2.0, Page 10 of 62

Preamble:

Dr. Gaske states in the first reference that the receipt and delivery components of the rate structure are inseparable costs of providing a single transportation service. NGTL states in the second reference that the separation of receipt and delivery services allows for the pooling of gas on the Alberta System and contributes to the natural gas trading and marketing activities that occur via NIT. NGTL also states in the second reference that its rate design is integral to the operation of NIT, which is greatly valued by NGTL's customers.

Request:

(a) Does Dr. Gaske agree with NGTL that there is a separation of receipt and delivery services with separate charges for receipt and delivery services that allow for the functioning of NIT? Please fully explain.

(b) Assuming that receipt and delivery components of NGTL's rate structure are separable and assuming there is no competition, is it appropriate for receipt services to subsidize delivery services? Please fully explain.

(c) Assuming that receipt and delivery components of NGTL's rate structure are separable and assuming there is competition at only selected intra-Alberta delivery points, is it appropriate for receipt services to subsidize delivery services:

(i) At all intra-Alberta delivery points?

(ii) Only at intra-Alberta delivery points where there is competition?

(iii) At no intra-Alberta delivery points?

Please fully explain.

AP-NGTL-033

(d) Assuming that receipt and delivery components of NGTL's rate structure are separable, should NGTL be required to demonstrate that the direct revenues of providing the intra-Alberta service are at least greater than direct costs or should the receipt shippers be required to subsidize the direct costs? Please fully explain. (Please note that this question only deals with direct revenues and costs.)

Response:

(a) This question compounds several concepts into a single sentence. To alleviate confusion a separate response is provided for each concept.

(i) NGTL's firm and interruptible transportation services are separated into a "receipt" component and a "delivery" component;

(ii) the transportation charges for most services are collected in separate "receipt" and "delivery" components;

(iii) the separation of transportation contracts into receipt and delivery components may not be absolutely necessary to allow gas trading to occur, however, this separation serves several useful purposes that may account for the large volume of trades and high liquidity available in the NIT market.

One result of separating the contracts for the receipt and delivery component of transportation services is to greatly simplify the operations of the gas trading market, increase the size of the market, and thereby increase the efficiency and liquidity of gas trading operations. For example, under NGTL's existing receipt-delivery service configuration, a shipper at a receipt point can sell its gas into the NIT market once and is not required to nominate any specific delivery point(s).

In the absence of separate contracts for receipt and delivery rights, gas trading might still occur in a side market outside of the NIT nominations and title transfer process, but the process would be more complex and difficult to administer. With receipt and delivery combined in a single contract, each shipper would be required to specify both the receipt and delivery points for all shipments. As gas is traded in a side market, the shipper (and owner of the gas while it is on the Alberta System) would need to keep track of all subsequent buyers as the gas is bought and re-sold so that the shipper can nominate the ultimate points at which gas shipped under his contract is to be delivered and title transferred. It is far more simple for the receipt shipper to sell the gas in the NIT market once, with no concerns about the ultimate delivery point, and for the ultimate buyer to arrange

delivery directly with NGTL without the need to arrange for the shipper and original owner to nominate the gas delivery point.

Although separate receipt and delivery contracts undoubtedly facilitate the efficiency of trading gas in the NIT market, it is not clear that separate charges for receipt and delivery services are absolutely required in order to allow the NIT market to occur. For example, all transportation charges could be collected at the receipt point and customers with no-charge delivery contracts could buy gas on the system and nominate deliveries for which all transportation costs have already been paid.

However, the separation of transportation charges into "receipt" and "delivery" components facilitates NGTL's ability to reflect distance in the toll design without balkanizing the NIT market. For example, if NGTL, like most pipelines, were to assess all of the transportation charges from the origination point to the destination point under a single contract, and it also wanted to charge a higher rate for export deliveries than for intra-Alberta deliveries, the toll design might include two rate offerings. Shippers that only want to sell gas in the intra-Alberta market would pay the demand charge for transportation in the first zone (which could be referred to by any number of names including: "zone 1," "short-haul service," "intra-Alberta transportation service," "receipt service," etc.). Shippers who want to sell gas in the export market would pay the higher two-zone charge for use of both the "intra-Alberta zone" and the "Export zone." (Under current nomenclature the two-zone charge is referred to as an "FT-R/FT-D" charge).

(b) This question requires an assumption of separable costs that cannot reasonably occur. In order for a receipt service to have costs that are separable from the costs of a delivery service the pipeline must be able to provide one service without providing the other service. Thus, a separable receipt service would be one in which the pipeline receives gas but never delivers it anywhere. It is difficult to imagine any circumstances under which any customer would ever take a separable receipt service. Similarly, a separable delivery service would be one in which the pipeline delivers gas from its system without ever receiving any gas onto the system. Unfortunately, a separable delivery service is physically impossible.

Because receipt and delivery costs are incurred as inseparable components of a single transportation service, it is impossible for one to subsidize the other.

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

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

AP-NGTL-034

Reference:

Application, Appendix 2D, Evidence of Dr. Gaske, Page 45

Preamble:

Dr. Gaske states that "Bonbright's Principle 8, discouraging wasteful use of service while promoting all justified types and amount of use, is reasonably satisfied for metering costs under the Existing Methodology for conducting a cost-of-service study".

Request:

(a) Does Dr. Gaske's statement apply only for the allocation of metering costs or does that statement also apply for the allocation of transmission and intra-Alberta TBO costs? Please fully explain.

(b) Would Bonbright's Principle 8 be satisfied if direct revenues of a service or project did not recover the direct cost of providing that service or project? Please fully explain.

Response:

(a) The Existing Methodology reasonably satisfies Bonbright's Principle (8) for both metering and transmission costs. The evaluation of NGTL's alternative methods of transmission cost allocation is provided in Appendix 2-D, particularly at Page 46, line 7 to Page 94, line 2. Bonbright's Principle (8) is discussed specifically at pages 61-62 and 76 of Dr. Gaske's testimony. In addition, section 1.7, Intra-Alberta Delivery Service Accountability, specifically evaluates issues related to Principle (8) as well as other principles.

(b) The answer to this question depends upon the circumstances. For example, Appendix 2-D Pages 78, line 19 to Page 84, line 12 describes one class of circumstances in which the answer would be yes. In addition, as discussed throughout Appendix 2-D, Bonbright's principles often require tradeoffs so that the relevant standard is whether a particular principle is reasonably satisfied in the presence of competing goals and principles.

AP-NGTL-035

Reference:

Application, Appendix 2D, Evidence of Dr. Gaske, Page 51

Preamble:

"Overall, the average rates for transportation services should equal the average costs per unit of providing services in order to provide revenue adequacy. Efficient prices for transportation services also should reasonably reflect the costs of providing individual services."

Request:

What are the average costs per unit (including transmission) to deliver to intra-Alberta delivery points?

Response:

This question cannot be answered because it does not specify what type of costs and what type of units are to be used in determining an average. In addition, the question fails to recognize that a precise cost of providing a sub-group of pipeline services in the presence of joint and common costs and economies of scale and scope generally can only be determined to fall within a broad range. See Appendix 2-D, Page 4, line 20 to Page 6, line 5, as well as Page 8, line 3 to Page 33, line 3 for an explanation of this concept. Refer to Table 2.2.2-3 in the Application for the average cost of intra-Alberta transportation based on specific cost allocation methods.

AP-NGTL-036

Reference:

Application, Appendix 2D, Evidence of Dr. Gaske, Page 58
Application, Section 2.0, Page 43, Lines 3 to 10

Preamble:

Dr. Gaske states that NGTL's existing rate design was developed in response to competition, which highly constrains the ability of NGTL to implement a toll structure that unduly discriminates against or unfairly cross-subsidizes customers. In its rate design, NGTL states that it includes the transmission cost of providing intra-Alberta delivery service in the receipt rate.

Request:

(a) Please confirm that any intra-Alberta transmission costs not recovered from intra-Alberta shippers are included in the Firm Transportation Revenue Requirement shown on Section 5.0, pages 2 and 3 of 27, Figure 5.1-1. If not confirmed, please fully explain where the intra-Alberta transmission costs are included in that Figure.

(b) Please confirm that under NGTL's existing toll design, the Firm Transportation Revenue Requirement is allocated by the firm volumes of FT-R and FT-D services. If not confirmed, please fully explain how the Firm Transportation Revenue Requirement is allocated.

(c) Please confirm that using this allocation method causes a portion of the intra-Alberta transmission costs to be recovered from border delivery shippers. If not confirmed, please fully explain how these shippers avoid being allocated any intra-Alberta transmission costs.

(d) If receipt shippers, or border delivery shippers, or both, are being allocated intra-Alberta transmission costs, please fully explain how this toll design satisfies Bonbright's Principles 6 and 7?

AP-NGTL-036

Response:

(a) The Firm Transportation Revenue Requirement referenced in this question includes transmission costs to be recovered from both intra-Alberta shippers and export shippers. Please refer to the response to AP-NGTL-033(a) for a discussion of how the "receipt" charge acts as a zone rate for transportation within the first zone, i.e., the "intra-Alberta/NIT zone" (which is used and paid for in common by both the intra-Alberta and export shippers), and the "delivery" charge acts as a zone 2 rate for generally longer hauls that use the "intra-Alberta/NIT zone" and that also use the "Export zone." Also please refer to the response to AP-NGTL-035 for a discussion of the impossibility of identifying the cost of providing a sub-group of pipeline services, such as intra-Alberta transmission, in the presence of joint and common costs and economies of scale and scope.

(b) Confirmed.

(c) Not confirmed. Please refer to the responses to AP-NGTL-033(a) and AP-NGTL-036(a) for a discussion of how the "receipt" charge acts as a zone rate for transportation within the first zone, i.e., the "intra-Alberta/NIT zone" (which is used and paid for in common by both the intra-Alberta and export shippers), and the "delivery" charge acts as a zone 2 rate for generally longer hauls that use the "intra-Alberta/NIT zone" and that also use the "Export zone." Also please refer to the response to AP-NGTL-035 for a discussion of the impossibility of identifying the cost of providing a sub-group of pipeline services, such as intra-Alberta transmission, in the presence of joint and common costs and economies of scale and scope.

(d) Not applicable. Please refer to the response to (c).

AP-NGTL-037

Reference:

Application, Appendix 2D, Evidence of Dr. Gaske, Page 62

Preamble:

Dr. Gaske states that NGTL's accountability provisions and the Board's regulatory policies augment and supplement the long-term price signals for new construction conveyed by the existing level of the FT-A rate, thus satisfying Bonbright's Principle 8.

Request:

(a) To which of the Board's regulatory policies is Dr. Gaske referring?

(b) How do the Board's regulatory policies referred to in part (a) supplement the long-term price signals for new construction?

(c) Please provide two illustrative examples, one with actual volumes at MAV levels and another with actual volumes at half MAV levels, and explain how NGTL's accountability provisions supplement the long-term price signals for new construction conveyed by the existing FT-A rate.

(d) If a new intra-Alberta delivery point required a delivery meter to be built, would an MAV cost accountability provision that does not fully recover direct and transparent metering costs encourage or discourage wasteful use of the service? Please fully explain.

(e) If a new intra-Alberta delivery point required a delivery pipeline to be built, would an FT-A rate that does not include a direct and transparent transmission component encourage or discourage wasteful use of the service? Please fully explain.

(f) If a new intra-Alberta delivery point required a delivery pipeline to be built, would an EAV cost accountability provision that does not explicitly take into account the full cost of the delivery pipeline encourage or discourage wasteful use of the service? Please fully explain.

AP-NGTL-037

Response:

(a) In making this statement, Dr. Gaske was referring generally to the manner in which the Board exercises its jurisdiction and in particular to its role in adjudicating disputes between parties about the efficiency of proposed pipeline facilities.

(b) Having regard to the response to (a), the Board may approve an application with conditions designed to address concerns, or it may deny it.

(c) Please refer to the response to AP-NGTL-019(a). The MAV obligation imposes a surcharge on customers that do not sufficiently utilize the delivery facilities to allow NGTL to recover the costs of these facilities through other service charges. This ensures that customers value the service provided by the facilities enough that they are willing to pay for the facilities one way or another.

(d) This question cannot be precisely answered in the absence of additional information concerning the state of the market, the particular customer, and the regulatory pricing constraints which the pipeline must meet, as well as other possible factors. However, the MAV component of the Facilities Connection Service ("FCS") requires customers to generate revenues that pay 100% of the costs of meters during the life of the facilities. This commitment ensures that new meters are installed only when customers determine that it is efficient to do so.

(e) This question cannot be answered definitively in the absence of additional information concerning the state of the market, the particular customer, other contract or tariff provisions in addition to price, and the regulatory pricing constraints which the pipeline must meet. Efficient use of the service can be reasonably assured by a variety of mechanisms including forecasts of demand at a delivery point, contributions in aid of construction, use of FT-P service, or FT-R/FT-A service with possible EAV provisions.

Please refer to the responses to AP-NGTL-033(a) and AP-NGTL-036(a) for a discussion of how the "receipt" charge acts as a zone rate for transportation within the first zone, i.e., the intra-"inta-Alberta/NIT zone" (which is used and paid for in common by both the intra-Alberta and export shippers), and the "delivery" charge acts as a zone 2 rate for generally longer hauls that use the "intra-Alberta/NIT zone" and that also use the "Export zone." In light of the need to satisfy a variety of goals in the design of the intra-Alberta rate, either an FT-P service or a an FT-R/FT-A service with an EAV mechanism generally would be superior to a high FT-A rate as a means for discouraging wasteful use of the service.

AP-NGTL-037

(f) Please refer to the response to AP-NGTL-037(e). Pipelines and other utilities often construct facilities to attach customers without requiring a contractual commitment that obligates the customer to guarantee payment of 100 percent of the cost of the new facilities, particularly when there is a perception that some, possibly different, customer(s) will be using and paying for the facilities for many years after the initial contract term expires. In addition, pipeline facilities that are initially constructed to serve only one customer often eventually end up serving additional customers. Thus, the adequacy of the EAV must be evaluated relative to the length of time that a customer is likely to be using the facilities and the probability of contract renewals and/or the possibility that other customers may one day use the facilities.

AP-NGTL-038

Reference:

Application, Appendix 2D, Evidence of Dr. Gaske, Pages 65-68
Application, Section 2.0, Page 41 of 62, Table 2.4.1-2

Preamble:

Dr. Gaske states that Alternative 3 may not be an improvement over other alternatives unless all facilities that can be directly assigned to other services are also identified and assigned accordingly.

Request:

(a) Were all facilities that could be directly assigned to other services also identified and their costs assigned in Alternative 3?

(b) If the answer to part (a) is no, please identify and directly assign all facilities that an be directly assigned to each service in an alternative using Alternative 3 as a base, using the same format as provided in ATCO-NGTL-P1 (excel spreadsheet and applicable numbers for diagrams) and provide the costs separately in the same level of detail as Section 2.0, Table 2.4.1-2.

Response:

(a) Not all facilities were identified but all costs were assigned.

(b) NGTL did not design Alternative 3 to provide separate allocations to all services. Alternative 6 was included in the Application to accomplish this objective.