The Narragansett Electric Company
d/b/a National Grid

SUPPLEMENTAL 2017 GAS COST RECOVERY

Nancy G. Culliford
Supplemental Attachments

Ann E. Leary
Supplemental Testimony & Attachments

Stephen P. Greco
Testimony & Attachments

September 29, 2017

Submitted to:

Rhode Island Public Utilities Commission
RIPUC Docket No. 4719

Submitted by:

nationalgrid

Filing Letter & Motion

Robert J. Humm
Senior Counsel

September 29, 2017

VIA HAND DELIVERY & ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: <u>Docket 4719 – Supplemental 2017 Gas Cost Recovery Filing</u>

Dear Ms. Massaro:

Enclosed please find 10 copies of National Grid's[1] supplement to its September 1, 2017 annual Gas Cost Recovery (GCR) filing to reflect updates relative to National Grid's market area hedge proposal filed on September 20, 2017, and a proposal to replace gas supply that is no longer available as a result of the decommissioning of the liquefied natural gas (LNG) tank in Cumberland.

This filing consists of the pre-filed direct testimony of Stephen P. Greco; the pre-filed supplemental direct testimony and attachments of Ann E. Leary, identified as Attachments AEL-1S, AEL-3S, AEL-4S, and AEL-5S; and the supplemental attachments of Nancy G. Culliford, identified as Attachments NGC-1S, NGC-2-S, and NGC-4S. Mr. Greco's testimony presents National Grid's proposal to lease third-party portable LNG equipment and services at the LNG facility in Cumberland to replace gas supply lost from the decommissioning of the Cumberland LNG tank. The supplemental attachments of Ms. Culliford reflect adjustments to the sources of supply to match National Grid's market area hedge proposal, which results in an increase of $1,117,816.37 in variable costs as highlighted in Attachments NGC-1S and NGC-2S. The adjustments also increase National Grid's weighted average pipeline path cost by $0.0489, going from $0.6193 to $0.6682, as highlighted in Attachment NGC-4S. These revisions flow through to the calculation of the GCR factors for effect November 1, 2017 and the bill impact analysis relative to those proposed factors, as highlighted by Ms. Leary's supplemental testimony and attachments. In the event that the Public Utilities Commission (PUC) approves National Grid's September 20, 2017 market area hedge proposal, the Company respectfully requests that the PUC approve the GCR factors set forth in this supplemental filing.

As a result of the updates, Ms. Leary's supplemental testimony explains that based on the GCR factors proposed for effect November 1, 2017 through October 31, 2018, an average residential heating customer using 846 therms per year will experience a total bill increase of approximately $44.85, or 3.8%, from the currently existing rates. The increase is comprised of an increase of $47.63 in the

[1] The Narragansett Electric Company d/b/a National Grid (National Grid or Company).

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GCR-related factors; a decrease of $4.13 in Distribution Adjustment Charge-related factors, filed on August 1, 2017 and supplemented on September 1, 2017 in Docket No. 4708; and an increase of $1.35 in Gross Earnings Tax.

This filing also contains a Request for Protective Treatment of Confidential Information in accordance with Rule 1.2(g) of the Public Utilities Commission's (PUC) Rules of Practice and Procedure and R.I. Gen. Laws § 38-2-2(4)(B). National Grid seeks protection from public disclosure of certain confidential gas-cost pricing information and forecasts, which are provided in Ms. Culliford's supplemental attachments, at Attachments NGC-1S, NGC-2S, and NGC-4S; as well as in the supplemental attachments submitted with the supplemental testimony of Ms. Leary, at Attachments AEL-1S, AEL-2S, and AEL-5S. Accordingly, National Grid has provided the PUC with one complete unredacted copy of the confidential materials in a sealed envelope marked **"Contains Privileged and Confidential Materials – Do Not Release,"** and has included redacted copies of the materials for the public filing.

Thank you for your attention to this matter. If you have any questions, please contact me at 401-784-7415.

Very truly yours,

Robert J. Humm

Enclosures

cc: Docket 4719 Service List
Leo Wold, Esq.
Steve Scialabba, Division
Bruce Oliver, Division

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

RHODE ISLAND PUBLIC UTILITIES COMMISSION

Annual Gas Cost Recovery Filing 2017	)))))	Docket No. 4719

MOTION OF THE NARRAGANSETT ELECTRIC COMPANY D/B/A NATIONAL GRID FOR PROTECTIVE TREATMENT OF CONFIDENTIAL INFORMATION

National Grid[1] hereby requests that the Rhode Island Public Utilities Commission (PUC) grant protection from public disclosure of certain confidential, competitively sensitive, and proprietary information submitted in this proceeding, as permitted by PUC Rule 1.2(g) and R.I. Gen. Laws § 38-2-2(4)(B). National Grid also hereby requests that, pending entry of that finding, the PUC preliminarily grant National Grid's request for confidential treatment pursuant to Rule 1.2 (g)(2).

I. BACKGROUND

On September 29, 2017, National Grid filed with the PUC a supplemental 2017 Gas Cost Recovery filing (the Supplemental GCR) in the above-captioned docket. The Supplemental GCR filing includes confidential gas-cost pricing information, which is provided in the supplemental attachments of Nancy G. Culliford, at Attachments NGC-1S, NGC-2S, and NGC-4S; and in the supplemental attachments submitted with the supplemental testimony of Ann E. Leary, at Attachments AEL-1S, AEL-2S, and AEL-5S. In accordance with Rule 1.2(g)(3), National Grid has provided a redacted public version of the Supplemental GCR filing, as well as an unredacted, confidential version.

[1] The Narragansett Electric Company d/b/a National Grid (National Grid).

II. LEGAL STANDARD

Rule 1.2(g) of the PUC's Rules of Practice and Procedure provides that access to public records shall be granted in accordance with the Access to Public Records Act (APRA), R.I. Gen. Laws § 38-2-1, *et seq.* Under APRA, all documents and materials submitted in connection with the transaction of official business by an agency is deemed to be a "public record," unless the information contained in such documents and materials falls within one of the exceptions specifically identified in R.I. Gen. Laws § 38-2-2(4). To the extent that information provided to the PUC falls within one of the designated exceptions to the public records law, the PUC has the authority under the terms of APRA to deem such information as confidential and to protect that information from public disclosure.

In that regard, R.I. Gen. Laws § 38-2-2(4)(B) provides that the following types of records shall not be deemed public:

> Trade secrets and commercial or financial information obtained from a person, firm, or corporation which is of a privileged or confidential nature.

The Rhode Island Supreme Court has held that the determination as to whether this exemption applies requires the application of a two-pronged test set forth in *Providence Journal Company v. Convention Center Authority*, 774 A.2d 40 (R.I.2001). The exemption applies where the disclosure of information would be likely either (1) to impair the Government's ability to obtain necessary information in the future; or (2) to cause substantial harm to the competitive position of the person from whom the information was obtained. *See Providence Journal*, 774 A.2d 40.

The first prong of the test assesses whether the information was provided voluntarily to the governmental agency. *Providence Journal*, 774 A.2d at 47. If the answer to the first question is affirmative, then the question becomes whether the information is "of a kind that would customarily not be released to the public by the person from whom it was obtained." *Id.*

III. BASIS FOR CONFIDENTIALITY

The gas-cost pricing information – which is provided in the supplemental attachments of Ms. Culliford, at Attachments NGC-1S, NGC-2S, and NGC-4S; and in the supplemental attachments submitted with the supplemental testimony of Ms. Leary, at Attachments AEL-1S, AEL-2S, and AEL-5S – is confidential and privileged information of the type that National Grid would not ordinarily make public. Moreover, public disclosure of such information could impair National Grid's ability to obtain advantageous pricing in the future, thereby causing substantial competitive harm. Accordingly, National Grid seeks protection for such confidential information.

IV. CONCLUSION

For the foregoing reasons, National Grid respectfully requests that the PUC grant its Motion for Protective Treatment of Confidential Information.

Respectfully submitted,

THE NARRAGANSETT ELECTRIC COMPANY d/b/a NATIONAL GRID
By its attorney,

Robert J. Humm, Esq. (#7920)
National Grid
280 Melrose Street
Providence, RI 02907
(401) 784-7415
Dated: September 29, 2017

Attachments of
Nancy G. Culliford

Attachments of Nancy G. Culliford

Attachment NGC-1S Summary of Projected Gas Costs – **REDACTED Information**

Attachment NGC-2S Gas Cost Details – **REDACTED Information**

Attachment NGC-3 NYMEX Strip Comparison

Attachment NGC-4S Assignment of Pipeline Capacity – **REDACTED Information**

Attachment NGC-5 FT-2 Operational Parameters

Attachment NGC-6 FT-2 Storage Variable Costs

Attachment NGC-1S

REDACTED

Attachment NGC-1S

Summary of Projected Gas Costs – **REDACTED Information**

REDACTED

SUMMARY OF ESTIMATED GAS COSTS FOR 2017-2018 GCR

07/31/2017 NYMEX

Variable Costs	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	GCR TOTAL
Total Pipeline Supply Costs	$5,452,587	$9,587,626	$13,192,782	$12,900,238	$8,898,047	$5,290,669	$3,088,255	$1,949,497	$1,530,417	$1,398,564	$1,467,263	$2,834,660	$67,590,607
Total Storage Product Costs	$113,091	$1,262,219	$1,966,608	$1,797,495	$1,642,057	$113,173	$0	$0	$0	$0	$0	$0	$6,894,644
Total Storage Delivery Costs	$4,801	$70,340	$115,421	$105,741	$97,222	$4,833	$0	$0	$0	$0	$0	$0	$398,358
Total LNG Costs	$75,435	$77,949	$1,934,136	$738,848	$77,949	$75,435	$77,411	$74,643	$77,133	$78,855	$78,219	$80,052	$3,446,064
Total All Variable Gas Costs	$5,645,914	$10,998,135	$17,208,947	$15,542,321	$10,715,275	$5,484,110	$3,165,666	$2,024,140	$1,607,551	$1,477,419	$1,545,483	$2,914,712	$78,329,672
Fixed Costs													
Total Pipeline Demands	[redacted]												
Total Storage Facilities	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$4,793,063
Total Storage Delivery	$438,183	$438,183	$438,183	$438,183	$438,183	$438,183	$438,183	$438,183	$438,183	$438,183	$438,183	$438,183	$5,258,193
Total Supplier Demands	[redacted]												
Total All Fixed Costs	$5,107,123	$5,141,113	$5,139,780	$5,137,644	$5,139,780	$5,223,774	$5,224,486	$5,223,774	$5,224,486	$5,224,486	$5,223,370	$5,224,082	$62,233,897
Capacity Release Credits	$745,134	$745,134	$745,134	$745,134	$745,134	$745,134	$745,134	$745,134	$745,134	$745,134	$745,134	$745,134	$8,941,613
NGPMP Credit	$908,333	$908,333	$908,333	$908,333	$908,333	$908,333	$908,333	$908,333	$908,333	$908,333	$908,333	$908,333	$10,900,000
Net Fixed Costs	$3,453,655	$3,487,645	$3,486,312	$3,484,176	$3,486,312	$3,570,306	$3,571,018	$3,570,306	$3,571,018	$3,571,018	$3,569,903	$3,570,615	$42,392,283
Total All Gas Costs	[redacted]												$120,721,956

Attachment NGC-2S
REDACTED

Attachment NGC-2S

Gas Cost Details – **REDACTED Information**

REDACTED

National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV 2017	DEC 2017	JAN 2018	FEB 2018	MAR 2018	APR 2018	MAY 2018	JUN 2018	JUL 2018	AUG 2018	SEP 2018	OCT 2018	TOTAL
Forecast Demand													
RI Sales GCR	2,286,401	3,945,192	4,943,244	4,417,284	3,736,115	2,175,893	1,268,260	808,643	647,353	593,008	639,818	1,177,517	26,638,728
Total Demand	2,286,401	3,945,192	4,943,244	4,417,284	3,736,115	2,175,893	1,268,260	808,643	647,353	593,008	639,818	1,177,517	26,638,728
Storage Injections													
TENNESSEE FSMA 501	0	0	0	0	0	0	122,389	118,441	0	15,409	118,441	122,389	497,067
DOMINION GSS 300170	0	0	0	0	0	0	0	0	0	0	67,306	36,578	103,884
DOMINION GSS 300168	0	0	0	0	0	0	26,019	25,179	11,663	21,856	21,151	21,856	127,723
DOMINION GSS 300171	0	0	0	0	0	11,012	31,885	30,856	29,910	26,783	25,919	26,783	183,150
DOMINION GSSTE 600045	0	0	0	0	0	0	0	0	21,580	63,172	188,947	100,490	374,188
TETCO FSS-1 400515	0	0	0	0	0	1,734	8,964	8,675	8,964	8,964	8,675	8,964	54,941
TETCO SS-1 400221	0	0	0	0	0	35,783	188,124	182,056	188,124	188,124	182,056	188,124	1,152,392
TETCO SS-1 400185	0	0	0	0	0	1,612	8,225	7,960	8,225	8,225	7,960	8,225	50,430
DOMINION GSS 300169	0	0	0	0	0	8,626	34,803	33,680	32,647	29,234	28,291	29,234	196,516
COLUMBIA FSS 9630	0	0	0	0	0	3,818	40,791	40,791	34,673	40,791	26,514	14,277	201,656
TENNESSEE 62918	0	0	0	0	0	0	42,454	41,084	0	36,623	41,084	42,454	203,700
Total Storage Injections	0	0	0	0	0	62,585	503,653	488,722	335,786	439,182	716,344	599,374	3,145,647
LNG PROVIDENCE	0	0	0	0	0	58,815	147,562	141,626	49,504	21,620	141,028	22,964	583,119
LNG EXETER	0	0	0	0	0	87,891	4,034	5,080	2,092	5,976	5,677	4,631	115,381
Total LNG Injections	0	0	0	0	0	146,706	151,596	146,706	51,596	27,596	146,706	27,596	698,500
Total Injections	0	0	0	0	0	209,291	655,249	635,428	387,382	466,778	863,049	626,970	3,844,147

Delivered Firm Sales Supply

Sources of Supply	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	GCR Total
TENNESSEE ZONE 0 CXN	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE ZONE 0	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE ZONE 1	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE ZONE 4 CXN	348,000	359,600	359,600	336,400	359,600	348,000	333,804	256,881	95,795	138,861	291,827	359,600	3,587,968
TENNESSEE ZONE 4	372,136	561,797	456,709	408,980	326,648	153,627	0	0	0	0	0	171,448	2,451,346
TENNESSEE NIAGARA	2,134	0	5,335	3,201	0	32,010	33,077	32,010	33,077	33,077	32,010	33,077	239,008
TENNESSEE DRACUT	0	14,431	23,557	144,527	38,778	0	0	0	0	0	0	0	221,294
TETCO ELA	0	0	0	0	0	0	0	0	0	0	0	0	0
TETCO ETX	0	0	0	0	0	0	0	0	0	0	0	0	0
TETCO STX	0	0	0	0	0	0	0	0	0	0	0	0	0
TETCO WLA	0	0	0	0	0	0	0	0	0	0	0	0	0
TETCO M2	774,107	798,268	798,167	720,958	798,475	776,776	272,001	775,935	801,546	801,412	441,848	801,270	8,560,762
TETCO M3 DELIVERED	477,660	104,703	188,368	205,193	149,868	376,031	666,208	163,113	0	0	546,497	375,849	3,253,490
COLUMBIA MAUMEE	72,184	878,862	691,706	616,913	367,033	49,885	0	0	0	0	0	0	2,676,583
COLUMBIA BROADRUN	0	308,519	308,519	278,662	265,930	9,958	0	0	0	0	0	0	1,171,588
COLUMBIA EAGLE	14,378	29,290	94,579	84,510	78,468	30,887	40,791	40,791	34,673	40,791	26,514	14,277	529,950
COLUMBIA DOWNINGTOWN	0	10,643	111,019	100,198	111,987	2,063	0	0	0	0	0	0	335,911
TRANSCO LEIDY	36,470	38,067	38,067	34,383	38,067	11,414	2,232	2,160	2,232	2,232	2,160	2,232	209,716
TETCO LEIDY	7,164	16,486	16,486	14,890	16,486	4,257	0	0	0	0	0	0	75,767
TETCO to B&W SCT	0	49,945	60,372	51,168	28,654	0	0	0	0	0	0	0	190,140
ALGONQUIN - AIM	116,496	165,795	491,644	439,006	408,990	377,851	402,200	11,169	0	0	0	3,321	2,416,471
ANE II-DAWN-TENN-WADDY	0	30,824	30,806	27,835	0	0	5,784	0	0	0	0	0	95,249
GAZ METRO LNG Refill	0	0	0	0	0	26,706	27,596	26,706	27,596	27,596	26,706	27,596	190,500
GDF SUEZ LNG Refill	0	0	0	0	0	120,000	124,000	120,000	24,000	0	120,000	0	508,000
PORTABLE LNG	0	0	0	0	0	0	0	0	0	0	0	0	0

REDACTED

National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
Non LNG Liquid take	2,220,728	3,367,230	3,674,933	3,466,825	2,988,984	2,172,760	1,756,097	1,282,059	967,322	1,016,374	1,340,855	1,761,074	26,015,241
LNG Liquid take	0	0	0	0	0	146,706	151,596	146,706	51,596	27,596	146,706	27,596	698,500
Total take	2,220,728	3,367,230	3,674,933	3,466,825	2,988,984	2,319,466	1,907,693	1,428,765	1,018,918	1,043,969	1,487,561	1,788,670	26,713,741
Storage Withdrawals													
TENNESSEE FSMA 501	0	16,077	162,881	157,995	151,063	3,435	0	0	0	0	0	0	491,450
DOMINION GSS 300170	0	16,034	43,945	36,771	3,958	0	0	0	0	0	0	0	100,707
DOMINION GSS 300168	738	22,597	30,387	36,554	36,003	0	0	0	0	0	0	0	126,279
DOMINION GSS 300171	0	30,764	68,291	57,610	22,368	0	0	0	0	0	0	0	179,033
DOMINION GSSTE 600045	49,628	69,626	69,626	62,888	69,626	43,248	0	0	0	0	0	0	364,642
TETCO FSS-1 400515	0	13,651	13,651	13,651	12,013	0	0	0	0	0	0	0	52,968
TETCO SS-1 400221	0	283,662	288,039	288,039	257,851	0	0	0	0	0	0	0	1,117,591
TETCO SS-1 400185	0	12,605	12,605	12,605	11,092	0	0	0	0	0	0	0	48,907
DOMINION GSS 300169	0	44,009	54,033	49,328	43,446	0	0	0	0	0	0	0	190,815
COLUMBIA FSS 9630	0	44,787	71,211	52,666	24,450	3,729	0	0	0	0	0	0	196,842
TENNESSEE 62918	0	8,334	61,187	32,433	99,444	0	0	0	0	0	0	0	201,398
LNG PROVIDENCE	10,824	11,185	362,848	109,863	11,185	10,824	11,185	10,824	11,185	11,185	10,824	11,185	583,119
LNG EXETER	4,482	4,631	29,607	40,057	4,631	4,482	4,631	4,482	4,631	4,631	4,482	4,631	115,381
Total Withdrawal Delivered	65,673	577,962	1,268,312	950,459	747,131	65,718	15,817	15,306	15,817	15,817	15,306	15,817	3,769,133
Total Storage Withdrawal	50,366	562,145	875,857	800,540	731,314	50,411	0	0	0	0	0	0	3,070,633
Total Peaking Withdrawal	15,306	15,817	392,455	149,919	15,817	15,306	15,817	15,306	15,817	15,817	15,306	15,817	698,500
Total Supply	**2,286,401**	**3,945,192**	**4,943,244**	**4,417,284**	**3,736,115**	**2,238,478**	**1,771,913**	**1,297,365**	**983,139**	**1,032,190**	**1,356,162**	**1,776,891**	**29,784,374**
Storage Withdrawals at Storage Facilty													
TENNESSEE FSMA 501	0	16,261	164,743	159,800	152,789	3,474	0	0	0	0	0	0	497,067
DOMINION GSS 300170	0	16,540	45,331	37,931	4,082	0	0	0	0	0	0	0	103,884
DOMINION GSS 300168	746	22,855	30,735	36,972	36,415	0	0	0	0	0	0	0	127,723
DOMINION GSS 300171	0	31,471	69,861	58,935	22,883	0	0	0	0	0	0	0	183,150
DOMINION GSSTE 600045	50,934	71,465	71,465	64,549	71,465	44,310	0	0	0	0	0	0	374,188
TETCO FSS-1 400515	0	14,160	14,160	14,160	12,461	0	0	0	0	0	0	0	54,941
TETCO SS-1 400221	0	292,495	297,008	297,008	265,881	0	0	0	0	0	0	0	1,152,392
TETCO SS-1 400185	0	12,998	12,998	12,998	11,438	0	0	0	0	0	0	0	50,430
DOMINION GSS 300169	0	45,324	55,647	50,802	44,744	0	0	0	0	0	0	0	196,516
COLUMBIA FSS 9630	0	45,883	72,953	53,954	25,048	3,818	0	0	0	0	0	0	201,656
TENNESSEE 62918	0	8,429	61,887	32,804	100,580	0	0	0	0	0	0	0	203,700
	51,680	577,880	896,787	819,912	747,786	51,601	0	0	0	0	0	0	3,145,646

REDACTED

National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
07/31/2017 NYMEX	**$2.920**	**$3.079**	**$3.173**	**$3.164**	**$3.119**	**$2.795**	**$2.769**	**$2.795**	**$2.821**	**$2.826**	**$2.806**	**$2.826**	
TENNESSEE ZONE 0 CONNEXION													
Basis	($0.198)	($0.183)	($0.195)	($0.188)	($0.163)	($0.173)	($0.167)	($0.157)	($0.166)	($0.165)	($0.166)	($0.178)	
Usage to Zn 6	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	
Fuel to Zn 6	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	
Total Delivered	$2.8853	$3.0670	$3.1527	$3.1506	$3.1297	$2.7809	$2.7600	$2.7976	$2.8153	$2.8216	$2.7997	$2.8080	
TENNESSEE ZONE 0													
Basis	($0.198)	($0.183)	($0.195)	($0.188)	($0.163)	($0.173)	($0.167)	($0.157)	($0.166)	($0.165)	($0.166)	($0.178)	
Usage to Zn 6	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	
Fuel to Zn 6	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	
Total Delivered	$3.1892	$3.3709	$3.4566	$3.4545	$3.4336	$3.0848	$3.0639	$3.1015	$3.1192	$3.1255	$3.1036	$3.1119	
TENNESSEE ZONE 1													
Basis	($0.142)	($0.095)	($0.129)	($0.060)	($0.097)	($0.115)	($0.127)	($0.133)	($0.105)	($0.084)	($0.102)	($0.100)	
Usage to Zn 6	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	
Fuel to Zn 6	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	
Total Delivered	$3.1866	$3.4006	$3.4629	$3.5252	$3.4400	$3.0849	$3.0454	$3.0662	$3.1223	$3.1493	$3.1098	$3.1326	
TENNESSEE ZONE 4 CONNEXION													
Basis	($0.789)	($0.637)	($0.523)	($0.484)	($0.506)	($0.353)	($0.386)	($0.399)	($0.400)	($0.406)	($0.462)	($0.458)	
Usage to Zn 6	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	
Fuel to Zn 6	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	
Total Delivered	$2.1669	$2.4814	$2.6918	$2.7221	$2.6544	$2.4814	$2.4217	$2.4349	$2.4602	$2.4592	$2.3823	$2.4066	
TENNESSEE ZONE 4													
Basis	($0.789)	($0.637)	($0.523)	($0.484)	($0.506)	($0.353)	($0.386)	($0.399)	($0.400)	($0.406)	($0.462)	($0.458)	
Usage to Zn 6	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	
Fuel to Zn 6	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	
Total Delivered	$2.2719	$2.5864	$2.7968	$2.8271	$2.7594	$2.5864	$2.5267	$2.5399	$2.5652	$2.5642	$2.4873	$2.5116	
TENNESSEE NIAGARA													
Basis	($0.416)	($0.397)	($0.401)	($0.394)	($0.400)	($0.580)	($0.731)	($0.751)	($0.780)	($0.801)	($0.821)	($0.791)	
Tenn usage	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	
Tenn Fuel	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	
Total Delivered	$2.6124	$2.7919	$2.8826	$2.8806	$2.8292	$2.3211	$2.1426	$2.1487	$2.1457	$2.1295	$2.0892	$2.1396	
TENNESSEE DRACUT													
Basis	$0.390	$3.177	$5.575	$5.578	$2.267	$0.065	-$0.095	-$0.025	$0.123	$0.122	-$0.228	-$0.200	
Usage	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	
Fuel	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	
Total Delivered	$3.3463	$6.2926	$8.7849	$8.7789	$5.4225	$2.8963	$2.7103	$2.8063	$2.9803	$2.9843	$2.6143	$2.6623	
TETCO ELA													
Basis	($0.100)	($0.097)	($0.103)	($0.090)	($0.090)	($0.103)	($0.103)	($0.113)	($0.107)	($0.108)	($0.112)	($0.105)	
Usage to M3	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel to M3	3.63%	4.33%	4.33%	4.33%	4.33%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$3.0289	$3.2233	$3.3162	$3.3204	$3.2729	$2.8948	$2.8676	$2.8844	$2.9179	$2.9221	$2.8969	$2.9252	

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National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TETCO ETX													
Basis	($0.135)	($0.197)	($0.183)	($0.159)	($0.144)	($0.077)	($0.102)	($0.113)	($0.069)	($0.062)	($0.078)	($0.059)	
Usage to M3	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel to M3	3.63%	4.33%	4.33%	4.33%	4.33%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.9922	$3.1178	$3.2318	$3.2476	$3.2159	$2.9221	$2.8686	$2.8844	$2.9577	$2.9702	$2.9325	$2.9734	
TETCO STX													
Basis	($0.095)	($0.147)	($0.143)	($0.142)	($0.117)	($0.047)	($0.065)	($0.070)	($0.023)	($0.025)	($0.038)	($0.032)	
Usage to M3	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel to M3	3.73%	4.47%	4.47%	4.47%	4.47%	3.73%	3.73%	3.73%	3.73%	3.73%	3.73%	3.73%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$3.0422	$3.1801	$3.2837	$3.2753	$3.2541	$2.9615	$2.9154	$2.9374	$3.0139	$3.0171	$2.9825	$3.0097	
TETCO WLA													
Basis	($0.088)	($0.097)	($0.105)	($0.092)	($0.093)	($0.080)	($0.080)	($0.090)	($0.085)	($0.085)	($0.090)	($0.082)	
Usage to M3	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel to M3	3.59%	4.29%	4.29%	4.29%	4.29%	3.59%	3.59%	3.59%	3.59%	3.59%	3.59%	3.59%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$3.0420	$3.2238	$3.3145	$3.3188	$3.2702	$2.9196	$2.8923	$2.9091	$2.9415	$2.9468	$2.9206	$2.9499	
TETCO M2													
Basis	($0.715)	($0.535)	($0.355)	($0.330)	($0.365)	($0.457)	($0.465)	($0.515)	($0.560)	($0.565)	($0.618)	($0.600)	
Usage on Tetco	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Tetco	2.07%	2.49%	2.49%	2.49%	2.49%	2.07%	2.07%	2.07%	2.07%	2.07%	2.07%	2.07%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.3310	$2.6933	$2.9770	$2.9936	$2.9107	$2.4681	$2.4330	$2.4083	$2.3887	$2.3887	$2.3135	$2.3526	
TETCO M3 DELIVERED													
Basis	($0.430)	$0.295	$2.093	$1.995	$0.120	($0.295)	($0.400)	($0.413)	($0.370)	($0.380)	($0.525)	($0.450)	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5254	$3.4195	$5.3301	$5.2220	$3.2832	$2.5355	$2.4033	$2.4164	$2.4860	$2.4810	$2.3144	$2.4103	
COLUMBIA MAUMEE													
Basis	($0.201)	($0.205)	($0.220)	($0.202)	($0.210)	($0.170)	($0.183)	($0.227)	($0.243)	($0.295)	($0.360)	($0.305)	
Usage on Columbia	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Columbia	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.8189	$2.9794	$3.0604	$3.0696	$3.0153	$2.7227	$2.6828	$2.6643	$2.6746	$2.6265	$2.5394	$2.6162	

REDACTED

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Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
COLUMBIA BROADRUN													
Basis	($0.201)	($0.205)	($0.220)	($0.202)	($0.210)	($0.170)	($0.183)	($0.227)	($0.243)	($0.295)	($0.360)	($0.305)	
Usage on Columbia	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Columbia	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.8189	$2.9794	$3.0604	$3.0696	$3.0153	$2.7227	$2.6828	$2.6643	$2.6746	$2.6265	$2.5394	$2.6162	
COLUMBIA EAGLE													
Basis	($0.430)	$0.295	$2.093	$1.995	$0.120	($0.295)	($0.400)	($0.413)	($0.370)	($0.380)	($0.525)	($0.450)	
Usage on Columbia	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Columbia	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5845	$3.4917	$5.4300	$5.3203	$3.3534	$2.5947	$2.4606	$2.4739	$2.5445	$2.5394	$2.3705	$2.4678	
COLUMBIA DOWNINGTOWN													
Basis	$0.100	$0.670	$2.737	$2.720	$0.470	($0.150)	($0.283)	($0.287)	($0.070)	($0.092)	($0.410)	($0.325)	
Usage on Columbia	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Columbia	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$3.1271	$3.8758	$6.0897	$6.0631	$3.7119	$2.7432	$2.5804	$2.6029	$2.8517	$2.8343	$2.4882	$2.5957	
TRANSCO LEIDY													
Basis	($0.808)	($0.693)	($0.567)	($0.520)	($0.533)	($0.515)	($0.603)	($0.600)	($0.623)	($0.608)	($0.662)	($0.635)	
Usage on Transco	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	
Usage on AGT	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	
Fuel on Transco	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Delivered to Algonquin	$2.1280	$2.4031	$2.6240	$2.6622	$2.6039	$2.2967	$2.1822	$2.2113	$2.2143	$2.2344	$2.1601	$2.2073	
Total Delivered	$2.3761	$2.6553	$2.8783	$2.9169	$2.8580	$2.5464	$2.4308	$2.4602	$2.4633	$2.4835	$2.4086	$2.4562	

REDACTED

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Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TETCO LEIDY													
Basis	($0.680)	($0.684)	($0.404)	($0.558)	($0.610)	($0.527)	($0.559)	($0.462)	($0.465)	($0.466)	($0.573)	($0.485)	
Usage on Tetco	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	
Usage on AGT	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	
Fuel on Tetco	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5200	$2.6800	$3.0626	$2.8958	$2.7966	$2.5487	$2.4894	$2.6151	$2.6386	$2.6427	$2.5129	$2.6233	
TETCO to B&W SCT													
Basis	($0.715)	($0.535)	($0.355)	($0.330)	($0.365)	($0.457)	($0.465)	($0.515)	($0.560)	($0.565)	($0.618)	($0.600)	
Usage on Tetco	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	
Usage on AGT	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	
Fuel to M3	2.07%	2.49%	2.49%	2.49%	2.49%	2.07%	2.07%	2.07%	2.07%	2.07%	2.07%	2.07%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5471	$2.9094	$3.1931	$3.2097	$3.1268	$2.6842	$2.6491	$2.6244	$2.6048	$2.6048	$2.5296	$2.5687	
ALGONQUIN - AIM													
Basis	($0.430)	$0.295	$2.093	$1.995	$0.120	($0.295)	($0.400)	($0.413)	($0.370)	($0.380)	($0.525)	($0.450)	
AGT Usage	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	
AGT Fuel	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5142	$3.4083	$5.3189	$5.2108	$3.2720	$2.5243	$2.3921	$2.4052	$2.4748	$2.4698	$2.3032	$2.3991	
DAWN TO TENNESSEE - WADDY													
Basis	$0.135	$0.155	$0.150	$0.158	$0.153	$0.041	($0.369)	($0.209)	($0.293)	($0.294)	($0.399)	($0.221)	
Union usage	$0.0075	$0.0075	$0.0075	$0.0075	$0.0075	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	
Iroquois usage	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	
Tenn usage	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	
Fuel on Union	0.88%	1.00%	1.15%	1.09%	1.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Fuel on TransCanada	0.93%	0.55%	1.12%	0.39%	0.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Fuel on Iroquois	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	
Fuel on Tenn	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	
Total Delivered	$3.2400	$3.4151	$3.5312	$3.5030	$3.4602	$2.9548	$2.5148	$2.7025	$2.6439	$2.6480	$2.5218	$2.7216	

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National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

Total Delivered to the City Gate Gas Supply Costs

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TENNESSEE ZONE 0 CONNEXION													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$2.885	$3.067	$3.153	$3.151	$3.130	$2.781	$2.760	$2.798	$2.815	$2.822	$2.800	$2.808	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TENNESSEE ZONE 0													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.189	$3.371	$3.457	$3.454	$3.434	$3.085	$3.064	$3.101	$3.119	$3.126	$3.104	$3.112	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TENNESSEE ZONE 1													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.187	$3.401	$3.463	$3.525	$3.440	$3.085	$3.045	$3.066	$3.122	$3.149	$3.110	$3.133	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TENNESSEE ZONE 4 CONNEXION													
Delivered MMBtu	348,000	359,600	359,600	336,400	359,600	348,000	333,804	256,881	95,795	138,861	291,827	359,600	
Delivered Price	$2.1669	$2.4814	$2.6918	$2.7221	$2.6544	$2.4814	$2.4217	$2.4349	$2.4602	$2.4592	$2.3823	$2.4066	
Total Delivered Cost	$754,066	$892,315	$967,967	$915,725	$954,509	$863,531	$808,384	$625,476	$235,672	$341,482	$695,216	$865,400	
TENNESSEE ZONE 4													
Delivered MMBtu	372,136	561,797	456,709	408,980	326,648	153,627	0	0	0	0	0	171,448	
Delivered Price	$2.2719	$2.5864	$2.7968	$2.8271	$2.7594	$2.5864	$2.5267	$2.5399	$2.5652	$2.5642	$2.4873	$2.5116	
Total Delivered Cost	$845,439	$1,453,037	$1,277,317	$1,156,241	$901,341	$397,343	$0	$0	$0	$0	$0	$430,604	
TENNESSEE NIAGARA													
Delivered MMBtu	2,134	0	5,335	3,201	0	32,010	33,077	32,010	33,077	33,077	32,010	33,077	
Delivered Price	$2.6124	$2.7919	$2.8826	$2.8806	$2.8292	$2.3211	$2.1426	$2.1487	$2.1457	$2.1295	$2.0892	$2.1396	
Total Delivered Cost	$5,575	$0	$15,379	$9,221	$0	$74,298	$70,872	$68,780	$70,972	$70,439	$66,876	$70,772	
TENNESSEE DRACUT													
Delivered MMBtu	0	14,431	23,557	144,527	38,778	0	0	0	0	0	0	0	
Delivered Price	$3.35	$6.29	$8.78	$8.78	$5.42	$2.90	$2.71	$2.81	$2.98	$2.98	$2.61	$2.66	
Total Delivered Cost	$0	$90,810	$206,945	$1,268,786	$210,276	$0	$0	$0	$0	$0	$0	$0	
TETCO ELA													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.0289	$3.2233	$3.3162	$3.3204	$3.2729	$2.8948	$2.8676	$2.8844	$2.9179	$2.9221	$2.8969	$2.9252	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TETCO ETX													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$2.9922	$3.1178	$3.2318	$3.2476	$3.2159	$2.9221	$2.8686	$2.8844	$2.9577	$2.9702	$2.9325	$2.9734	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	

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Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TETCO STX													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.042	$3.180	$3.284	$3.275	$3.254	$2.962	$2.915	$2.937	$3.014	$3.017	$2.982	$3.010	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TETCO WLA													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.0420	$3.2238	$3.3145	$3.3188	$3.2702	$2.9196	$2.8923	$2.9091	$2.9415	$2.9468	$2.9206	$2.9499	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TETCO M2													
Delivered MMBtu	774,107	798,268	798,167	720,958	798,475	776,776	272,001	775,935	801,546	801,412	441,848	801,270	
Delivered Price	$2.3310	$2.6933	$2.9770	$2.9936	$2.9107	$2.4681	$2.4330	$2.4083	$2.3887	$2.3887	$2.3135	$2.3526	
Total Delivered Cost	$1,804,450	$2,149,949	$2,376,156	$2,158,248	$2,324,151	$1,917,135	$661,786	$1,868,680	$1,914,664	$1,914,345	$1,022,209	$1,885,105	
TETCO M3 DELIVERED													
Delivered MMBtu	477,660	104,703	188,368	205,193	149,868	376,031	666,208	163,113	0	0	546,497	375,849	
Delivered Price	$2.5254	$3.4195	$5.3301	$5.2220	$3.2832	$2.5355	$2.4033	$2.4164	$2.4860	$2.4810	$2.3144	$2.4103	
Total Delivered Cost	$1,206,267	$358,037	$1,004,019	$1,071,522	$492,051	$953,412	$1,601,067	$394,143	$0	$0	$1,264,838	$905,916	
COLUMBIA MAUMEE													
Delivered MMBtu	72,184	878,862	691,706	616,913	367,033	49,885	0	0	0	0	0	0	
Delivered Price	$2.8189	$2.9794	$3.0604	$3.0696	$3.0153	$2.7227	$2.6828	$2.6643	$2.6746	$2.6265	$2.5394	$2.6162	
Total Delivered Cost	$203,482	$2,618,510	$2,116,872	$1,893,668	$1,106,712	$135,821	$0	$0	$0	$0	$0	$0	
COLUMBIA BROADRUN													
Delivered MMBtu	0	308,519	308,519	278,662	265,930	9,958	0	0	0	0	0	0	
Delivered Price	$2.8189	$2.9794	$3.0604	$3.0696	$3.0153	$2.7227	$2.6828	$2.6643	$2.6746	$2.6265	$2.5394	$2.6162	
Total Delivered Cost	$0	$919,211	$944,180	$855,377	$801,857	$27,113	$0	$0	$0	$0	$0	$0	
COLUMBIA EAGLE													
Delivered MMBtu	14,378	29,290	94,579	84,510	78,468	30,887	40,791	40,791	34,673	40,791	26,514	14,277	
Delivered Price	$2.5845	$3.4917	$5.4300	$5.3203	$3.3534	$2.5947	$2.4606	$2.4739	$2.5445	$2.5394	$2.3705	$2.4678	
Total Delivered Cost	$37,160	$102,271	$513,560	$449,622	$263,130	$80,143	$100,371	$100,914	$88,226	$103,587	$62,852	$35,232	
COLUMBIA DOWNINGTOWN													
Delivered MMBtu	0	10,643	111,019	100,198	111,987	2,063	0	0	0	0	0	0	
Delivered Price	$3.1271	$3.8758	$6.0897	$6.0631	$3.7119	$2.7432	$2.5804	$2.6029	$2.8517	$2.8343	$2.4882	$2.5957	
Total Delivered Cost	$0	$41,251	$676,075	$607,508	$415,687	$5,660	$0	$0	$0	$0	$0	$0	

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National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TRANSCO LEIDY													
Delivered MMBtu	36,470	38,067	38,067	34,383	38,067	11,414	2,232	2,160	2,232	2,232	2,160	2,232	
Delivered Price	$2.3761	$2.6553	$2.8783	$2.9169	$2.8580	$2.5464	$2.4308	$2.4602	$2.4633	$2.4835	$2.4086	$2.4562	
Total Delivered Cost	$86,657	$101,078	$109,569	$100,291	$108,797	$29,063	$5,426	$5,314	$5,498	$5,543	$5,202	$5,482	
TETCO LEIDY													
Delivered MMBtu	7,164	16,486	16,486	14,890	16,486	4,257	0	0	0	0	0	0	
Delivered Price	$2.5200	$2.6800	$3.0626	$2.8958	$2.7966	$2.5487	$2.4894	$2.6151	$2.6386	$2.6427	$2.5129	$2.6233	
Total Delivered Cost	$18,052	$44,181	$50,488	$43,119	$46,103	$10,849	$0	$0	$0	$0	$0	$0	
TETCO to B&W SCT													
Delivered MMBtu	0	49,945	60,372	51,168	28,654	0	0	0	0	0	0	0	
Delivered Price	$2.5471	$2.9094	$3.1931	$3.2097	$3.1268	$2.6842	$2.6491	$2.6244	$2.6048	$2.6048	$2.5296	$2.5687	
Total Delivered Cost	$0	$145,309	$192,774	$164,234	$89,597	$0	$0	$0	$0	$0	$0	$0	
ALGONQUIN - AIM													
Delivered MMBtu	116,496	165,795	491,644	439,006	408,990	377,851	402,200	11,169	0	0	0	3,321	
Delivered Price	$2.5142	$3.4083	$5.3189	$5.2108	$3.2720	$2.5243	$2.3921	$2.4052	$2.4748	$2.4698	$2.3032	$2.3991	
Total Delivered Cost	$292,889	$565,086	$2,614,995	$2,287,588	$1,338,226	$953,794	$962,085	$26,862	$0	$0	$0	$7,967	
DAWN TO TENNESSEE - WADDY													
Delivered MMBtu	0	30,824	30,806	27,835	0	0	5,784	0	0	0	0	0	
Delivered Price	$3.2400	$3.4151	$3.5312	$3.5030	$3.4602	$2.9548	$2.5148	$2.7025	$2.6439	$2.6480	$2.5218	$2.7216	
Total Delivered Cost	$0	$105,267	$108,782	$97,505	$0	$0	$14,545	$0	$0	$0	$0	$0	

	NOV 2017	**DEC** 2017	**JAN** 2018	**FEB** 2018	**MAR** 2018	**APR** 2018	**MAY** 2018	**JUN** 2018	**JUL** 2018	**AUG** 2018	**SEP** 2018	**OCT** 2018	**TOTAL**
Financial Hedges as of July 31, 2017													
Quantity	1,500,000	1,995,000	2,480,000	2,180,000	1,920,000	1,369,386	855,123	509,890	394,987	397,525	344,660	610,180	14,556,751
Average Price	$2.924	$3.043	$3.193	$3.099	$3.049	$2.795	$2.857	$2.868	$2.869	$2.865	$2.851	$2.924	
07/31/2017 NYMEX	$2.920	$3.079	$3.173	$3.164	$3.119	$2.795	$2.769	$2.795	$2.821	$2.826	$2.806	$2.826	
NYMEX Hedges	$5,925	-$71,035	$50,680	-$141,917	-$135,016	-$563	$75,327	$37,304	$19,000	$15,521	$15,412	$59,837	-$69,525
Basis Hedges	$192,625	$72,350	-$32,975	-$36,500	-$19,375	$0	$0	$0	$0	$0	$0	$0	$176,125
Impact of Financial Hedges	**$198,550**	**$1,315**	**$17,705**	**-$178,417**	**-$154,391**	**-$563**	**$75,327**	**$37,304**	**$19,000**	**$15,521**	**$15,412**	**$59,837**	**$106,600**
Total Pipeline Costs (Incl Inj)	**$5,452,587**	**$9,587,626**	**$13,192,782**	**$12,900,238**	**$8,898,047**	**$5,447,600**	**$4,299,864**	**$3,127,473**	**$2,334,034**	**$2,450,916**	**$3,132,605**	**$4,266,317**	**$75,090,088**
Total Delivered Pipeline Vol	**2,220,728**	**3,367,230**	**3,674,933**	**3,466,825**	**2,988,984**	**2,172,760**	**1,756,097**	**1,282,059**	**967,322**	**1,016,374**	**1,340,855**	**1,761,074**	**26,015,241**
WACOG (Cost/Volume)	$2.455	$2.847	$3.590	$3.721	$2.977	$2.507	$2.449	$2.439	$2.413	$2.411	$2.336	$2.423	$2.886
Injections	0	0	0	0	0	62,585	503,653	488,722	335,786	439,182	716,344	599,374	3,145,647
Cost of Injections	$0	$0	$0	$0	$0	$156,931	$1,211,609	$1,177,976	$803,616	$1,052,352	$1,665,341	$1,431,657	**$7,499,482**
Total GCR Cost Including Financial Hedges, Excluding Injections													
Total Pipeline Costs	**$5,452,587**	**$9,587,626**	**$13,192,782**	**$12,900,238**	**$8,898,047**	**$5,290,669**	**$3,088,255**	**$1,949,497**	**$1,530,417**	**$1,398,564**	**$1,467,263**	**$2,834,660**	**$67,590,607**
Total Pipeline Purchase Volumes	**2,220,728**	**3,367,230**	**3,674,933**	**3,466,825**	**2,988,984**	**2,110,175**	**1,252,443**	**793,337**	**631,536**	**577,191**	**624,512**	**1,161,700**	**22,869,594**

REDACTED

2017 GCR Estimate
Fixed Cost Estimates
Nov 2017 - Oct 2018

2017-2018 Gas Supply Fixed Costs
UNIT PRICES

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
PIPELINE FIXED COST UNIT PRICES													
ALGONQUIN AFT-E/AFT-1 DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734
ALGONQUIN AFT-3 DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734
ALGONQUIN AFT-ES/1S DEMAND	$/Dth	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294
ALGONQUIN AIM DEMAND	$/Dth	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862
ALGONQUIN AFT-CLMS DEMAND (Crary St)	$/Dth	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375
COLUMBIA FTS DEMAND	$/Dth	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890
DOMINION FTNN DEMAND	$/Dth	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671
IROQUOIS DEMAND	$/Dth	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.5997	$5.5997
NATIONAL FUEL DEMAND	$/Dth	$3.8067	$3.8067	$3.8067	$3.8067	$3.8067	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
TENNESSEE FT-A DEMAND ZONE 0 TO 6	$/Dth	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216
TENNESSEE FT-A DEMAND ZONE 1 TO 6	$/Dth	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216
TENNESSEE FT-A DEMAND ZONE 0 TO 6	$/Dth	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211
TENNESSEE FT-A DEMAND ZONE 1 TO 6	$/Dth	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211
TENNESSEE FT-A DEMAND ZONE 0 TO 6 CXN	$/Dth	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575
TENNESSEE FT-A DEMAND DRACUT	$/Dth	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447
TENNESSEE FT-A DEMAND ZONE 5 TO 6	$/Dth	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563
TEXAS EASTERN CDS STX DEMAND M3	$/Dth	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060
TEXAS EASTERN CDS WLA DEMAND M3	$/Dth	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260
TEXAS EASTERN CDS ELA DEMAND M3	$/Dth	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750
TEXAS EASTERN CDS ETX DEMAND M3	$/Dth	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890
TEXAS EASTERN CDS 1-3 DEMAND M3	$/Dth	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500
TEXAS EASTERN FTS DEMAND	$/Dth	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500
TEXAS EASTERN SCT STX DEMAND M3	$/Dth	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220
TEXAS EASTERN SCT WLA DEMAND M3	$/Dth	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310
TEXAS EASTERN SCT ELA DEMAND M3	$/Dth	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500
TEXAS EASTERN SCT ETX DEMAND M3	$/Dth	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760
TEXAS EASTERN SCT 1-3 DEMAND M3	$/Dth	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600
TRANSCANADA DEMAND	$/Dth	$13.4616	$13.9103	$13.9103	$12.5642	$13.9103	$13.4616	$13.9103	$13.4616	$13.9103	$13.9103	$13.4616	$13.9103
TRANSCO DEMAND ZONE 6 TO 6	$/Dth	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305
UNION DEMAND	$/Dth	$2.8170	$2.9109	$2.9109	$2.6292	$2.9109	$2.8170	$2.9109	$2.8170	$2.9109	$2.9109	$2.8170	$2.9109
STORAGE FIXED COST UNIT PRICES													
COLUMBIA FSS DEMAND	$/Dth	$1.5010	$1.5010	$1.5010	$1.5010	$1.5010	$1.5010	$1.5010	$1.5010	$1.5010	$1.5010	$1.5010	$1.5010
COLUMBIA FSS CAPACITY	$/Dth	$0.0288	$0.0288	$0.0288	$0.0288	$0.0288	$0.0288	$0.0288	$0.0288	$0.0288	$0.0288	$0.0288	$0.0288
DOMINION GSS DEMAND	$/Dth	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683
DOMINION GSS CAPACITY	$/Dth	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145
DOMINION GSS-TE DEMAND	$/Dth	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683	$1.8683
DOMINION GSS-TE CAPACITY	$/Dth	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145	$0.0145
TENNESSEE FSMA DEMAND	$/Dth	$1.4938	$1.4938	$1.4938	$1.4938	$1.4938	$1.4938	$1.4938	$1.4938	$1.4938	$1.4938	$1.4938	$1.4938
TENNESSEE FSMA CAPACITY	$/Dth	$0.0205	$0.0205	$0.0205	$0.0205	$0.0205	$0.0205	$0.0205	$0.0205	$0.0205	$0.0205	$0.0205	$0.0205
TEXAS EASTERN SS-1 DEMAND	$/Dth	$5.4370	$5.4370	$5.4370	$5.4370	$5.4370	$5.4370	$5.4370	$5.4370	$5.4370	$5.4370	$5.4370	$5.4370
TEXAS EASTERN SS-1 CAPACITY	$/Dth	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293
TEXAS EASTERN FSS-1 DEMAND	$/Dth	$0.0894	$0.0894	$0.0894	$0.0894	$0.0894	$0.0894	$0.0894	$0.0894	$0.0894	$0.0894	$0.0894	$0.0894
TEXAS EASTERN FSS-1 CAPACITY	$/Dth	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293	$0.1293

REDACTED

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
STORAGE DELIVERY FIXED UNIT PRICES													
ALGONQUIN FOR TETCO SS-1	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734
ALGONQUIN DELIVERY FOR FSS-1	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734
ALGONQUIN SCT FOR SS-1	$/Dth	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294
ALGONQUIN DELIVERY FOR GSS, GSS-TE,	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734
ALGONQUIN SCT DELIVERY FOR GSS-TE	$/Dth	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294
ALGONQUIN DELIVERY FOR GSS	$/Dth	$9.7854	$9.7854	$9.7854	$9.7854	$9.7854	$9.7854	$9.7854	$9.7854	$9.7854	$9.7854	$9.7854	$9.7854
ALGONQUIN DELIVERY FOR FSS	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734
COLUMBIA DELIVERY FOR FSS	$/Dth	$6.3190	$6.3190	$6.3190	$6.3190	$6.3190	$6.3190	$6.3190	$6.3190	$6.3190	$6.3190	$6.3190	$6.3190
DOMINION DELIVERY FOR GSS	$/Dth	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671
DOMINION DELIVERY FOR GSS	$/Dth	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671
TENNESSEE DELIVERY FOR GSS	$/Dth	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475
TENNESSEE DELIVERY FOR FSMA	$/Dth	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475	$8.1475
TETCO DELIVERY FOR FSS-1	$/Dth	$5.1700	$5.1700	$5.1700	$5.1700	$5.1700	$5.1700	$5.1700	$5.1700	$5.1700	$5.1700	$5.1700	$5.1700
TETCO DELIVERY FOR GSS/GSS-TE	$/Dth	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500
TETCO DELIVERY FOR GSS-TE	$/Dth	$6.5760	$6.5760	$6.5760	$6.5760	$6.5760	$6.5760	$6.5760	$6.5760	$6.5760	$6.5760	$6.5760	$6.5760
TETCO DELIVERY FOR GSS-TE	$/Dth	$6.8640	$6.8640	$6.8640	$6.8640	$6.8640	$6.8640	$6.8640	$6.8640	$6.8640	$6.8640	$6.8640	$6.8640
TETCO DELIVERY FOR GSS	$/Dth	$5.1790	$5.1790	$5.1790	$5.1790	$5.1790	$5.1790	$5.1790	$5.1790	$5.1790	$5.1790	$5.1790	$5.1790
SUPPLIER FIXED COST UNIT PRICES													
GAZ METRO DEMAND PAYMENT Summer	$/Dth	[redacted]											
ENGIE GAS DEMAND PAYMENT Summer	$/Dth												
ENGIE GAS DEMAND PAYMENT Winter	$/Dth												
PEAKING SUPPLY AT DRACUT	$/Dth												
							BILLING UNITS						
PIPELINE FIXED COST BILLING UNITS													
ALGONQUIN AFT-E/AFT-1 DEMAND	Dth	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285
ALGONQUIN AFT-3 DEMAND	Dth	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063
ALGONQUIN AFT-ES/1S DEMAND	Dth	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079
ALGONQUIN AIM DEMAND	Dth	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
ALGONQUIN AFT-CLMS DEMAND (Crary St)	Dth	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000
COLUMBIA FTS DEMAND	Dth	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455
DOMINION FTNN DEMAND	Dth	537	537	537	537	537	537	537	537	537	537	537	537
IROQUOIS DEMAND	Dth	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012
NATIONAL FUEL DEMAND	Dth	1,177	1,177	1,177	1,177	1,177	0	0	0	0	0	0	0
TENNESSEE FT-A DEMAND ZONE 0 TO 6	Dth	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
TENNESSEE FT-A DEMAND ZONE 1 TO 6	Dth	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500
TENNESSEE FT-A DEMAND ZONE 0 TO 6	Dth	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022
TENNESSEE FT-A DEMAND ZONE 1 TO 6	Dth	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313
TENNESSEE FT-A DEMAND ZONE 0 TO 6 CXN	Dth	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600
TENNESSEE FT-A DEMAND DRACUT	Dth	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500
TENNESSEE FT-A DEMAND DRACUT FOR PEAKI	Dth	28,500	28,500	28,500	28,500	28,500	28,500	28,500	28,500	28,500	28,500	28,500	28,500
TENNESSEE FT-A DEMAND ZONE 5 TO 6	Dth	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067
TEXAS EASTERN CDS STX DEMAND M3	Dth	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844
TEXAS EASTERN CDS WLA DEMAND M3	Dth	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716
TEXAS EASTERN CDS ELA DEMAND M3	Dth	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758
TEXAS EASTERN CDS ETX DEMAND M3	Dth	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995
TEXAS EASTERN CDS 1-3 DEMAND M3	Dth	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934
TEXAS EASTERN FTS DEMAND	Dth	537	537	537	537	537	537	537	537	537	537	537	537
TEXAS EASTERN SCT STX DEMAND M3	Dth	571	571	571	571	571	571	571	571	571	571	571	571
TEXAS EASTERN SCT WLA DEMAND M3	Dth	648	648	648	648	648	648	648	648	648	648	648	648
TEXAS EASTERN SCT ELA DEMAND M3	Dth	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183
TEXAS EASTERN SCT ETX DEMAND M3	Dth	329	329	329	329	329	329	329	329	329	329	329	329
TEXAS EASTERN SCT 1-3 DEMAND M3	Dth	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099
TRANSCANADA DEMAND	Dth	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012
TRANSCO DEMAND ZONE 6 TO 6	Dth	37,200	38,440	38,440	34,720	38,440	37,200	38,440	37,200	38,440	38,440	37,200	38,440
UNION DEMAND	Dth	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025

REDACTED

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
STORAGE FIXED COST BILLING UNITS													
COLUMBIA FSS DEMAND	Dth	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545
COLUMBIA FSS CAPACITY	Dth	203,957	203,957	203,957	203,957	203,957	203,957	203,957	203,957	203,957	203,957	203,957	203,957
DOMINION GSS DEMAND	Dth	11,403	11,403	11,403	11,403	11,403	11,403	11,403	11,403	11,403	11,403	11,403	11,403
DOMINION GSS CAPACITY	Dth	1,039,304	1,039,304	1,039,304	1,039,304	1,039,304	1,039,304	1,039,304	1,039,304	1,039,304	1,039,304	1,039,304	1,039,304
DOMINION GSS-TE DEMAND	Dth	14,337	14,337	14,337	14,337	14,337	14,337	14,337	14,337	14,337	14,337	14,337	14,337
DOMINION GSS-TE CAPACITY	Dth	1,376,324	1,376,324	1,376,324	1,376,324	1,376,324	1,376,324	1,376,324	1,376,324	1,376,324	1,376,324	1,376,324	1,376,324
TENNESSEE FSMA DEMAND	Dth	21,169	21,169	21,169	21,169	21,169	21,169	21,169	21,169	21,169	21,169	21,169	21,169
TENNESSEE FSMA CAPACITY	Dth	815,343	815,343	815,343	815,343	815,343	815,343	815,343	815,343	815,343	815,343	815,343	815,343
TEXAS EASTERN SS-1 DEMAND	Dth	14,802	14,802	14,802	14,802	14,802	14,802	14,802	14,802	14,802	14,802	14,802	14,802
TEXAS EASTERN SS-1 CAPACITY	Dth	103,336	103,336	103,336	103,336	103,336	103,336	103,336	103,336	103,336	103,336	103,336	103,336
TEXAS EASTERN FSS-1 DEMAND	Dth	944	944	944	944	944	944	944	944	944	944	944	944
TEXAS EASTERN FSS-1 CAPACITY	Dth	4,720	4,720	4,720	4,720	4,720	4,720	4,720	4,720	4,720	4,720	4,720	4,720
STORAGE DELIVERY BILLING UNITS													
ALGONQUIN FOR TETCO SS-1	Dth	14,137	14,137	14,137	14,137	14,137	14,137	14,137	14,137	14,137	14,137	14,137	14,137
ALGONQUIN DELIVERY FOR FSS-1	Dth	944	944	944	944	944	944	944	944	944	944	944	944
ALGONQUIN SCT FOR SS-1	Dth	665	665	665	665	665	665	665	665	665	665	665	665
ALGONQUIN DELIVERY FOR GSS, GSS-TE,	Dth	11,739	11,739	11,739	11,739	11,739	11,739	11,739	11,739	11,739	11,739	11,739	11,739
ALGONQUIN SCT DELIVERY FOR GSS-TE	Dth	187	187	187	187	187	187	187	187	187	187	187	187
ALGONQUIN DELIVERY FOR GSS	Dth	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061
ALGONQUIN DELIVERY FOR FSS	Dth	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545
COLUMBIA DELIVERY FOR FSS	Dth	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545	2,545
DOMINION DELIVERY FOR GSS	Dth	5,324	5,324	5,324	5,324	5,324	5,324	5,324	5,324	5,324	5,324	5,324	5,324
DOMINION DELIVERY FOR GSS	Dth	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061
TENNESSEE DELIVERY FOR GSS	Dth	6,725	6,725	6,725	6,725	6,725	6,725	6,725	6,725	6,725	6,725	6,725	6,725
TENNESSEE DELIVERY FOR FSMA	Dth	4,111	4,111	4,111	4,111	4,111	4,111	4,111	4,111	4,111	4,111	4,111	4,111
TETCO DELIVERY FOR FSS-1	Dth	944	944	944	944	944	944	944	944	944	944	944	944
TETCO DELIVERY FOR GSS/GSS-TE	Dth	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377
TETCO DELIVERY FOR GSS-TE	Dth	538	538	538	538	538	538	538	538	538	538	538	538
TETCO DELIVERY FOR GSS-TE	Dth	5,011	5,011	5,011	5,011	5,011	5,011	5,011	5,011	5,011	5,011	5,011	5,011
TETCO DELIVERY FOR GSS	Dth	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061	2,061
SUPPLIER FIXED COST BILLING UNITS													
GAZ METRO DEMAND PAYMENT Summer	Dth	[redacted]											
ENGIE GAS DEMAND PAYMENT Summer	Dth												
ENGIE GAS DEMAND PAYMENT Winter	Dth												
PEAKING SUPPLY AT DRACUT	Dth												

REDACTED

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	
PIPELINE FIXED COST DOLLARS							**TOTAL COST**							
ALGONQUIN AFT-E/AFT-1 DEMAND	$	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	
ALGONQUIN AFT-3 DEMAND	$	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	
ALGONQUIN AFT-ES/1S DEMAND	$	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	
ALGONQUIN AIM DEMAND	$	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	
ALGONQUIN AFT-CLMS DEMAND (Crary St)	$	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	
CANADIAN CAPACITY AMA FEE	$	[redacted]												
COLUMBIA FTS DEMAND	$	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	
DOMINION FTNN DEMAND	$	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	
IROQUOIS DEMAND	$	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$5,667	$5,667	
NATIONAL FUEL DEMAND	$	$4,480	$4,480	$4,480	$4,480	$4,480	$0	$0	$0	$0	$0	$0	$0	
TENNESSEE FT-A DEMAND ZONE 0 TO 6	$	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	
TENNESSEE FT-A DEMAND ZONE 1 TO 6	$	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	
TENNESSEE FT-A DEMAND ZONE 0 TO 6	$	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	
TENNESSEE FT-A DEMAND ZONE 1 TO 6	$	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	
TENNESSEE FT-A DEMAND ZONE 0 TO 6 CXN	$	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	
TENNESSEE FT-A DEMAND DRACUT	$	$49,819	$49,819	$49,819	$49,819	$49,819	$49,819	$49,819	$49,819	$49,819	$49,819	$49,819	$49,819	
TENNESSEE FT-A DEMAND DRACUT FOR PEAKI	$	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	
TENNESSEE FT-A DEMAND ZONE 5 TO 6	$	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	
TEXAS EASTERN CDS STX DEMAND M3	$	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	
TEXAS EASTERN CDS WLA DEMAND M3	$	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	
TEXAS EASTERN CDS ELA DEMAND M3	$	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	
TEXAS EASTERN CDS ETX DEMAND M3	$	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	
TEXAS EASTERN CDS 1-3 DEMAND M3	$	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	
TEXAS EASTERN FTS DEMAND	$	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	
TEXAS EASTERN SCT STX DEMAND M3	$	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	
TEXAS EASTERN SCT WLA DEMAND M3	$	$733	$733	$733	$733	$733	$733	$733	$733	$733	$733	$733	$733	
TEXAS EASTERN SCT ELA DEMAND M3	$	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	
TEXAS EASTERN SCT ETX DEMAND M3	$	$288	$288	$288	$288	$288	$288	$288	$288	$288	$288	$288	$288	
TEXAS EASTERN SCT 1-3 DEMAND M3	$	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	
TRANSCANADA DEMAND	$	$13,623	$14,077	$14,077	$12,715	$14,077	$13,623	$14,077	$13,623	$14,077	$14,077	$13,623	$14,077	
TRANSCO DEMAND ZONE 6 TO 6	$	$4,854	$5,016	$5,016	$4,530	$5,016	$4,854	$5,016	$4,854	$5,016	$5,016	$4,854	$5,016	
UNION DEMAND	$	$2,887	$2,984	$2,984	$2,695	$2,984	$2,887	$2,984	$2,887	$2,984	$2,984	$2,887	$2,984	
WESTERLY LATERAL (Yankee Gas)	$	[redacted]												
TOTAL PIPELINE DEMAND COSTS														
STORAGE FIXED COST DOLLARS														
COLUMBIA FSS DEMAND	$	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	
COLUMBIA FSS CAPACITY	$	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	
DOMINION GSS DEMAND	$	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	
DOMINION GSS CAPACITY	$	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	
DOMINION GSS-TE DEMAND	$	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	
DOMINION GSS-TE CAPACITY	$	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	
TENNESSEE FSMA DEMAND	$	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	
TENNESSEE FSMA CAPACITY	$	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	
TEXAS EASTERN SS-1 DEMAND	$	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	
TEXAS EASTERN SS-1 CAPACITY	$	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	
TEXAS EASTERN FSS-1 DEMAND	$	$84	$84	$84	$84	$84	$84	$84	$84	$84	$84	$84	$84	
TEXAS EASTERN FSS-1 CAPACITY	$	$610	$610	$610	$610	$610	$610	$610	$610	$610	$610	$610	$610	
NATIONAL GRID LNG TANK LEASE PAYMENTS	$	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	**$1,964,880**
TOTAL STORAGE DEMAND COSTS	$	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$4,793,063**
STORAGE DELIVERY FIXED COSTS														
ALGONQUIN FOR TETCO SS-1	$	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	
ALGONQUIN DELIVERY FOR FSS-1	$	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	
ALGONQUIN SCT FOR SS-1	$	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	
ALGONQUIN DELIVERY FOR GSS, GSS-TE,	$	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	
ALGONQUIN SCT DELIVERY FOR GSS-TE	$	$492	$492	$492	$492	$492	$492	$492	$492	$492	$492	$492	$492	
ALGONQUIN DELIVERY FOR GSS CONV	$	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	
ALGONQUIN DELIVERY FOR FSS	$	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	
COLUMBIA DELIVERY FOR FSS	$	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	
DOMINION DELIVERY FOR GSS	$	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	
DOMINION DELIVERY FOR GSS CONV	$	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	
TENNESSEE DELIVERY FOR GSS	$	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	
TENNESSEE DELIVERY FOR FSMA	$	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	
TETCO DELIVERY FOR FSS-1	$	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	
TETCO DELIVERY FOR GSS/GSS-TE	$	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	
TETCO DELIVERY FOR GSS-TE	$	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	
TETCO DELIVERY FOR GSS-TE	$	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	
TETCO DELIVERY FOR GSS CONV	$	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	
TOTAL STORAGE DELIVERY DEMAND COSTS		**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$5,258,193**

REDACTED

GAZ METRO DEMAND PAYMENT Summer	$	[redacted]												
ENGIE GAS DEMAND PAYMENT Summer	$													
ENGIE GAS DEMAND PAYMENT Winter	$													
PEAKING SUPPLY AT DRACUT	$													
TOTAL SUPPLIER DEMAND COSTS														
TOTAL ALL DEMAND COSTS	$	**$5,107,123**	**$5,141,113**	**$5,139,780**	**$5,137,644**	**$5,139,780**	**$5,223,774**	**$5,224,486**	**$5,223,774**	**$5,224,486**	**$5,224,486**	**$5,223,370**	**$5,224,082**	**$62,233,897**

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Total
Marketer Demand Charge Credits														
Capacity Release Volumes as of August 1, 2017														
Tennessee Zone 1	Dth	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	
Tennessee Dracut	Dth	8	8	8	8	8	8	8	8	8	8	8	8	
Algonquin	Dth	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	
Tetco STX/AGT	Dth	4,043	4,043	4,043	4,043	4,043	4,043	4,043	4,043	4,043	4,043	4,043	4,043	
Tetco WLA/AGT	Dth	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	
Tetco ELA/AGT	Dth	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	
Columbia/AGT	Dth	2,282	2,282	2,282	2,282	2,282	2,282	2,282	2,282	2,282	2,282	2,282	2,282	
Total		**33,547**	**33,547**	**33,547**	**33,547**	**33,547**	**33,547**	**33,547**	**33,547**	**33,547**	**33,547**	**33,547**	**33,547**	
System Weighted Average cost per MMBtu		**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	**$22.2117**	
Total Demand Charge Credit		**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$8,941,613**
Demand Costs Net of Releases to Marketers	$	**$4,361,988**	**$4,395,979**	**$4,394,646**	**$4,392,509**	**$4,394,646**	**$4,478,639**	**$4,479,351**	**$4,478,639**	**$4,479,351**	**$4,479,351**	**$4,478,236**	**$4,478,948**	**$53,292,283**
TOTAL PIPELINE DEMANDS	$	[redacted]												
TOTAL STORAGE FACILITIES DEMANDS	$	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$399,422**	**$4,793,063**
TOTAL STORAGE DELIVERY DEMANDS	$	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$438,183**	**$5,258,193**
TOTAL SUPPLIER DEMANDS	$	[redacted]												
Total All Demands	$	**$5,107,123**	**$5,141,113**	**$5,139,780**	**$5,137,644**	**$5,139,780**	**$5,223,774**	**$5,224,486**	**$5,223,774**	**$5,224,486**	**$5,224,486**	**$5,223,370**	**$5,224,082**	**$62,233,897**
Marketer Release Credits	$	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$745,134**	**$8,941,613**
NGPMP Credit	$	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$908,333**	**$10,900,000**
Demand Net of Releases	$	**$3,453,655**	**$3,487,645**	**$3,486,312**	**$3,484,176**	**$3,486,312**	**$3,570,306**	**$3,571,018**	**$3,570,306**	**$3,571,018**	**$3,571,018**	**$3,569,903**	**$3,570,615**	**$42,392,283**

REDACTED

Storage Product Cost

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
WACOG Injections	$2.366	$2.847	$3.585	$3.773	$3.029	$2.507	$2.406	$2.410	$2.393	$2.396	$2.325	$2.389
Injection Charge	$0.024	$0.024	$0.024	$0.024	$0.024	$0.024	$0.024	$0.024	$0.024	$0.024	$0.024	$0.024
Total Injection Cost	$2.390	$2.871	$3.609	$3.796	$3.052	$2.531	$2.429	$2.434	$2.417	$2.420	$2.349	$2.412

Combined Storage	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	
Beginning Inventory	4,257,865	4,206,185	3,628,305	2,731,518	1,911,606	1,163,820	1,174,804	1,678,457	2,167,179	2,502,966	2,942,148	3,658,492	
Volume Withdrawn	51,680	577,880	896,787	819,912	747,786	51,601	0	0	0	0	0	0	3,145,646
Volume Injected	0	0	0	0	0	62,585	503,653	488,722	335,786	439,182	716,344	599,374	3,145,647
Begining Inventory $	$9,552,094	$9,436,055	$8,139,654	$6,127,822	$4,288,451	$2,610,887	$2,653,444	$3,877,029	$5,066,626	$5,878,226	$6,941,021	$8,623,396	
Volume Withdrawn $ (1)	$116,040	$1,297,517	$2,013,563	$1,840,954	$1,679,009	$115,861	$0	$0	$0	$0	$0	$0	$7,062,944
Volume Injected $	$0	$0	$0	$0	$0	$158,419	$1,223,585	$1,189,596	$811,601	$1,062,795	$1,682,374	$1,445,909	$7,574,279
Ending Inventory	4,206,185	3,628,305	2,731,518	1,911,606	1,163,820	1,174,804	1,678,457	2,167,179	2,502,966	2,942,148	3,658,492	4,257,865	
Ending Inventory $	$9,436,055	$8,139,654	$6,127,822	$4,288,451	$2,610,887	$2,653,444	$3,877,029	$5,066,626	$5,878,226	$6,941,021	$8,623,396	$10,069,304	
Average $/MMBtu	$2.2434	$2.2434	$2.2434	$2.2434	$2.2434	$2.2586	$2.3099	$2.3379	$2.3485	$2.3592	$2.3571	$2.3649	
Withdrawal Costs	**$1,082**	**$18,811**	**$22,565**	**$21,560**	**$19,001**	**$1,019**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$84,038**
Transportation Costs	**$771**	**$16,231**	**$45,901**	**$40,721**	**$41,270**	**$1,126**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$146,020**
Costs Allocated to Fuel	**$2,948**	**$35,298**	**$46,955**	**$43,460**	**$36,951**	**$2,688**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$168,300**
Storage Value Less Fuel	**$113,091**	**$1,262,219**	**$1,966,608**	**$1,797,495**	**$1,642,057**	**$113,173**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$6,894,644**
Delivered Volumes	50,366	562,145	875,857	800,540	731,314	50,411	0	0	0	0	0	0	3,070,633
Hedge Amortization	$100	$1,116	$1,732	$1,583	$1,444	$100	$0	$0	$0	$0	$0	$0	$6,075

- amortization of hedges on injection gas
$6,075
(1) Includes Hedge Amortization
3,145,646 Withdrawal

REDACTED

Storage Withdrawal Variable Costs
2017-2018 GCR Storage Estimate

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Storage Withdrawals at Facility (Dth)													
TENNESSEE FSMA 501	0	16,261	164,743	159,800	152,789	3,474	0	0	0	0	0	0	497,067
DOMINION GSS 300170	0	16,540	45,331	37,931	4,082	0	0	0	0	0	0	0	103,884
DOMINION GSS 300168	746	22,855	30,735	36,972	36,415	0	0	0	0	0	0	0	127,723
DOMINION GSS 300171	0	31,471	69,861	58,935	22,883	0	0	0	0	0	0	0	183,150
DOMINION GSSTE 600045	50,934	71,465	71,465	64,549	71,465	44,310	0	0	0	0	0	0	374,188
TETCO FSS-1 400515	0	14,071	14,071	14,071	12,382	0	0	0	0	0	0	0	54,595
TETCO SS-1 400221	0	286,440	290,860	290,860	260,377	0	0	0	0	0	0	0	1,128,537
TETCO SS-1 400185	0	12,728	12,728	12,728	11,201	0	0	0	0	0	0	0	49,386
DOMINION GSS 300169	0	45,324	55,647	50,802	44,744	0	0	0	0	0	0	0	196,516
COLUMBIA FSS 9630	0	45,883	72,953	53,954	25,048	3,818	0	0	0	0	0	0	201,656
TENNESSEE 62918	0	8,429	61,887	32,804	100,580	0	0	0	0	0	0	0	203,700
TOTAL WITHDRAWALS	51,680	571,467	890,281	813,406	741,967	51,601	0	0	0	0	0	0	3,120,402
Storage Withdrawal Charges													
Tennessee Withdrawal	$0.0087	$0.0087	$0.0087	$0.0087	$0.0087	$0.0087	$0.0087	$0.0087	$0.0087	$0.0087	$0.0087	$0.0087	
Dominion GSS Withdrawal	$0.0161	$0.0161	$0.0161	$0.0161	$0.0161	$0.0161	$0.0161	$0.0161	$0.0161	$0.0161	$0.0161	$0.0161	
Dominion GSS-TE Withdrawal	$0.0210	$0.0210	$0.0210	$0.0210	$0.0210	$0.0210	$0.0210	$0.0210	$0.0210	$0.0210	$0.0210	$0.0210	
TETCO SS-1 Withdrawal	$0.0471	$0.0471	$0.0471	$0.0471	$0.0471	$0.0471	$0.0471	$0.0471	$0.0471	$0.0471	$0.0471	$0.0471	
TETCO FSS-1 Withdrawal	$0.0307	$0.0307	$0.0307	$0.0307	$0.0307	$0.0307	$0.0307	$0.0307	$0.0307	$0.0307	$0.0307	$0.0307	
Columbia Withdrawal	$0.0153	$0.0153	$0.0153	$0.0153	$0.0153	$0.0153	$0.0153	$0.0153	$0.0153	$0.0153	$0.0153	$0.0153	
Storage Withdrawal Costs													
Tennessee Withdrawal	$0	$215	$1,972	$1,676	$2,204	$30	$0	$0	$0	$0	$0	$0	$6,097
Dominion GSS Withdrawal	$12	$1,871	$3,245	$2,973	$1,741	$0	$0	$0	$0	$0	$0	$0	$9,841
Dominion GSS-TE Withdrawal	$1,070	$1,501	$1,501	$1,356	$1,501	$931	$0	$0	$0	$0	$0	$0	$7,858
TETCO SS-1 Withdrawal	$0	$14,091	$14,299	$14,299	$12,791	$0	$0	$0	$0	$0	$0	$0	$55,480
TETCO FSS-1 Withdrawal	$0	$432	$432	$432	$380	$0	$0	$0	$0	$0	$0	$0	$1,676
Columbia Withdrawal	$0	$702	$1,116	$825	$383	$58	$0	$0	$0	$0	$0	$0	$3,085
Total Storage Withdrawal Costs	$1,082	$18,811	$22,565	$21,560	$19,001	$1,019	$0	$0	$0	$0	$0	$0	$84,038

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Storage Withdrawals at Gate (Dth)													
TENNESSEE FSMA 501	0	16,077	162,881	157,995	151,063	3,435	0	0	0	0	0	0	491,450
DOMINION GSS 300170	0	16,034	43,945	36,771	3,958	0	0	0	0	0	0	0	100,707
DOMINION GSS 300168	738	22,597	30,387	36,554	36,003	0	0	0	0	0	0	0	126,279
DOMINION GSS 300171	0	30,764	68,291	57,610	22,368	0	0	0	0	0	0	0	179,033
DOMINION GSSTE 600045	49,628	69,626	69,626	62,888	69,626	43,248	0	0	0	0	0	0	364,642
TETCO FSS-1 400515	0	13,651	13,651	13,651	12,013	0	0	0	0	0	0	0	52,968
TETCO SS-1 400221	0	283,662	288,039	288,039	257,851	0	0	0	0	0	0	0	1,117,591
TETCO SS-1 400185	0	12,605	12,605	12,605	11,092	0	0	0	0	0	0	0	48,907
DOMINION GSS 300169	0	44,009	54,033	49,328	43,446	0	0	0	0	0	0	0	190,815
COLUMBIA FSS 9630	0	44,787	71,211	52,666	24,450	3,729	0	0	0	0	0	0	196,842
TENNESSEE 62918	0	8,334	61,187	32,433	99,444	0	0	0	0	0	0	0	201,398
TOTAL WITHDRAWALS	50,366	562,145	875,857	800,540	731,314	50,411	0	0	0	0	0	0	3,070,633
Storage Transportation Charges													
Tennessee Transport	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	
Dominion Transport on TETCO/AGT	$0.0138	$0.0138	$0.0138	$0.0138	$0.0138	$0.0138	$0.0138	$0.0138	$0.0138	$0.0138	$0.0138	$0.0138	
Dominion Transport on DTI/TETCO/AGT	$0.0302	$0.0302	$0.0302	$0.0302	$0.0302	$0.0302	$0.0302	$0.0302	$0.0302	$0.0302	$0.0302	$0.0302	
Dominion Transport on Tennessee	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	
Dominion Transport on DTI/Tennessee	$0.1329	$0.1329	$0.1329	$0.1329	$0.1329	$0.1329	$0.1329	$0.1329	$0.1329	$0.1329	$0.1329	$0.1329	
TETCO SS-1 Transport	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
TETCO FSS-1 Transport	$0.0478	$0.0478	$0.0478	$0.0478	$0.0478	$0.0478	$0.0478	$0.0478	$0.0478	$0.0478	$0.0478	$0.0478	
Columbia Transport	$0.0347	$0.0347	$0.0347	$0.0347	$0.0347	$0.0347	$0.0347	$0.0347	$0.0347	$0.0347	$0.0347	$0.0347	
Storage Transportation Costs													
Tennessee Transport	$0	$2,844	$26,104	$22,185	$29,184	$400	$0	$0	$0	$0	$0	$0	$80,717
Dominion Transport on TETCO/AGT	$685	$1,385	$1,903	$1,663	$1,270	$597	$0	$0	$0	$0	$0	$0	$7,503
Dominion Transport on DTI/TETCO/AGT	$0	$1,329	$1,632	$1,490	$1,312	$0	$0	$0	$0	$0	$0	$0	$5,763
Dominion Transport on Tennessee	$86	$2,633	$3,540	$4,259	$4,194	$0	$0	$0	$0	$0	$0	$0	$14,712
Dominion Transport on DTI/Tennessee	$0	$2,131	$5,840	$4,887	$526	$0	$0	$0	$0	$0	$0	$0	$13,384
TETCO SS-1 Transport	$0	$3,703	$3,758	$3,758	$3,362	$0	$0	$0	$0	$0	$0	$0	$14,581
TETCO FSS-1 Transport	$0	$652	$652	$652	$574	$0	$0	$0	$0	$0	$0	$0	$2,531
Columbia Transport	$0	$1,554	$2,471	$1,827	$848	$129	$0	$0	$0	$0	$0	$0	$6,830
Total Storage Transportation Costs	$771	$16,231	$45,901	$40,721	$41,270	$1,126	$0	$0	$0	$0	$0	$0	$146,020
Total Storage Variable Costs	$1,852	$35,043	$68,466	$62,281	$60,271	$2,146	$0	$0	$0	$0	$0	$0	$230,058

REDACTED

LNG Estimate for 2017 - 2018

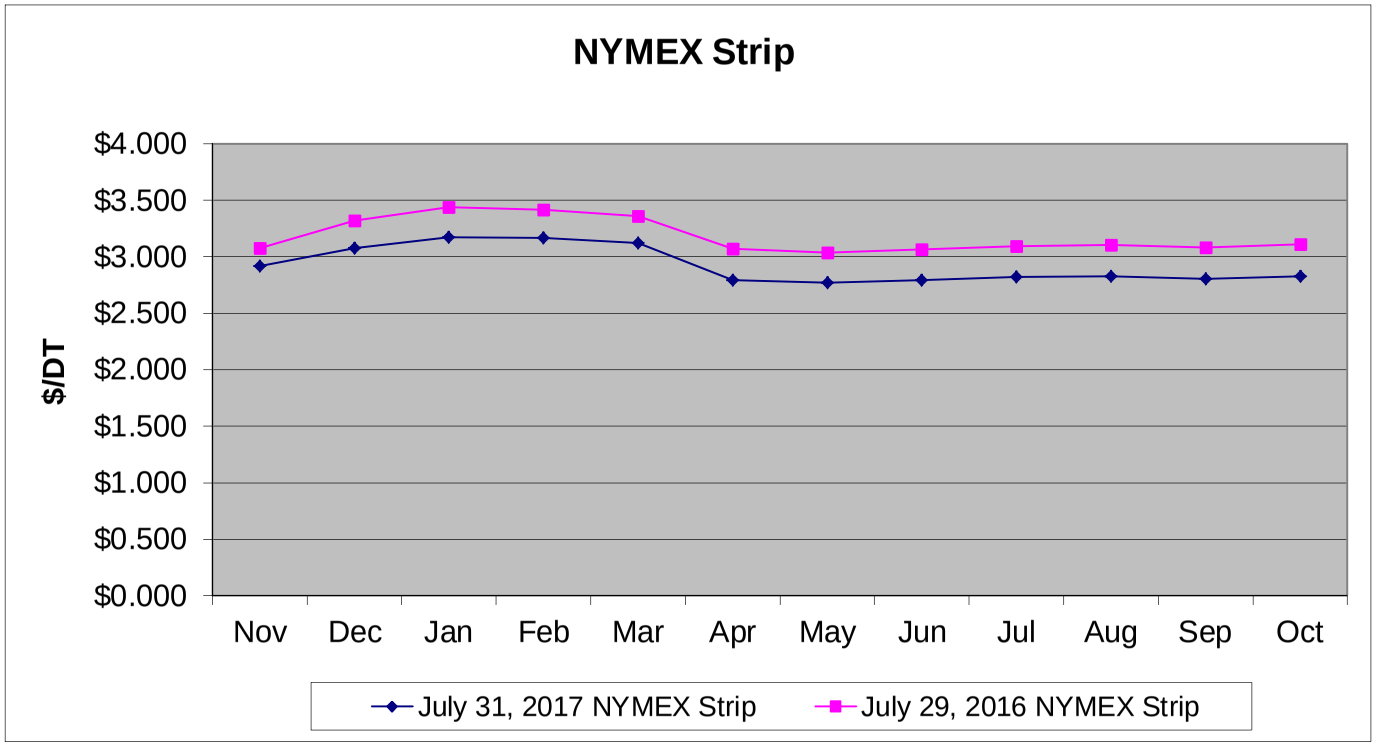
NATIONAL GRID - RI SERVICE AREA
NOVEMBER 2017 - OCTOBER 2018

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
LNG Supply Costs													
07/31/2017 NYMEX	$2.920	$3.079	$3.173	$3.164	$3.119	$2.795	$2.769	$2.795	$2.821	$2.826	$2.806	$2.826	
Trucking GDF Suez	[redacted]												
Basis ENGIE Gas Contract													
Delivered Cost ENGIE Gas													
Trucking Gaz Metro	[redacted]												
Gaz Metro Contract Commodity													
Delivered Cost Gaz Metro													
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Combined LNG Inventory													
Beginning Inventory Volume	[redacted]												
Engie Gas Injections													
Gaz Metro Injections													
Volume Withdrawn	15,306	15,817	392,455	149,919	15,817	15,306	15,817	15,306	15,817	15,817	15,306	15,817	698,500
Begining Inventory	[redacted]												
Injection Costs													
Withdrawal Costs	$75,434.53	$77,949	$1,934,136	$738,848	$77,949	$75,435	$77,411	$74,643	$77,133	$78,855	$78,219	$80,052	$3,446,064
Ending Volume	[redacted]												
Ending Inventory													
Average Cost Per Dth	$4.928	$4.928	$4.928	$4.928	$4.928	$4.894	$4.877	$4.877	$4.986	$5.110	$5.061	$5.157	
Portable Vapor													
Portable Vapor Volume	0	0	0	0	0	0	0	0	0	0	0	0	
Average Cost Per Dth	[redacted]												
Total Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total All LNG Costs	**$75,435**	**$77,949**	**$1,934,136**	**$738,848**	**$77,949**	**$75,435**	**$77,411**	**$74,643**	**$77,133**	**$78,855**	**$78,219**	**$80,052**	**$3,446,064**

Attachment NGC-3

NYMEX Strip Comparison

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
July 29, 2016 NYMEX Strip	$3.076	$3.320	$3.436	$3.418	$3.360	$3.070	$3.036	$3.066	$3.095	$3.104	$3.084	$3.108
July 31, 2017 NYMEX Strip	$2.920	$3.079	$3.173	$3.164	$3.119	$2.795	$2.769	$2.795	$2.821	$2.826	$2.806	$2.826



Attachment NGC-4S

REDACTED

Attachment NGC-4S

Assignment of Pipeline Capacity – **REDACTED Information**

REDACTED

PRELIMINARY **PRELIMINARY**

12 Month Forward Pricing

National Grid
Summary of Transportation Capacity Release
Pipeline Path Availability and Pricing
November 2017 - October 2018

Path to City Gate	As of 8/1/17 Existing Releases	Total Available	Remaining Available	Cost per Dth	New Credit or Surcharge	Old Credit or Surcharge
Company Weighted Average				**$0.6682**		
Tennessee Zone 1	9,500	9,500	0	$1.0067	($0.3385)	($0.6327)
Tennessee Dracut	8	1,000	992	$1.7441	($1.0759)	($0.9495)
Algonquin @ Lambertville, NJ	2,714	2,714	0	$0.3507	$0.3175	$0.2242
Texas Eastern - South Texas Algonquin @ Lambertville, NJ	4,043	4,044	1	$1.1166	($0.4484)	($0.8044)
Texas Eastern - West La Algonquin @ Lambertville, NJ	8,500	8,500	0	$0.8717	($0.2035)	($0.5921)
Texas Eastern - East La Algonquin @ Lambertville, NJ	6,500	6,500	0	$0.7630	($0.0948)	($0.4710)
Columbia (Maumee/Downington) at 5:1 ratio*	2,282	3,000	718	$0.3698	$0.2984	($0.0396)
Totals:	33,547	35,258	1,711			

REDACTED

Gas Year 2017 - 2018
TEXAS EASTERN SOUTH TEXAS SUPPLY PATH COST MATRIX
CITY GATE DELIVERED MDQ = 4,044

		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
UNIT PRICING														
FIXED														
TETCO STX SUPPLY ZONE DEMAND	$/Dth	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	
TECCO WLA SUPPLY ZONE DEMAND	$/Dth	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	
TETCO ELA SUPPLY ZONE DEMAND	$/Dth	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	
TETCO M1 TO M3 DEMAND	$/Dth	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	
ALGONQUIN AFT-E DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	
VARIABLE														
TETCO USAGE STX TO M3	$/Dth	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	
ALGONQUIN USAGE	$/Dth	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
07/31/2017 NYMEX	$/Dth	$2.9200	$3.0790	$3.1730	$3.1640	$3.1190	$2.7950	$2.7690	$2.7950	$2.8210	$2.8260	$2.8060	$2.8260	
SUPPLY AREA BASIS	$/Dth	($0.0950)	($0.1470)	($0.1430)	($0.1420)	($0.1170)	($0.0470)	($0.0650)	($0.0700)	($0.0230)	($0.0250)	($0.0380)	($0.0320)	
NET COST AFTER BASIS	$/Dth	$2.8250	$2.9320	$3.0300	$3.0220	$3.0020	$2.7480	$2.7040	$2.7250	$2.7980	$2.8010	$2.7680	$2.7940	
BILLING UNITS														
FIXED														
TETCO STX SUPPLY ZONE DEMAND	$/Dth	4,081	4,084	4,084	4,084	4,084	4,081	4,081	4,081	4,081	4,081	4,081	4,081	
TECCO WLA SUPPLY ZONE DEMAND	$/Dth	4,081	4,084	4,084	4,084	4,084	4,081	4,081	4,081	4,081	4,081	4,081	4,081	
TETCO ELA SUPPLY ZONE DEMAND	$/Dth	4,081	4,084	4,084	4,084	4,084	4,081	4,081	4,081	4,081	4,081	4,081	4,081	
TETCO M1 TO M3 DEMAND	$/Dth	4,081	4,084	4,084	4,084	4,084	4,081	4,081	4,081	4,081	4,081	4,081	4,081	
ALGONQUIN AFT-E DEMAND	$/Dth	4,044	4,044	4,044	4,044	4,044	4,044	4,044	4,044	4,044	4,044	4,044	4,044	48,528
VARIABLE														
PURCHASE VOLUMES	Dth	127,178	132,515	132,515	119,691	132,515	127,178	131,417	127,178	131,417	131,417	127,178	131,417	1,551,618
TETCO USAGE STX TO M3	Dth	122,434	126,592	126,592	114,341	126,592	122,434	126,515	122,434	126,515	126,515	122,434	126,515	1,489,915
ALGONQUIN USAGE	Dth	121,320	125,364	125,364	113,232	125,364	121,320	125,364	121,320	125,364	125,364	121,320	125,364	1,476,060
DELIVERED VOLUMES	Dth	121,320	125,364	125,364	113,232	125,364	121,320	125,364	121,320	125,364	125,364	121,320	125,364	1,476,060
FUEL USE %														
TETCO STX TO M3 FUEL	%	3.73%	4.47%	4.47%	4.47%	4.47%	3.73%	3.73%	3.73%	3.73%	3.73%	3.73%	3.73%	
ALGONQUIN AFT-E FUEL	%	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
TRANSPORTATION COST														
FIXED														
TETCO STX SUPPLY ZONE DEMAND	$	$27,776	$27,793	$27,793	$27,793	$27,793	$27,776	$27,776	$27,776	$27,776	$27,776	$27,776	$27,776	$333,382
TECCO WLA SUPPLY ZONE DEMAND	$	$11,533	$11,540	$11,540	$11,540	$11,540	$11,533	$11,533	$11,533	$11,533	$11,533	$11,533	$11,533	$138,428
TETCO ELA SUPPLY ZONE DEMAND	$	$9,693	$9,699	$9,699	$9,699	$9,699	$9,693	$9,693	$9,693	$9,693	$9,693	$9,693	$9,693	$116,336
TETCO M1 TO M3 DEMAND	$	$43,464	$43,490	$43,490	$43,490	$43,490	$43,464	$43,464	$43,464	$43,464	$43,464	$43,464	$43,464	$521,675
ALGONQUIN AFT-E DEMAND	$	$26,583	$26,583	$26,583	$26,583	$26,583	$26,583	$26,583	$26,583	$26,583	$26,583	$26,583	$26,583	$318,994
VARIABLE														
TETCO USAGE STX TO M3	$	$8,289	$8,570	$8,570	$7,741	$8,570	$8,289	$8,565	$8,289	$8,565	$8,565	$8,289	$8,565	$100,867
ALGONQUIN USAGE	$	$1,517	$1,567	$1,567	$1,415	$1,567	$1,517	$1,567	$1,517	$1,567	$1,567	$1,517	$1,567	$18,451
PURCHASE COST	$	$359,278	$388,535	$401,522	$361,707	$397,811	$349,485	$355,352	$346,560	$367,705	$368,099	$352,028	$367,180	$4,415,262
TOTAL FIXED	$	$119,049	$119,105	$119,105	$119,105	$119,105	$119,049	$119,049	$119,049	$119,049	$119,049	$119,049	$119,049	$1,428,814
TOTAL VARIABLE	$	$369,083	$398,672	$411,659	$370,863	$407,948	$359,290	$365,484	$356,365	$377,837	$378,232	$361,834	$377,312	$4,534,580
DELIVERED COST AT NYMEX	$	$354,254	$385,996	$397,780	$358,266	$391,010	$339,089	$347,133	$339,089	$353,652	$354,279	$340,424	$354,279	$4,315,251
NET NON-GAS VARIABLE COST	$	$14,828	$12,677	$13,879	$12,597	$16,938	$20,201	$18,351	$17,276	$24,185	$23,953	$21,410	$23,033	$219,328
AVERAGE NON-GAS VARIABLE COST	$/Dth	**$0.1222**	**$0.1011**	**$0.1107**	**$0.1113**	**$0.1351**	**$0.1665**	**$0.1464**	**$0.1424**	**$0.1929**	**$0.1911**	**$0.1765**	**$0.1837**	**$0.1486**
AVERAGE FIXED COST	$/Dth													$29.4431
AVERAGE COST AT 100% LOAD FACTOR	$/Dth													**$0.9680**
TOTAL PATH COST	$/Dth													**$1.1166**

REDACTED

Gas Year 2017 - 2018
TEXAS EASTERN WEST LOUISIANA SUPPLY PATH TO ALGONQUIN CITY GATE
CITY GATE DELIVERED MDQ = 8,500

		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
UNIT PRICING														
FIXED														
TETCO WLA SUPPLY ZONE DEMAND	$/Dth	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	
TETCO ELA SUPPLY ZONE DEMAND	$/Dth	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	
TETCO M1 TO M3 DEMAND	$/Dth	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	
ALGONQUIN AFT-E DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	
VARIABLE														
TETCO USAGE WLA TO M3	$/Dth	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	
ALGONQUIN USAGE	$/Dth	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
07/31/2017 NYMEX	$/Dth	$2.9200	$3.0790	$3.1730	$3.1640	$3.1190	$2.7950	$2.7690	$2.7950	$2.8210	$2.8260	$2.8060	$2.8260	
SUPPLY AREA BASIS	$/Dth	($0.0880)	($0.0970)	($0.1050)	($0.0920)	($0.0930)	($0.0800)	($0.0800)	($0.0900)	($0.0850)	($0.0850)	($0.0900)	($0.0820)	
NET COST AFTER BASIS	$/Dth	$2.8320	$2.9820	$3.0680	$3.0720	$3.0260	$2.7150	$2.6890	$2.7050	$2.7360	$2.7410	$2.7160	$2.7440	
BILLING UNITS														
FIXED														
TETCO WLA SUPPLY ZONE DEMAND	Dth	8,578	8,583	8,583	8,583	8,583	8,578	8,578	8,578	8,578	8,578	8,578	8,578	
TETCO ELA SUPPLY ZONE DEMAND	Dth	8,578	8,583	8,583	8,583	8,583	8,578	8,578	8,578	8,578	8,578	8,578	8,578	
TETCO M1 TO M3 DEMAND	Dth	8,578	8,583	8,583	8,583	8,583	8,578	8,578	8,578	8,578	8,578	8,578	8,578	
ALGONQUIN AFT-E DEMAND	Dth	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	8,500	102,000
VARIABLE														
PURCHASE VOLUMES	Dth	266,924	278,008	278,008	251,104	278,008	266,924	275,822	266,924	275,822	275,822	266,924	275,822	3,256,111
TETCO USAGE WLA TO M3	Dth	257,342	266,081	266,081	240,331	266,081	257,342	265,920	257,342	265,920	265,920	257,342	265,920	3,131,621
ALGONQUIN USAGE	Dth	255,000	263,500	263,500	238,000	263,500	255,000	263,500	255,000	263,500	263,500	255,000	263,500	3,102,500
DELIVERED VOLUMES	Dth	255,000	263,500	263,500	238,000	263,500	255,000	263,500	255,000	263,500	263,500	255,000	263,500	3,102,500
FUEL USE %														
TETCO WLA TO M3 FUEL	%	3.59%	4.29%	4.29%	4.29%	4.29%	3.59%	3.59%	3.59%	3.59%	3.59%	3.59%	3.59%	
ALGONQUIN AFT-E FUEL	%	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
TRANSPORTATION COST														
FIXED														
TETCO WLA SUPPLY ZONE DEMAND	$	$24,242	$24,256	$24,256	$24,256	$24,256	$24,242	$24,242	$24,242	$24,242	$24,242	$24,242	$24,242	$290,958
TETCO ELA SUPPLY ZONE DEMAND	$	$20,373	$20,385	$20,385	$20,385	$20,385	$20,373	$20,373	$20,373	$20,373	$20,373	$20,373	$20,373	$244,524
TETCO M1 TO M3 DEMAND	$	$91,356	$91,412	$91,412	$91,412	$91,412	$91,356	$91,356	$91,356	$91,356	$91,356	$91,356	$91,356	$1,096,498
ALGONQUIN AFT-E DEMAND	$	$55,874	$55,874	$55,874	$55,874	$55,874	$55,874	$55,874	$55,874	$55,874	$55,874	$55,874	$55,874	$670,487
VARIABLE														
TETCO USAGE WLA TO M3	$	$16,599	$17,162	$17,162	$15,501	$17,162	$16,599	$17,152	$16,599	$17,152	$17,152	$16,599	$17,152	$201,990
ALGONQUIN USAGE	$	$3,188	$3,294	$3,294	$2,975	$3,294	$3,188	$3,294	$3,188	$3,294	$3,294	$3,188	$3,294	$38,781
PURCHASE COST	$	$755,930	$829,018	$852,927	$771,390	$841,251	$724,700	$741,685	$722,030	$754,649	$756,028	$724,967	$756,855	$9,231,430
TOTAL FIXED	$	$191,845	$191,927	$191,927	$191,927	$191,927	$191,845	$191,845	$191,845	$191,845	$191,845	$191,845	$191,845	$2,302,466
TOTAL VARIABLE	$	$775,716	$849,474	$873,383	$789,866	$861,707	$744,486	$762,131	$741,817	$775,094	$776,473	$744,753	$777,301	$9,472,201
DELIVERED VOLUMES AT NYMEX	$	$744,600	$811,317	$836,086	$753,032	$821,857	$712,725	$729,632	$712,725	$743,334	$744,651	$715,530	$744,651	$9,070,138
NET NON-GAS VARIABLE COST	$	$31,116	$38,158	$37,298	$36,834	$39,850	$31,761	$32,499	$29,092	$31,761	$31,822	$29,223	$32,650	$402,063
AVERAGE NON-GAS VARIABLE COST	$/Dth	**$0.1220**	**$0.1448**	**$0.1415**	**$0.1548**	**$0.1512**	**$0.1246**	**$0.1233**	**$0.1141**	**$0.1205**	**$0.1208**	**$0.1146**	**$0.1239**	**$0.1296**
AVERAGE FIXED COST	$/Dth													$22.5732
AVERAGE COST AT 100% LOAD FACTOR	$/Dth													**$0.7421**
TOTAL PATH COST	$/Dth													**$0.8717**

REDACTED

Gas Year 2017 - 2018
TEXAS EASTERN EAST LOUISIANA SUPPLY PATH TO ALGONQUIN CITY GATE
CITY GATE DELIVERED MDQ = 6,500

		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
UNIT PRICING														
FIXED														
TETCO ELA SUPPLY ZONE DEMAND	$/Dth	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	
TETCO M1 TO M3 DEMAND	$/Dth	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	
ALGONQUIN AFT-E DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	
VARIABLE														
TETCO USAGE ELA TO M3	$/Dth	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	
ALGONQUIN USAGE	$/Dth	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
07/31/2017 NYMEX	$/Dth	$2.9200	$3.0790	$3.1730	$3.1640	$3.1190	$2.7950	$2.7690	$2.7950	$2.8210	$2.8260	$2.8060	$2.8260	
SUPPLY AREA BASIS	$/Dth	($0.1000)	($0.0970)	($0.1030)	($0.0900)	($0.0900)	($0.1030)	($0.1030)	($0.1130)	($0.1070)	($0.1080)	($0.1120)	($0.1050)	
NET COST AFTER BASIS	$/Dth	$2.8200	$2.9820	$3.0700	$3.0740	$3.0290	$2.6920	$2.6660	$2.6820	$2.7140	$2.7180	$2.6940	$2.7210	
BILLING UNITS														
FIXED														
TETCO ELA SUPPLY ZONE DEMAND	Dth	6,560	6,564	6,564	6,564	6,564	6,560	6,560	6,560	6,560	6,560	6,560	6,560	
TETCO M1 TO M3 DEMAND	Dth	6,560	6,564	6,564	6,564	6,564	6,560	6,560	6,560	6,560	6,560	6,560	6,560	
ALGONQUIN AFT-E DEMAND	Dth	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	78,000
VARIABLE														
PURCHASE VOLUMES	Dth	204,203	212,683	212,683	192,101	212,683	204,203	211,010	204,203	211,010	211,010	204,203	211,010	2,491,003
TETCO USAGE ELA TO M3	Dth	196,791	203,474	203,474	183,783	203,474	196,791	203,350	196,791	203,350	203,350	196,791	203,350	2,394,769
ALGONQUIN USAGE	Dth	195,000	201,500	201,500	182,000	201,500	195,000	201,500	195,000	201,500	201,500	195,000	201,500	2,372,500
DELIVERED VOLUMES	Dth	195,000	201,500	201,500	182,000	201,500	195,000	201,500	195,000	201,500	201,500	195,000	201,500	2,372,500
FUEL USE %														
TETCO ELA TO M3 FUEL	%	3.63%	4.33%	4.33%	4.33%	4.33%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	
ALGONQUIN AFT-E FUEL	%	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
TRANSPORTATION COST														
FIXED														
TETCO ELA SUPPLY ZONE DEMAND	$	$15,579	$15,589	$15,589	$15,589	$15,589	$15,579	$15,579	$15,579	$15,579	$15,579	$15,579	$15,579	$186,989
TETCO M1 TO M3 DEMAND	$	$69,861	$69,903	$69,903	$69,903	$69,903	$69,861	$69,861	$69,861	$69,861	$69,861	$69,861	$69,861	$838,498
ALGONQUIN AFT-E DEMAND	$	$42,727	$42,727	$42,727	$42,727	$42,727	$42,727	$42,727	$42,727	$42,727	$42,727	$42,727	$42,727	$512,725
VARIABLE														
TETCO USAGE ELA TO M3	$	$12,339	$12,758	$12,758	$11,523	$12,758	$12,339	$12,750	$12,339	$12,750	$12,750	$12,339	$12,750	$150,152
ALGONQUIN USAGE	$	$2,438	$2,519	$2,519	$2,275	$2,519	$2,438	$2,519	$2,438	$2,519	$2,519	$2,438	$2,519	$29,656
PURCHASE COST	$	$575,854	$634,220	$652,936	$590,517	$644,216	$549,715	$562,553	$547,673	$572,682	$573,526	$550,124	$574,159	$7,028,176
TOTAL FIXED	$	$128,167	$128,219	$128,219	$128,219	$128,219	$128,167	$128,167	$128,167	$128,167	$128,167	$128,167	$128,167	$1,538,212
TOTAL VARIABLE	$	$590,630	$649,497	$668,213	$604,316	$659,493	$564,492	$577,822	$562,450	$587,950	$588,794	$564,900	$589,427	$7,207,984
DELIVERED VOLUMES AT NYMEX	$	$569,400	$620,419	$639,360	$575,848	$628,479	$545,025	$557,954	$545,025	$568,432	$569,439	$547,170	$569,439	$6,935,988
NET NON-GAS VARIABLE COST	$	$21,230	$29,078	$28,853	$28,468	$31,014	$19,467	$19,868	$17,425	$19,519	$19,355	$17,730	$19,988	$271,997
AVERAGE NON-GAS VARIABLE COST	$/Dth	**$0.1089**	**$0.1443**	**$0.1432**	**$0.1564**	**$0.1539**	**$0.0998**	**$0.0986**	**$0.0894**	**$0.0969**	**$0.0961**	**$0.0909**	**$0.0992**	**$0.1146**
AVERAGE FIXED COST	$/Dth													$19.7207
AVERAGE COST AT 100% LOAD FACTOR	$/Dth													**$0.6484**
TOTAL PATH COST	$/Dth													**$0.7630**

REDACTED

Gas Year 2017 - 2018
MAUMEE/DOWNINGTON COLUMBIA PATH TO CITY GATE
CITY GATE DELIVERED MDQ = 3,000

		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
UNIT PRICING														
FIXED														
COLUMBIA FTS DEMAND	$/Dth	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	
ALGONQUIN DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	
VARIABLE														
COLUMBIA USAGE	$/Dth	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
ALGONQUIN USAGE	$/Dth	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
07/31/2017 NYMEX	$/Dth	$2.9200	$3.0790	$3.1730	$3.1640	$3.1190	$2.7950	$2.7690	$2.7950	$2.8210	$2.8260	$2.8060	$2.8260	
SUPPLY BASIS MAUMEE	$/Dth	($0.2010)	($0.2050)	($0.2200)	($0.2020)	($0.2100)	($0.1700)	($0.1830)	($0.2270)	($0.2430)	($0.2950)	($0.3600)	($0.3050)	
SUPPLY BASIS DOWNINGTON	$/Dth	$0.1000	$0.6700	$2.7370	$2.7200	$0.4700	($0.1500)	($0.2830)	($0.2870)	($0.0700)	($0.0920)	($0.4100)	($0.3250)	
NET COST AFTER BASIS MAUMEE	$/Dth	$2.7190	$2.8740	$2.9530	$2.9620	$2.9090	$2.6250	$2.5860	$2.5680	$2.5780	$2.5310	$2.4460	$2.5210	
NET COST AFTER BASIS DOWNINGTON	$/Dth	$3.0200	$3.7490	$5.9100	$5.8840	$3.5890	$2.6450	$2.4860	$2.5080	$2.7510	$2.7340	$2.3960	$2.5010	
BILLING UNITS														
FIXED														
COLUMBIA FTS DEMAND	Dth	3,044	3,044	3,044	3,044	3,044	3,044	3,044	3,044	3,044	3,044	3,044	3,044	
ALGONQUIN DEMAND	Dth	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	36,000
VARIABLE														
PURCHASE VOLUMES MAUMEE	Dth	76,788	78,259	78,259	70,686	78,259	75,689	78,212	75,689	78,212	78,212	75,689	78,212	
PURCHASE VOLUMES DOWNINGTON	Dth	15,358	15,652	15,652	14,137	15,652	15,138	15,642	15,138	15,642	15,642	15,138	15,642	
COLUMBIA USAGE	Dth	90,827	93,911	93,911	84,823	93,911	90,827	93,854	90,827	93,854	93,854	90,827	93,854	
ALGONQUIN USAGE	Dth	90,000	93,000	93,000	84,000	93,000	90,000	93,000	90,000	93,000	93,000	90,000	93,000	
DELIVERED VOLUMES MAUMEE	Dth	75,000	77,500	77,500	70,000	77,500	75,000	77,500	75,000	77,500	77,500	75,000	77,500	912,500
DELIVERED VOLUMES DOWNINGTON	Dth	15,000	15,500	15,500	14,000	15,500	15,000	15,500	15,000	15,500	15,500	15,000	15,500	182,500
FUEL USE %														
COLUMBIA FUEL	%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
ALGONQUIN AFT-E FUEL	%	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
TRANSPORTATION COST														
FIXED														
COLUMBIA FTS DEMAND	$	$19,750	$19,750	$19,750	$19,750	$19,750	$19,750	$19,750	$19,750	$19,750	$19,750	$19,750	$19,750	$236,998
ALGONQUIN DEMAND	$	$19,720	$19,720	$19,720	$19,720	$19,720	$19,720	$19,720	$19,720	$19,720	$19,720	$19,720	$19,720	$236,642
VARIABLE														
COLUMBIA USAGE	$	$2,035	$2,104	$2,104	$1,900	$2,104	$2,035	$2,102	$2,035	$2,102	$2,102	$2,035	$2,102	$24,758
ALGONQUIN USAGE	$	$1,125	$1,163	$1,163	$1,050	$1,163	$1,125	$1,163	$1,125	$1,163	$1,163	$1,125	$1,163	$13,688
PURCHASE COST MAUMEE	$	$208,788	$224,917	$231,099	$209,371	$227,656	$198,683	$202,256	$194,369	$201,630	$197,954	$185,135	$197,172	$2,479,028
PURCHASE COST DOWNINGTON	$	$46,380	$58,679	$92,502	$83,183	$56,174	$40,039	$38,887	$37,965	$43,032	$42,766	$36,270	$39,122	$615,000
TOTAL FIXED	$	$39,470	$39,470	$39,470	$39,470	$39,470	$39,470	$39,470	$39,470	$39,470	$39,470	$39,470	$39,470	$473,640
TOTAL VARIABLE	$	$258,327	$286,861	$326,868	$295,504	$287,096	$241,882	$244,407	$235,494	$247,927	$243,985	$224,564	$239,558	$3,132,473
DELIVERED VOLUMES AT NYMEX	$	$262,800	$286,347	$295,089	$265,776	$290,067	$251,550	$257,517	$251,550	$262,353	$262,818	$252,540	$262,818	$3,201,225
NET NON-GAS VARIABLE COST	$	-$4,473	$514	$31,779	$29,728	-$2,971	-$9,668	-$13,110	-$16,056	-$14,426	-$18,833	-$27,976	-$23,260	-$68,752
AVERAGE NON-GAS VARIABLE COST	$/Dth	**-$0.0497**	**$0.0055**	**$0.3417**	**$0.3539**	**-$0.0319**	**-$0.1074**	**-$0.1410**	**-$0.1784**	**-$0.1551**	**-$0.2025**	**-$0.3108**	**-$0.2501**	**-$0.0628**
AVERAGE FIXED COST	$/Dth													$13.1567
AVERAGE COST AT 100% LOAD FACTOR	$/Dth													**$0.4325**
TOTAL PATH COST	$/Dth													**$0.3698**

REDACTED

Gas Year 2017 - 2018
TENNESSEE ZONE 1 TO CITY GATE
CITY GATE DELIVERED MDQ = 9,500

		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
UNIT PRICING														
FIXED														
TENNESSEE ZONE 1 TO 6 DEMAND	$/Dth	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	
VARIABLE														
TENNESSE ZONE 1 TO 6 USAGE	$/Dth	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	
07/31/2017 NYMEX	$/Dth	$2.9200	$3.0790	$3.1730	$3.1640	$3.1190	$2.7950	$2.7690	$2.7950	$2.8210	$2.8260	$2.8060	$2.8260	
SUPPLY AREA BASIS	$/Dth	($0.1420)	($0.0950)	($0.1290)	($0.0600)	($0.0970)	($0.1150)	($0.1270)	($0.1330)	($0.1050)	($0.0840)	($0.1020)	($0.1000)	
NET COST AFTER BASIS	$/Dth	$2.7780	$2.9840	$3.0440	$3.1040	$3.0220	$2.6800	$2.6420	$2.6620	$2.7160	$2.7420	$2.7040	$2.7260	
BILLING UNITS														
FIXED														
TENNESSEE ZONE 1 TO 6 DEMAND	Dth	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	114,000
VARIABLE														
PURCHASE VOLUMES	Dth	295,950	305,815	305,815	276,220	305,815	295,950	305,815	295,950	305,815	305,815	295,950	305,815	3,600,727
TENNESSE ZONE 1 TO 6 USAGE	Dth	285,000	294,500	294,500	266,000	294,500	285,000	294,500	285,000	294,500	294,500	285,000	294,500	3,467,500
DELIVERED VOLUMES	Dth	285,000	294,500	294,500	266,000	294,500	285,000	294,500	285,000	294,500	294,500	285,000	294,500	3,467,500
FUEL USE %														
TENNESSEE ZONE 1 TO 6 FUEL	%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	
TRANSPORTATION COST														
FIXED														
TENNESSEE ZONE 1 TO 6 DEMAND	$	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$2,442,005
VARIABLE														
TENNESSE ZONE 1 TO 6 USAGE	$	$86,042	$88,910	$88,910	$80,305	$88,910	$86,042	$88,910	$86,042	$88,910	$88,910	$86,042	$88,910	$1,046,838
PURCHASE COST	$	$822,150	$912,552	$930,901	$857,387	$924,173	$793,146	$807,964	$787,819	$830,594	$838,545	$800,249	$833,652	$10,139,134
TOTAL FIXED	$	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$203,500	$2,442,005
TOTAL VARIABLE	$	$908,191	$1,001,462	$1,019,811	$937,693	$1,013,083	$879,188	$896,873	$873,861	$919,504	$927,455	$886,291	$922,562	$11,185,972
DELIVERED VOLUMES AT NYMEX	$	$832,200	$906,766	$934,449	$841,624	$918,546	$796,575	$815,471	$796,575	$830,785	$832,257	$799,710	$832,257	$10,137,213
NET NON-GAS VARIABLE COST	$	$75,991	$94,696	$85,362	$96,069	$94,537	$82,613	$81,403	$77,286	$88,719	$95,198	$86,581	$90,305	$1,048,760
AVERAGE NON-GAS VARIABLE COST	$/Dth	**$0.2666**	**$0.3216**	**$0.2899**	**$0.3612**	**$0.3210**	**$0.2899**	**$0.2764**	**$0.2712**	**$0.3013**	**$0.3233**	**$0.3038**	**$0.3066**	**$0.3025**
AVERAGE FIXED COST	$/Dth													$21.4211
AVERAGE COST AT 100% LOAD FACTOR	$/Dth													**$0.7043**
TOTAL PATH COST	$/Dth													**$1.0067**

REDACTED

Gas Year 2017 - 2018
ALGONQUIN LAMBERTVILLE TO CITY GATE
CITY GATE DELIVERED MDQ = 2,714

		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
UNIT PRICING														
FIXED														
ALGONQUIN AFT-E DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	
VARIABLE														
ALGONQUIN AFT-E USAGE	$/Dth	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
07/31/2017 NYMEX	$/Dth	$2.9200	$3.0790	$3.1730	$3.1640	$3.1190	$2.7950	$2.7690	$2.7950	$2.8210	$2.8260	$2.8060	$2.8260	
SUPPLY AREA BASIS	$/Dth	($0.4300)	$0.2950	$2.0930	$1.9950	$0.1200	($0.2950)	($0.4000)	($0.4130)	($0.3700)	($0.3800)	($0.5250)	($0.4500)	
NET COST AFTER BASIS	$/Dth	$2.4900	$3.3740	$5.2660	$5.1590	$3.2390	$2.5000	$2.3690	$2.3820	$2.4510	$2.4460	$2.2810	$2.3760	
BILLING UNITS														
FIXED														
ALGONQUIN AFT-E DEMAND	Dth	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	2,714	32,568
VARIABLE														
PURCHASE VOLUMES	Dth	82,168	84,958	84,958	76,736	84,958	82,168	84,907	82,168	84,907	84,907	82,168	84,907	999,908
ALGONQUIN AFT-E USAGE	Dth	81,420	84,134	84,134	75,992	84,134	81,420	84,134	81,420	84,134	84,134	81,420	84,134	990,610
DELIVERED VOLUMES	Dth	81,420	84,134	84,134	75,992	84,134	81,420	84,134	81,420	84,134	84,134	81,420	84,134	990,610
FUEL USE %														
ALGONQUIN AFT-E FUEL	%	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
TRANSPORTATION COST														
FIXED														
ALGONQUIN AFT-E DEMAND	$	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$214,082
VARIABLE														
ALGONQUIN AFT-E USAGE	$	$1,018	$1,052	$1,052	$950	$1,052	$1,018	$1,052	$1,018	$1,052	$1,052	$1,018	$1,052	$12,383
PURCHASE COST	$	$204,598	$286,649	$447,389	$395,883	$275,179	$205,419	$201,144	$195,724	$208,106	$207,682	$187,425	$201,738	$3,016,935
TOTAL FIXED	$	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$17,840	$214,082
TOTAL VARIABLE	$	$205,615	$287,700	$448,441	$396,833	$276,231	$206,437	$202,196	$196,741	$209,158	$208,733	$188,442	$202,790	$3,029,318
DELIVERED VOLUMES AT NYMEX	$	$237,746	$259,049	$266,957	$240,439	$262,414	$227,569	$232,967	$227,569	$237,342	$237,763	$228,465	$237,763	$2,896,042
NET NON-GAS VARIABLE COST	$	-$32,131	$28,652	$181,484	$156,394	$13,817	-$21,132	-$30,772	-$30,828	-$28,184	-$29,029	-$40,022	-$34,973	$133,276
AVERAGE NON-GAS VARIABLE COST	$/Dth	**-$0.3946**	**$0.3405**	**$2.1571**	**$2.0580**	**$0.1642**	**-$0.2595**	**-$0.3657**	**-$0.3786**	**-$0.3350**	**-$0.3450**	**-$0.4916**	**-$0.4157**	**$0.1345**
AVERAGE FIXED COST	$/Dth													$6.5734
AVERAGE COST AT 100% LOAD FACTOR	$/Dth													**$0.2161**
TOTAL PATH COST	$/Dth													**$0.3507**

REDACTED

Gas Year 2017 - 2018
TENNESSEE DRACUT TO CITY GATE
CITY GATE DELIVERED MDQ = 1,000

		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
UNIT PRICING														
FIXED														
TENNESSEE ZONE 6 TO 6 DEMAND	$/Dth	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	
VARIABLE														
TENNESSE ZONE 6 TO 6 USAGE	$/Dth	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	
07/31/2017 NYMEX	$/Dth	$2.9200	$3.0790	$3.1730	$3.1640	$3.1190	$2.7950	$2.7690	$2.7950	$2.8210	$2.8260	$2.8060	$2.8260	
SUPPLY AREA BASIS	$/Dth	$0.6720	$3.3100	$5.7250	$5.7220	$2.3150	$0.4470	$0.0970	$0.1730	$0.2150	$0.1650	($0.0320)	$0.0550	
NET COST AFTER BASIS	$/Dth	$3.5920	$6.3890	$8.8980	$8.8860	$5.4340	$3.2420	$2.8660	$2.9680	$3.0360	$2.9910	$2.7740	$2.8810	
BILLING UNITS														
FIXED														
TENNESSEE ZONE 6 TO 6 DEMAND	Dth	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
VARIABLE														
PURCHASE VOLUMES	Dth	30,003	31,003	31,003	28,003	31,003	30,003	31,003	30,003	31,003	31,003	30,003	31,003	365,037
TENNESSE ZONE 6 TO 6 USAGE	Dth	30,000	31,000	31,000	28,000	31,000	30,000	31,000	30,000	31,000	31,000	30,000	31,000	365,000
DELIVERED VOLUMES	Dth	30,000	31,000	31,000	28,000	31,000	30,000	31,000	30,000	31,000	31,000	30,000	31,000	365,000
FUEL USE %														
TENNESSEE ZONE 6 TO 6 FUEL	%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	
TRANSPORTATION COST														
FIXED														
TENNESSEE ZONE 6 TO 6 DEMAND	$	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$56,936
VARIABLE														
TENNESSE ZONE 6 TO 6 USAGE	$	$1,080	$1,116	$1,116	$1,008	$1,116	$1,080	$1,116	$1,080	$1,116	$1,116	$1,080	$1,116	$13,140
PURCHASE COST	$	$107,771	$198,079	$275,866	$248,833	$168,471	$97,270	$88,855	$89,049	$94,125	$92,730	$83,228	$89,320	$1,633,596
TOTAL FIXED	$	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$56,936
TOTAL VARIABLE	$	$108,851	$199,195	$276,982	$249,841	$169,587	$98,350	$89,971	$90,129	$95,241	$93,846	$84,308	$90,436	$1,646,736
DELIVERED VOLUMES AT NYMEX	$	$87,600	$95,449	$98,363	$88,592	$96,689	$83,850	$85,839	$83,850	$87,451	$87,606	$84,180	$87,606	$1,067,075
NET NON-GAS VARIABLE COST	$	$21,251	$103,746	$178,619	$161,249	$72,898	$14,500	$4,132	$6,279	$7,790	$6,240	$128	$2,830	$579,661
AVERAGE NON-GAS VARIABLE COST	$/Dth	**$0.7084**	**$3.3466**	**$5.7619**	**$5.7589**	**$2.3515**	**$0.4833**	**$0.1333**	**$0.2093**	**$0.2513**	**$0.2013**	**$0.0043**	**$0.0913**	**$1.5881**
AVERAGE FIXED COST	$/Dth													$4.7447
AVERAGE COST AT 100% LOAD FACTOR	$/Dth													**$0.1560**
TOTAL PATH COST	$/Dth													**$1.7441**

REDACTED

CALCULATION OF SYSTEM WEIGHTED AVERAGE DEMAND COSTS **2017 - 2018 GCR PROJECTED PRICES**

August 1, 2017 **UNIT PRICES**

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
PIPELINE FIXED COST UNIT PRICES $/Dth													
ALGONQUIN AFT-E/AFT-1 DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734
ALGONQUIN AFT-3 DEMAND	$/Dth	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734	$6.5734
ALGONQUIN AFT-ES/1S DEMAND	$/Dth	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294	$2.6294
ALGONQUIN AIM DEMAND	$/Dth	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862	$41.7862
ALGONQUIN AFT-CLMS DEMAND (Crary St)	$/Dth	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375	$2.7375
COLUMBIA FTS DEMAND	$/Dth	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890	$6.4890
DOMINION FTNN DEMAND	$/Dth	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671	$4.1671
IROQUOIS DEMAND	$/Dth	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.9982	$5.5997	$5.5997
NATIONAL FUEL DEMAND	$/Dth	$3.8067	$3.8067	$3.8067	$3.8067	$3.8067	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
TENNESSEE FT-A DEMAND ZONE 0 TO 6	$/Dth	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216
TENNESSEE FT-A DEMAND ZONE 1 TO 6	$/Dth	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216	$21.5216
TENNESSEE FT-A DEMAND ZONE 0 TO 6	$/Dth	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211
TENNESSEE FT-A DEMAND ZONE 1 TO 6	$/Dth	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211	$21.4211
TENNESSEE FT-A DEMAND ZONE 0 TO 6 CXN	$/Dth	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575	$22.7575
TENNESSEE FT-A DEMAND DRACUT	$/Dth	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447	$4.7447
TENNESSEE FT-A DEMAND ZONE 5 TO 6	$/Dth	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563	$7.1563
TEXAS EASTERN CDS STX DEMAND M3	$/Dth	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060	$6.8060
TEXAS EASTERN CDS WLA DEMAND M3	$/Dth	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260	$2.8260
TEXAS EASTERN CDS ELA DEMAND M3	$/Dth	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750	$2.3750
TEXAS EASTERN CDS ETX DEMAND M3	$/Dth	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890	$2.1890
TEXAS EASTERN CDS 1-3 DEMAND M3	$/Dth	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500	$10.6500
TEXAS EASTERN FTS DEMAND	$/Dth	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500	$5.3500
TEXAS EASTERN SCT STX DEMAND M3	$/Dth	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220	$2.7220
TEXAS EASTERN SCT WLA DEMAND M3	$/Dth	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310	$1.1310
TEXAS EASTERN SCT ELA DEMAND M3	$/Dth	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500	$0.9500
TEXAS EASTERN SCT ETX DEMAND M3	$/Dth	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760	$0.8760
TEXAS EASTERN SCT 1-3 DEMAND M3	$/Dth	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600	$4.2600
TRANSCANADA DEMAND	$/Dth	$13.4616	$13.9103	$13.9103	$12.5642	$13.9103	$13.4616	$13.9103	$13.4616	$13.9103	$13.9103	$13.4616	$13.9103
TRANSCO DEMAND ZONE 6 TO 6	$/Dth	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305	$0.1305
UNION DEMAND	$/Dth	$2.8170	$2.9109	$2.9109	$2.6292	$2.9109	$2.8170	$2.9109	$2.8170	$2.9109	$2.9109	$2.8170	$2.9109

REDACTED

CALCULATION OF SYSTEM WEIGHTED AVERAGE DEMAND COSTS **2017 - 2018 GCR PROJECTED PRICES**

August 1, 2017

		UNIT PRICES											
		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
PIPELINE FIXED COST BILLING UNITS													
ALGONQUIN AFT-E/AFT-1 DEMAND	DTH	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285	87,285
ALGONQUIN AFT-3 DEMAND	DTH	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063	11,063
ALGONQUIN AFT-ES/1S DEMAND	DTH	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079	4,079
ALGONQUIN AIM DEMAND	DTH	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
ALGONQUIN AFT-CLMS DEMAND (Crary St)	DTH	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000	96,000
COLUMBIA FTS DEMAND	DTH	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455	47,455
DOMINION FTNN DEMAND	DTH	537	537	537	537	537	537	537	537	537	537	537	537
IROQUOIS DEMAND	DTH	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012
NATIONAL FUEL DEMAND	DTH	1,177	1,177	1,177	1,177	1,177	0	0	0	0	0	0	0
TENNESSEE FT-A DEMAND ZONE 0 TO 6	DTH	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
TENNESSEE FT-A DEMAND ZONE 1 TO 6	DTH	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500
TENNESSEE FT-A DEMAND ZONE 0 TO 6	DTH	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022	6,022
TENNESSEE FT-A DEMAND ZONE 1 TO 6	DTH	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313	13,313
TENNESSEE FT-A DEMAND ZONE 0 TO 6 CXN	DTH	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600	11,600
TENNESSEE FT-A DEMAND DRACUT	DTH	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000	39,000
TENNESSEE FT-A DEMAND ZONE 5 TO 6	DTH	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067	2,067
TEXAS EASTERN CDS STX DEMAND M3	DTH	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844	13,844
TEXAS EASTERN CDS WLA DEMAND M3	DTH	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716	15,716
TEXAS EASTERN CDS ELA DEMAND M3	DTH	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758	23,758
TEXAS EASTERN CDS ETX DEMAND M3	DTH	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995	7,995
TEXAS EASTERN CDS 1-3 DEMAND M3	DTH	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934	45,934
TEXAS EASTERN FTS DEMAND	DTH	537	537	537	537	537	537	537	537	537	537	537	537
TEXAS EASTERN SCT STX DEMAND M3	DTH	571	571	571	571	571	571	571	571	571	571	571	571
TEXAS EASTERN SCT WLA DEMAND M3	DTH	648	648	648	648	648	648	648	648	648	648	648	648
TEXAS EASTERN SCT ELA DEMAND M3	DTH	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183	1,183
TEXAS EASTERN SCT ETX DEMAND M3	DTH	329	329	329	329	329	329	329	329	329	329	329	329
TEXAS EASTERN SCT 1-3 DEMAND M3	DTH	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099	2,099
TRANSCANADA DEMAND	DTH	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012	1,012
TRANSCO DEMAND ZONE 6 TO 6	DTH	37,200	38,440	38,440	34,720	38,440	37,200	38,440	37,200	38,440	38,440	37,200	38,440
UNION DEMAND	DTH	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025	1,025
PIPELINE ALLOCATED TO PEAKING													
TENNESSEE FT-A DEMAND DRACUT	DTH	(28,500)	(28,500)	(28,500)	(28,500)	(28,500)	(28,500)	(28,500)	(28,500)	(28,500)	(28,500)	(28,500)	(28,500)

REDACTED

CALCULATION OF SYSTEM WEIGHTED AVERAGE DEMAND COSTS **2017 - 2018 GCR PROJECTED PRICES**

August 1, 2017

		UNIT PRICES												
		Nov-17	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	
PIPELINE FIXED COST DOLLARS														
ALGONQUIN AFT-E/AFT-1 DEMAND	$	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	$573,759	
ALGONQUIN AFT-3 DEMAND	$	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	$72,722	
ALGONQUIN AFT-ES/1S DEMAND	$	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	$10,725	
ALGONQUIN AIM DEMAND	$	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	
ALGONQUIN AFT-CLMS DEMAND (Crary St)	$	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	
COLUMBIA FTS DEMAND	$	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	
DOMINION FTNN DEMAND	$	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	
IROQUOIS DEMAND	$	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$5,667	$5,667	
NATIONAL FUEL DEMAND	$	$4,480	$4,480	$4,480	$4,480	$4,480	$0	$0	$0	$0	$0	$0	$0	
TENNESSEE FT-A DEMAND ZONE 0 TO 6	$	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	$75,326	
TENNESSEE FT-A DEMAND ZONE 1 TO 6	$	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	$139,890	
TENNESSEE FT-A DEMAND ZONE 0 TO 6	$	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	$128,998	
TENNESSEE FT-A DEMAND ZONE 1 TO 6	$	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	$285,179	
TENNESSEE FT-A DEMAND ZONE 0 TO 6 CXN	$	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	$263,987	
TENNESSEE FT-A DEMAND DRACUT	$	$185,043	$185,043	$185,043	$185,043	$185,043	$185,043	$185,043	$185,043	$185,043	$185,043	$185,043	$185,043	
TENNESSEE FT-A DEMAND ZONE 5 TO 6	$	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	$14,792	
TEXAS EASTERN CDS STX DEMAND M3	$	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	$94,222	
TEXAS EASTERN CDS WLA DEMAND M3	$	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	$44,413	
TEXAS EASTERN CDS ELA DEMAND M3	$	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	$56,425	
TEXAS EASTERN CDS ETX DEMAND M3	$	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	$17,501	
TEXAS EASTERN CDS 1-3 DEMAND M3	$	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	$489,197	
TEXAS EASTERN FTS DEMAND	$	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	$2,873	
TEXAS EASTERN SCT STX DEMAND M3	$	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	$1,554	
TEXAS EASTERN SCT WLA DEMAND M3	$	$733	$733	$733	$733	$733	$733	$733	$733	$733	$733	$733	$733	
TEXAS EASTERN SCT ELA DEMAND M3	$	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	$1,124	
TEXAS EASTERN SCT ETX DEMAND M3	$	$288	$288	$288	$288	$288	$288	$288	$288	$288	$288	$288	$288	
TEXAS EASTERN SCT 1-3 DEMAND M3	$	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	$8,942	
TRANSCANADA DEMAND	$	$13,623	$14,077	$14,077	$12,715	$14,077	$13,623	$14,077	$13,623	$14,077	$14,077	$13,623	$14,077	
TRANSCO DEMAND ZONE 6 TO 6	$	$4,854	$5,016	$5,016	$4,530	$5,016	$4,854	$5,016	$4,854	$5,016	$5,016	$4,854	$5,016	
UNION DEMAND	$	$2,887	$2,984	$2,984	$2,695	$2,984	$2,887	$2,984	$2,887	$2,984	$2,984	$2,887	$2,984	
WESTERLY LATERAL (Yankee)	$	[redacted]												
	$													
PIPELINE ALLOCATED TO PEAKING														
TENNESSEE FT-A DEMAND DRACUT	$	($135,224)	($135,224)	($135,224)	($135,224)	($135,224)	($135,224)	($135,224)	($135,224)	($135,224)	($135,224)	($135,224)	($135,224)	
		($135,224)	**($135,224)**	**($135,224)**	**($135,224)**	**($135,224)**	**($135,224)**	**($135,224)**	**($135,224)**	**($135,224)**	**($135,224)**	**($135,224)**	**($135,224)**	**($1,622,687)**
TOTAL PIPELINE FIXED DEMAND CHARGES		[redacted]												
TOTAL DEMAND UNITS DTH		5,202,570	5,404,819	5,404,819	4,881,772	5,404,819	5,202,570	5,347,159	4,719,210	4,876,517	4,876,517	4,719,210	5,347,159	61,387,141
100% LOAD FACTOR UNIT VALUE $/DTH														[redacted]
Average rate per unit per month														
AVERAGE SYSTEM VARIABLE UNIT VALUE $/DTH														
Marketer Reconciliation 2015/16														($36,098)
Marketer Demand Units DTH		1,006,410	1,039,957	1,039,957	939,316	1,039,957	1,006,410	1,039,957	1,006,410	1,039,957	1,039,957	1,006,410	1,039,957	12,244,655
100% LOAD FACTOR UNIT VALUE $/DTH														**-0.0029**
TOTAL AVERAGE SYSTEM UNIT VALUE $/DTH														**$ 0.6682**

REDACTED

National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV 2017	DEC 2017	JAN 2018	FEB 2018	MAR 2018	APR 2018	MAY 2018	JUN 2018	JUL 2018	AUG 2018	SEP 2018	OCT 2018	TOTAL
Forecast Demand													
RI Sales GCR	2,286,401	3,945,192	4,943,244	4,417,284	3,736,115	2,175,893	1,268,260	808,643	647,353	593,008	639,818	1,177,517	26,638,728
Total Demand	2,286,401	3,945,192	4,943,244	4,417,284	3,736,115	2,175,893	1,268,260	808,643	647,353	593,008	639,818	1,177,517	26,638,728
Storage Injections													
TENNESSEE FSMA 501	0	0	0	0	0	0	122,389	118,441	0	15,409	118,441	122,389	497,067
DOMINION GSS 300170	0	0	0	0	0	0	0	0	0	0	67,306	36,578	103,884
DOMINION GSS 300168	0	0	0	0	0	0	26,019	25,179	11,663	21,856	21,151	21,856	127,723
DOMINION GSS 300171	0	0	0	0	0	11,012	31,885	30,856	29,910	26,783	25,919	26,783	183,150
DOMINION GSSTE 600045	0	0	0	0	0	0	0	0	21,580	63,172	188,947	100,490	374,188
TETCO FSS-1 400515	0	0	0	0	0	1,734	8,964	8,675	8,964	8,964	8,675	8,964	54,941
TETCO SS-1 400221	0	0	0	0	0	35,783	188,124	182,056	188,124	188,124	182,056	188,124	1,152,392
TETCO SS-1 400185	0	0	0	0	0	1,612	8,225	7,960	8,225	8,225	7,960	8,225	50,430
DOMINION GSS 300169	0	0	0	0	0	8,626	34,803	33,680	32,647	29,234	28,291	29,234	196,516
COLUMBIA FSS 9630	0	0	0	0	0	3,818	40,791	40,791	34,673	40,791	26,514	14,277	201,656
TENNESSEE 62918	0	0	0	0	0	0	42,454	41,084	0	36,623	41,084	42,454	203,700
Total Storage Injections	0	0	0	0	0	62,585	503,653	488,722	335,786	439,182	716,344	599,374	3,145,647
LNG PROVIDENCE	0	0	0	0	0	58,815	147,562	141,626	49,504	21,620	141,028	22,964	583,119
LNG EXETER	0	0	0	0	0	87,891	4,034	5,080	2,092	5,976	5,677	4,631	115,381
Total LNG Injections	0	0	0	0	0	146,706	151,596	146,706	51,596	27,596	146,706	27,596	698,500
Total Injections	0	0	0	0	0	209,291	655,249	635,428	387,382	466,778	863,049	626,970	3,844,147

Delivered Firm Sales Supply

.	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	GCR Total
Sources of Supply													
TENNESSEE ZONE 0 CXN	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE ZONE 0	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE ZONE 1	0	0	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE ZONE 4 CXN	348,000	359,600	359,600	336,400	359,600	348,000	333,804	256,881	95,795	138,861	291,827	359,600	3,587,968
TENNESSEE ZONE 4	372,136	561,797	456,709	408,980	326,648	153,627	0	0	0	0	0	171,448	2,451,346
TENNESSEE NIAGARA	2,134	0	5,335	3,201	0	32,010	33,077	32,010	33,077	33,077	32,010	33,077	239,008
TENNESSEE DRACUT	0	14,431	23,557	144,527	38,778	0	0	0	0	0	0	0	221,294
TETCO ELA	0	0	0	0	0	0	0	0	0	0	0	0	0
TETCO ETX	0	0	0	0	0	0	0	0	0	0	0	0	0
TETCO STX	0	0	0	0	0	0	0	0	0	0	0	0	0
TETCO WLA	0	0	0	0	0	0	0	0	0	0	0	0	0
TETCO M2	774,107	798,268	798,167	720,958	798,475	776,776	272,001	775,935	801,546	801,412	441,848	801,270	8,560,762
TETCO M3 DELIVERED	477,660	104,703	188,368	205,193	149,868	376,031	666,208	163,113	0	0	546,497	375,849	3,253,490
COLUMBIA MAUMEE	72,184	878,862	691,706	616,913	367,033	49,885	0	0	0	0	0	0	2,676,583
COLUMBIA BROADRUN	0	308,519	308,519	278,662	265,930	9,958	0	0	0	0	0	0	1,171,588
COLUMBIA EAGLE	14,378	29,290	94,579	84,510	78,468	30,887	40,791	40,791	34,673	40,791	26,514	14,277	529,950
COLUMBIA DOWNINGTOWN	0	10,643	111,019	100,198	111,987	2,063	0	0	0	0	0	0	335,911
TRANSCO LEIDY	36,470	38,067	38,067	34,383	38,067	11,414	2,232	2,160	2,232	2,232	2,160	2,232	209,716
TETCO LEIDY	7,164	16,486	16,486	14,890	16,486	4,257	0	0	0	0	0	0	75,767
TETCO to B&W SCT	0	49,945	60,372	51,168	28,654	0	0	0	0	0	0	0	190,140
ALGONQUIN - AIM	116,496	165,795	491,644	439,006	408,990	377,851	402,200	11,169	0	0	0	3,321	2,416,471
ANE II-DAWN-TENN-WADDY	0	30,824	30,806	27,835	0	0	5,784	0	0	0	0	0	95,249
GAZ METRO LNG Refill	0	0	0	0	0	26,706	27,596	26,706	27,596	27,596	26,706	27,596	190,500
GDF SUEZ LNG Refill	0	0	0	0	0	120,000	124,000	120,000	24,000	0	120,000	0	508,000
PORTABLE LNG	0	0	0	0	0	0	0	0	0	0	0	0	0

REDACTED

National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
Non LNG Liquid take	2,220,728	3,367,230	3,674,933	3,466,825	2,988,984	2,172,760	1,756,097	1,282,059	967,322	1,016,374	1,340,855	1,761,074	26,015,241
LNG Liquid take	0	0	0	0	0	146,706	151,596	146,706	51,596	27,596	146,706	27,596	698,500
Total take	2,220,728	3,367,230	3,674,933	3,466,825	2,988,984	2,319,466	1,907,693	1,428,765	1,018,918	1,043,969	1,487,561	1,788,670	26,713,741
Storage Withdrawals													
TENNESSEE FSMA 501	0	16,077	162,881	157,995	151,063	3,435	0	0	0	0	0	0	491,450
DOMINION GSS 300170	0	16,034	43,945	36,771	3,958	0	0	0	0	0	0	0	100,707
DOMINION GSS 300168	738	22,597	30,387	36,554	36,003	0	0	0	0	0	0	0	126,279
DOMINION GSS 300171	0	30,764	68,291	57,610	22,368	0	0	0	0	0	0	0	179,033
DOMINION GSSTE 600045	49,628	69,626	69,626	62,888	69,626	43,248	0	0	0	0	0	0	364,642
TETCO FSS-1 400515	0	13,651	13,651	13,651	12,013	0	0	0	0	0	0	0	52,968
TETCO SS-1 400221	0	283,662	288,039	288,039	257,851	0	0	0	0	0	0	0	1,117,591
TETCO SS-1 400185	0	12,605	12,605	12,605	11,092	0	0	0	0	0	0	0	48,907
DOMINION GSS 300169	0	44,009	54,033	49,328	43,446	0	0	0	0	0	0	0	190,815
COLUMBIA FSS 9630	0	44,787	71,211	52,666	24,450	3,729	0	0	0	0	0	0	196,842
TENNESSEE 62918	0	8,334	61,187	32,433	99,444	0	0	0	0	0	0	0	201,398
LNG PROVIDENCE	10,824	11,185	362,848	109,863	11,185	10,824	11,185	10,824	11,185	11,185	10,824	11,185	583,119
LNG EXETER	4,482	4,631	29,607	40,057	4,631	4,482	4,631	4,482	4,631	4,631	4,482	4,631	115,381
Total Withdrawal Delivered	65,673	577,962	1,268,312	950,459	747,131	65,718	15,817	15,306	15,817	15,817	15,306	15,817	3,769,133
Total Storage Withdrawal	50,366	562,145	875,857	800,540	731,314	50,411	0	0	0	0	0	0	3,070,633
Total Peaking Withdrawal	15,306	15,817	392,455	149,919	15,817	15,306	15,817	15,306	15,817	15,817	15,306	15,817	698,500
Total Supply	**2,286,401**	**3,945,192**	**4,943,244**	**4,417,284**	**3,736,115**	**2,238,478**	**1,771,913**	**1,297,365**	**983,139**	**1,032,190**	**1,356,162**	**1,776,891**	**29,784,374**
Storage withdrawals at Storage Facilty													
TENNESSEE FSMA 501	0	16,261	164,743	159,800	152,789	3,474	0	0	0	0	0	0	497,067
DOMINION GSS 300170	0	16,540	45,331	37,931	4,082	0	0	0	0	0	0	0	103,884
DOMINION GSS 300168	746	22,855	30,735	36,972	36,415	0	0	0	0	0	0	0	127,723
DOMINION GSS 300171	0	31,471	69,861	58,935	22,883	0	0	0	0	0	0	0	183,150
DOMINION GSSTE 600045	50,934	71,465	71,465	64,549	71,465	44,310	0	0	0	0	0	0	374,188
TETCO FSS-1 400515	0	14,160	14,160	14,160	12,461	0	0	0	0	0	0	0	54,941
TETCO SS-1 400221	0	292,495	297,008	297,008	265,881	0	0	0	0	0	0	0	1,152,392
TETCO SS-1 400185	0	12,998	12,998	12,998	11,438	0	0	0	0	0	0	0	50,430
DOMINION GSS 300169	0	45,324	55,647	50,802	44,744	0	0	0	0	0	0	0	196,516
COLUMBIA FSS 9630	0	45,883	72,953	53,954	25,048	3,818	0	0	0	0	0	0	201,656
TENNESSEE 62918	0	8,429	61,887	32,804	100,580	0	0	0	0	0	0	0	203,700
	51,680	577,880	896,787	819,912	747,786	51,601	0	0	0	0	0	0	3,145,646

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National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
07/31/2017 NYMEX	**$2.920**	**$3.079**	**$3.173**	**$3.164**	**$3.119**	**$2.795**	**$2.769**	**$2.795**	**$2.821**	**$2.826**	**$2.806**	**$2.826**	
TENNESSEE ZONE 0 CONNEXION													
Basis	($0.198)	($0.183)	($0.195)	($0.188)	($0.163)	($0.173)	($0.167)	($0.157)	($0.166)	($0.165)	($0.166)	($0.178)	
Usage to Zn 6	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	$0.0425	
Fuel to Zn 6	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	
Total Delivered	$2.8853	$3.0670	$3.1527	$3.1506	$3.1297	$2.7809	$2.7600	$2.7976	$2.8153	$2.8216	$2.7997	$2.8080	
TENNESSEE ZONE 0													
Basis	($0.198)	($0.183)	($0.195)	($0.188)	($0.163)	($0.173)	($0.167)	($0.157)	($0.166)	($0.165)	($0.166)	($0.178)	
Usage to Zn 6	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	$0.3464	
Fuel to Zn 6	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	
Total Delivered	$3.1892	$3.3709	$3.4566	$3.4545	$3.4336	$3.0848	$3.0639	$3.1015	$3.1192	$3.1255	$3.1036	$3.1119	
TENNESSEE ZONE 1													
Basis	($0.142)	($0.095)	($0.129)	($0.060)	($0.097)	($0.115)	($0.127)	($0.133)	($0.105)	($0.084)	($0.102)	($0.100)	
Usage to Zn 6	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	$0.3019	
Fuel to Zn 6	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	
Total Delivered	$3.1866	$3.4006	$3.4629	$3.5252	$3.4400	$3.0849	$3.0454	$3.0662	$3.1223	$3.1493	$3.1098	$3.1326	
TENNESSEE ZONE 4 CONNEXION													
Basis	($0.789)	($0.637)	($0.523)	($0.484)	($0.506)	($0.353)	($0.386)	($0.399)	($0.400)	($0.406)	($0.462)	($0.458)	
Usage to Zn 6	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	$0.0115	
Fuel to Zn 6	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	
Total Delivered	$2.1669	$2.4814	$2.6918	$2.7221	$2.6544	$2.4814	$2.4217	$2.4349	$2.4602	$2.4592	$2.3823	$2.4066	
TENNESSEE ZONE 4													
Basis	($0.789)	($0.637)	($0.523)	($0.484)	($0.506)	($0.353)	($0.386)	($0.399)	($0.400)	($0.406)	($0.462)	($0.458)	
Usage to Zn 6	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	$0.1165	
Fuel to Zn 6	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	
Total Delivered	$2.2719	$2.5864	$2.7968	$2.8271	$2.7594	$2.5864	$2.5267	$2.5399	$2.5652	$2.5642	$2.4873	$2.5116	
TENNESSEE NIAGARA													
Basis	($0.416)	($0.397)	($0.401)	($0.394)	($0.400)	($0.580)	($0.731)	($0.751)	($0.780)	($0.801)	($0.821)	($0.791)	
Tenn usage	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	
Tenn Fuel	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	
Total Delivered	$2.6124	$2.7919	$2.8826	$2.8806	$2.8292	$2.3211	$2.1426	$2.1487	$2.1457	$2.1295	$2.0892	$2.1396	
TENNESSEE DRACUT													
Basis	$0.390	$3.177	$5.575	$5.578	$2.267	$0.065	-$0.095	-$0.025	$0.123	$0.122	-$0.228	-$0.200	
Usage	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	$0.0360	
Fuel	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	
Total Delivered	$3.3463	$6.2926	$8.7849	$8.7789	$5.4225	$2.8963	$2.7103	$2.8063	$2.9803	$2.9843	$2.6143	$2.6623	
TETCO ELA													
Basis	($0.100)	($0.097)	($0.103)	($0.090)	($0.090)	($0.103)	($0.103)	($0.113)	($0.107)	($0.108)	($0.112)	($0.105)	
Usage to M3	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel to M3	3.63%	4.33%	4.33%	4.33%	4.33%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$3.0289	$3.2233	$3.3162	$3.3204	$3.2729	$2.8948	$2.8676	$2.8844	$2.9179	$2.9221	$2.8969	$2.9252	
TETCO ETX													
Basis	($0.135)	($0.197)	($0.183)	($0.159)	($0.144)	($0.077)	($0.102)	($0.113)	($0.069)	($0.062)	($0.078)	($0.059)	
Usage to M3	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	$0.0627	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel to M3	3.63%	4.33%	4.33%	4.33%	4.33%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	3.63%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.9922	$3.1178	$3.2318	$3.2476	$3.2159	$2.9221	$2.8686	$2.8844	$2.9577	$2.9702	$2.9325	$2.9734	

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National Grid
2017 Estimated GCR
Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TETCO STX													
Basis	($0.095)	($0.147)	($0.143)	($0.142)	($0.117)	($0.047)	($0.065)	($0.070)	($0.023)	($0.025)	($0.038)	($0.032)	
Usage to M3	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	$0.0677	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel to M3	3.73%	4.47%	4.47%	4.47%	4.47%	3.73%	3.73%	3.73%	3.73%	3.73%	3.73%	3.73%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$3.0422	$3.1801	$3.2837	$3.2753	$3.2541	$2.9615	$2.9154	$2.9374	$3.0139	$3.0171	$2.9825	$3.0097	
TETCO WLA													
Basis	($0.088)	($0.097)	($0.105)	($0.092)	($0.093)	($0.080)	($0.080)	($0.090)	($0.085)	($0.085)	($0.090)	($0.082)	
Usage to M3	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	$0.0645	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel to M3	3.59%	4.29%	4.29%	4.29%	4.29%	3.59%	3.59%	3.59%	3.59%	3.59%	3.59%	3.59%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$3.0420	$3.2238	$3.3145	$3.3188	$3.2702	$2.9196	$2.8923	$2.9091	$2.9415	$2.9468	$2.9206	$2.9499	
TETCO M2													
Basis	($0.715)	($0.535)	($0.355)	($0.330)	($0.365)	($0.457)	($0.465)	($0.515)	($0.560)	($0.565)	($0.618)	($0.600)	
Usage on Tetco	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Tetco	2.07%	2.49%	2.49%	2.49%	2.49%	2.07%	2.07%	2.07%	2.07%	2.07%	2.07%	2.07%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.3310	$2.6933	$2.9770	$2.9936	$2.9107	$2.4681	$2.4330	$2.4083	$2.3887	$2.3887	$2.3135	$2.3526	
TETCO M3 DELIVERED													
Basis	($0.430)	$0.295	$2.093	$1.995	$0.120	($0.295)	($0.400)	($0.413)	($0.370)	($0.380)	($0.525)	($0.450)	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5254	$3.4195	$5.3301	$5.2220	$3.2832	$2.5355	$2.4033	$2.4164	$2.4860	$2.4810	$2.3144	$2.4103	
COLUMBIA MAUMEE													
Basis	($0.201)	($0.205)	($0.220)	($0.202)	($0.210)	($0.170)	($0.183)	($0.227)	($0.243)	($0.295)	($0.360)	($0.305)	
Usage on Columbia	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Columbia	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.8189	$2.9794	$3.0604	$3.0696	$3.0153	$2.7227	$2.6828	$2.6643	$2.6746	$2.6265	$2.5394	$2.6162	
COLUMBIA BROADRUN													
Basis	($0.201)	($0.205)	($0.220)	($0.202)	($0.210)	($0.170)	($0.183)	($0.227)	($0.243)	($0.295)	($0.360)	($0.305)	
Usage on Columbia	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Columbia	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.8189	$2.9794	$3.0604	$3.0696	$3.0153	$2.7227	$2.6828	$2.6643	$2.6746	$2.6265	$2.5394	$2.6162	
COLUMBIA EAGLE													
Basis	($0.430)	$0.295	$2.093	$1.995	$0.120	($0.295)	($0.400)	($0.413)	($0.370)	($0.380)	($0.525)	($0.450)	
Usage on Columbia	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Columbia	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5845	$3.4917	$5.4300	$5.3203	$3.3534	$2.5947	$2.4606	$2.4739	$2.5445	$2.5394	$2.3705	$2.4678	

REDACTED

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Normal Weather Scenario

Natural Gas Supply VS. Requirements

Units: DTH

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
COLUMBIA DOWNINGTOWN													
Basis	$0.100	$0.670	$2.737	$2.720	$0.470	($0.150)	($0.283)	($0.287)	($0.070)	($0.092)	($0.410)	($0.325)	
Usage on Columbia	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	$0.0224	
Usage on AGT	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
Fuel on Columbia	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	1.432%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$3.1271	$3.8758	$6.0897	$6.0631	$3.7119	$2.7432	$2.5804	$2.6029	$2.8517	$2.8343	$2.4882	$2.5957	
TRANSCO LEIDY													
Basis	($0.808)	($0.693)	($0.567)	($0.520)	($0.533)	($0.515)	($0.603)	($0.600)	($0.623)	($0.608)	($0.662)	($0.635)	
Usage on Transco	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	$0.0073	
Usage on AGT	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	
Fuel on Transco	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Delivered to Algonquin	$2.1280	$2.4031	$2.6240	$2.6622	$2.6039	$2.2967	$2.1822	$2.2113	$2.2143	$2.2344	$2.1601	$2.2073	
Total Delivered	$2.3761	$2.6553	$2.8783	$2.9169	$2.8580	$2.5464	$2.4308	$2.4602	$2.4633	$2.4835	$2.4086	$2.4562	
TETCO LEIDY													
Basis	($0.680)	($0.684)	($0.404)	($0.558)	($0.610)	($0.527)	($0.559)	($0.462)	($0.465)	($0.466)	($0.573)	($0.485)	
Usage on Tetco	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	
Usage on AGT	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	
Fuel on Tetco	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5200	$2.6800	$3.0626	$2.8958	$2.7966	$2.5487	$2.4894	$2.6151	$2.6386	$2.6427	$2.5129	$2.6233	
TETCO to B&W SCT													
Basis	($0.715)	($0.535)	($0.355)	($0.330)	($0.365)	($0.457)	($0.465)	($0.515)	($0.560)	($0.565)	($0.618)	($0.600)	
Usage on Tetco	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	$0.0458	
Usage on AGT	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	$0.2286	
Fuel to M3	2.07%	2.49%	2.49%	2.49%	2.49%	2.07%	2.07%	2.07%	2.07%	2.07%	2.07%	2.07%	
Fuel on AGT	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5471	$2.9094	$3.1931	$3.2097	$3.1268	$2.6842	$2.6491	$2.6244	$2.6048	$2.6048	$2.5296	$2.5687	
ALGONQUIN - AIM													
Basis	($0.430)	$0.295	$2.093	$1.995	$0.120	($0.295)	($0.400)	($0.413)	($0.370)	($0.380)	($0.525)	($0.450)	
AGT Usage	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	$0.0013	
AGT Fuel	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	
Total Delivered	$2.5142	$3.4083	$5.3189	$5.2108	$3.2720	$2.5243	$2.3921	$2.4052	$2.4748	$2.4698	$2.3032	$2.3991	
DAWN TO TENNESSEE - WADDY													
Basis	$0.135	$0.155	$0.150	$0.158	$0.153	$0.041	($0.369)	($0.209)	($0.293)	($0.294)	($0.399)	($0.221)	
Union usage	$0.0075	$0.0075	$0.0075	$0.0075	$0.0075	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	
Iroquois usage	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	$0.0047	
Tenn usage	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	$0.0880	
Fuel on Union	0.88%	1.00%	1.15%	1.09%	1.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Fuel on TransCanada	0.93%	0.55%	1.12%	0.39%	0.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Fuel on Iroquois	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	
Fuel on Tenn	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	
Total Delivered	$3.2400	$3.4151	$3.5312	$3.5030	$3.4602	$2.9548	$2.5148	$2.7025	$2.6439	$2.6480	$2.5218	$2.7216	

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Total Delivered to the City Gate Gas Supply Costs

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TENNESSEE ZONE 0 CONNEXION													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$2.885	$3.067	$3.153	$3.151	$3.130	$2.781	$2.760	$2.798	$2.815	$2.822	$2.800	$2.808	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TENNESSEE ZONE 0													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.189	$3.371	$3.457	$3.454	$3.434	$3.085	$3.064	$3.101	$3.119	$3.126	$3.104	$3.112	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TENNESSEE ZONE 1													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.187	$3.401	$3.463	$3.525	$3.440	$3.085	$3.045	$3.066	$3.122	$3.149	$3.110	$3.133	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TENNESSEE ZONE 4 CONNEXION													
Delivered MMBtu	348,000	359,600	359,600	336,400	359,600	348,000	333,804	256,881	95,795	138,861	291,827	359,600	
Delivered Price	$2.1669	$2.4814	$2.6918	$2.7221	$2.6544	$2.4814	$2.4217	$2.4349	$2.4602	$2.4592	$2.3823	$2.4066	
Total Delivered Cost	$754,066	$892,315	$967,967	$915,725	$954,509	$863,531	$808,384	$625,476	$235,672	$341,482	$695,216	$865,400	
TENNESSEE ZONE 4													
Delivered MMBtu	372,136	561,797	456,709	408,980	326,648	153,627	0	0	0	0	0	171,448	
Delivered Price	$2.2719	$2.5864	$2.7968	$2.8271	$2.7594	$2.5864	$2.5267	$2.5399	$2.5652	$2.5642	$2.4873	$2.5116	
Total Delivered Cost	$845,439	$1,453,037	$1,277,317	$1,156,241	$901,341	$397,343	$0	$0	$0	$0	$0	$430,604	
TENNESSEE NIAGARA													
Delivered MMBtu	2,134	0	5,335	3,201	0	32,010	33,077	32,010	33,077	33,077	32,010	33,077	
Delivered Price	$2.6124	$2.7919	$2.8826	$2.8806	$2.8292	$2.3211	$2.1426	$2.1487	$2.1457	$2.1295	$2.0892	$2.1396	
Total Delivered Cost	$5,575	$0	$15,379	$9,221	$0	$74,298	$70,872	$68,780	$70,972	$70,439	$66,876	$70,772	
TENNESSEE DRACUT													
Delivered MMBtu	0	14,431	23,557	144,527	38,778	0	0	0	0	0	0	0	
Delivered Price	$3.35	$6.29	$8.78	$8.78	$5.42	$2.90	$2.71	$2.81	$2.98	$2.98	$2.61	$2.66	
Total Delivered Cost	$0	$90,810	$206,945	$1,268,786	$210,276	$0	$0	$0	$0	$0	$0	$0	
TETCO ELA													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.0289	$3.2233	$3.3162	$3.3204	$3.2729	$2.8948	$2.8676	$2.8844	$2.9179	$2.9221	$2.8969	$2.9252	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	

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	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TETCO ETX													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$2.9922	$3.1178	$3.2318	$3.2476	$3.2159	$2.9221	$2.8686	$2.8844	$2.9577	$2.9702	$2.9325	$2.9734	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TETCO STX													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.042	$3.180	$3.284	$3.275	$3.254	$2.962	$2.915	$2.937	$3.014	$3.017	$2.982	$3.010	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TETCO WLA													
Delivered MMBtu	0	0	0	0	0	0	0	0	0	0	0	0	
Delivered Price	$3.0420	$3.2238	$3.3145	$3.3188	$3.2702	$2.9196	$2.8923	$2.9091	$2.9415	$2.9468	$2.9206	$2.9499	
Total Delivered Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
TETCO M2													
Delivered MMBtu	774,107	798,268	798,167	720,958	798,475	776,776	272,001	775,935	801,546	801,412	441,848	801,270	
Delivered Price	$2.3310	$2.6933	$2.9770	$2.9936	$2.9107	$2.4681	$2.4330	$2.4083	$2.3887	$2.3887	$2.3135	$2.3526	
Total Delivered Cost	$1,804,450	$2,149,949	$2,376,156	$2,158,248	$2,324,151	$1,917,135	$661,786	$1,868,680	$1,914,664	$1,914,345	$1,022,209	$1,885,105	
TETCO M3 DELIVERED													
Delivered MMBtu	477,660	104,703	188,368	205,193	149,868	376,031	666,208	163,113	0	0	546,497	375,849	
Delivered Price	$2.5254	$3.4195	$5.3301	$5.2220	$3.2832	$2.5355	$2.4033	$2.4164	$2.4860	$2.4810	$2.3144	$2.4103	
Total Delivered Cost	$1,206,267	$358,037	$1,004,019	$1,071,522	$492,051	$953,412	$1,601,067	$394,143	$0	$0	$1,264,838	$905,916	
COLUMBIA MAUMEE													
Delivered MMBtu	72,184	878,862	691,706	616,913	367,033	49,885	0	0	0	0	0	0	
Delivered Price	$2.8189	$2.9794	$3.0604	$3.0696	$3.0153	$2.7227	$2.6828	$2.6643	$2.6746	$2.6265	$2.5394	$2.6162	
Total Delivered Cost	$203,482	$2,618,510	$2,116,872	$1,893,668	$1,106,712	$135,821	$0	$0	$0	$0	$0	$0	
COLUMBIA BROADRUN													
Delivered MMBtu	0	308,519	308,519	278,662	265,930	9,958	0	0	0	0	0	0	
Delivered Price	$2.8189	$2.9794	$3.0604	$3.0696	$3.0153	$2.7227	$2.6828	$2.6643	$2.6746	$2.6265	$2.5394	$2.6162	
Total Delivered Cost	$0	$919,211	$944,180	$855,377	$801,857	$27,113	$0	$0	$0	$0	$0	$0	
COLUMBIA EAGLE													
Delivered MMBtu	14,378	29,290	94,579	84,510	78,468	30,887	40,791	40,791	34,673	40,791	26,514	14,277	
Delivered Price	$2.5845	$3.4917	$5.4300	$5.3203	$3.3534	$2.5947	$2.4606	$2.4739	$2.5445	$2.5394	$2.3705	$2.4678	
Total Delivered Cost	$37,160	$102,271	$513,560	$449,622	$263,130	$80,143	$100,371	$100,914	$88,226	$103,587	$62,852	$35,232	
COLUMBIA DOWNINGTOWN													
Delivered MMBtu	0	10,643	111,019	100,198	111,987	2,063	0	0	0	0	0	0	
Delivered Price	$3.1271	$3.8758	$6.0897	$6.0631	$3.7119	$2.7432	$2.5804	$2.6029	$2.8517	$2.8343	$2.4882	$2.5957	
Total Delivered Cost	$0	$41,251	$676,075	$607,508	$415,687	$5,660	$0	$0	$0	$0	$0	$0	

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	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
TRANSCO LEIDY													
Delivered MMBtu	36,470	38,067	38,067	34,383	38,067	11,414	2,232	2,160	2,232	2,232	2,160	2,232	
Delivered Price	$2.3761	$2.6553	$2.8783	$2.9169	$2.8580	$2.5464	$2.4308	$2.4602	$2.4633	$2.4835	$2.4086	$2.4562	
Total Delivered Cost	$86,657	$101,078	$109,569	$100,291	$108,797	$29,063	$5,426	$5,314	$5,498	$5,543	$5,202	$5,482	
TETCO LEIDY													
Delivered MMBtu	7,164	16,486	16,486	14,890	16,486	4,257	0	0	0	0	0	0	
Delivered Price	$2.5200	$2.6800	$3.0626	$2.8958	$2.7966	$2.5487	$2.4894	$2.6151	$2.6386	$2.6427	$2.5129	$2.6233	
Total Delivered Cost	$18,052	$44,181	$50,488	$43,119	$46,103	$10,849	$0	$0	$0	$0	$0	$0	
TETCO to B&W SCT													
Delivered MMBtu	0	49,945	60,372	51,168	28,654	0	0	0	0	0	0	0	
Delivered Price	$2.5471	$2.9094	$3.1931	$3.2097	$3.1268	$2.6842	$2.6491	$2.6244	$2.6048	$2.6048	$2.5296	$2.5687	
Total Delivered Cost	$0	$145,309	$192,774	$164,234	$89,597	$0	$0	$0	$0	$0	$0	$0	
ALGONQUIN - AIM													
Delivered MMBtu	116,496	165,795	491,644	439,006	408,990	377,851	402,200	11,169	0	0	0	3,321	
Delivered Price	$2.5142	$3.4083	$5.3189	$5.2108	$3.2720	$2.5243	$2.3921	$2.4052	$2.4748	$2.4698	$2.3032	$2.3991	
Total Delivered Cost	$292,889	$565,086	$2,614,995	$2,287,588	$1,338,226	$953,794	$962,085	$26,862	$0	$0	$0	$7,967	
DAWN TO TENNESSEE - WADDY													
Delivered MMBtu	0	30,824	30,806	27,835	0	0	5,784	0	0	0	0	0	
Delivered Price	$3.2400	$3.4151	$3.5312	$3.5030	$3.4602	$2.9548	$2.5148	$2.7025	$2.6439	$2.6480	$2.5218	$2.7216	
Total Delivered Cost	$0	$105,267	$108,782	$97,505	$0	$0	$14,545	$0	$0	$0	$0	$0	

	NOV	**DEC**	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**TOTAL**
Total Pipeline Costs	$5,254,037	$9,586,311	$13,175,077	$13,078,655	$9,052,438	$5,448,163	$4,224,537	$3,090,168	$2,315,033	$2,435,396	$3,117,193	$4,206,480	$74,983,488
Total Pipeline Volumes	2,220,728	3,367,230	3,674,933	3,466,825	2,988,984	2,172,760	1,756,097	1,282,059	967,322	1,016,374	1,340,855	1,761,074	26,015,241
WACOG	$2.3659	$2.8469	$3.5851	$3.7725	$3.0286	$2.5075	$2.4056	$2.4103	$2.3932	$2.3962	$2.3248	$2.3886	$2.8823
Injections	0	0	0	0	0	62,585	503,653	488,722	335,786	439,182	716,344	599,374	3,145,647
Value at WACOG	$0	$0	$0	$0	$0	$156,931	$1,211,609	$1,177,976	$803,616	$1,052,352	$1,665,341	$1,431,657	$7,499,482
Pipeline Costs less Injections	$5,254,037	$9,586,311	$13,175,077	$13,078,655	$9,052,438	$5,291,232	$3,012,928	$1,912,193	$1,511,417	$1,383,044	$1,451,852	$2,774,823	$67,484,007
Pipeline Volumes less injections	2,220,728	3,367,230	3,674,933	3,466,825	2,988,984	2,110,175	1,252,443	793,337	631,536	577,191	624,512	1,161,700	22,869,594
NYMEX cost of Supplies	$6,484,527	$10,367,701	$11,660,561	$10,969,034	$9,322,641	$5,897,939	$3,468,016	$2,217,376	$1,781,564	$1,631,142	$1,752,379	$3,282,965	$68,835,845
Non-gas cost of delivered supplies													**-$0.0591**

Attachment NGC-5

Attachment NGC-5

FT-2 Operational Parameters

Operational Parameters
Non-Daily Metered FT-2 Storage and Peaking Resources

The following Operational Parameters are pursuant to RIPUC NG-GAS No. 101, Section 6, Schedule C:

Effective Period: November 1, 2017 through October 31, 2018

Underground Storage:

Maximum Inventory Level at any time is 100% of MSQ-U
Injections are not allowed.
Minimum Inventory Levels:

November 1	95%
November 15	93%
December 1	91%
December 15	83%
January 1	73%
January 15	63%
February 1	51%
February 15	41%
March 1	31%
March 15	24%
April 1	15%

Peaking Inventory:

Inventory Level allocated on November 1, 2017 = MSQ-P
Injections are not allowed.
Minimum Inventory Levels:

November 1	97%
January 1	92%
February 1	45%
March 1	25%
April 1	23%

MSQ-U Maximum Storage Quantity - Underground
MDQ-U Maximum Daily Quantity - Underground
MSQ-P Maximum Storage Quantity - Peaking
MDQ-P Maximum Daily Quantity - Peaking

Attachment NGC-6

Attachment NGC-6
FT-2 Storage Variable Costs

FT-2 Storage Variable Costs 2017-2018

SLF - Weighted Average Loss Factor on Storage Withdrawals

Storage	Withdrawals	Fuel %	Fuel Vol.	Fuel Avg.
TENN 501	497,067	0.00%	0	
GSS 300170	103,884	0.00%	0	
GSS 300168	127,723	0.00%	0	
GSS 300171	183,150	0.00%	0	
GSS-TE 600045	374,188	0.00%	0	
TETCO 400515	54,941	0.63%	346	
TETCO 400221	1,152,392	2.07%	23,855	
TETCO 400185	50,430	2.07%	1,044	
GSS 300169	196,516	0.00%	0	
COL FSS 9630	201,656	0.00%	0	
TENN 62918	203,700	0.00%	0	
	3,145,646		25,245	**0.8025%**

WWCC - Weighted Average Commodity Cost of Storage Withdrawals

Storage	Withdrawals	Unit Cost	Cost	Average
TENN 501	497,067	$0.0087	$4,324	
GSS 300170	103,884	$0.0161	$1,673	
GSS 300168	127,723	$0.0161	$2,056	
GSS 300171	183,150	$0.0161	$2,949	
GSS-TE 600045	374,188	$0.0210	$7,858	
TETCO 400515	54,595	$0.0307	$1,676	
TETCO 400221	1,128,537	$0.0471	$53,154	
TETCO 400185	49,386	$0.0471	$2,326	
GSS 300169	196,516	$0.0161	$3,164	
COL FSS 9630	201,656	$0.0153	$3,085	
TENN 62918	203,700	$0.0087	$1,772	
	3,120,402		$84,038	**$0.0269**

PLF - Weighted Average Loss Factor on Pipeline Contracts Used to Deliver Storage Withdrawals

Storage	Transported		Fuel %		Fuel Vol.	Fuel Avg.
TENN 501	497,067			1.13%	5,617	
GSS 300170	103,884		1.95%	1.13%	3,177	
GSS 300168	127,723			1.13%	1,443	
GSS 300171	183,150		1.29%	0.97%	4,116	
GSS-TE 600045	374,188		1.50%	0.97%	9,188	
TETCO 400515	54,595		2.11%	0.97%	1,673	
TETCO 400221	1,128,537			0.97%	10,947	
TETCO 400185	49,386			0.97%	479	
GSS 300169	196,516	1.95%	0.00%	0.97%	5,701	
COL FSS 9630	201,656		1.432%	0.97%	4,816	
TENN 62918	203,700			1.13%	2,302	
	3,120,402				49,458	**1.5850%**

PCC - Weighted Average Commodity Cost on Pipeline Contracts Used to Deliver Storage Withdrawals

Storage	Withdrawals		Unit Cost		Cost	Average
TENN 501	491,450			$0.1165	$57,254	
GSS 300170	100,707		$0.0164	$0.1165	$13,384	
GSS 300168	126,279			$0.1165	$14,712	
GSS 300171	179,033		$0.0013	$0.0125	$2,471	
GSS-TE 600045	364,642		$0.0013	$0.0125	$5,032	
TETCO 400515	52,968		$0.0353	$0.0125	$2,531	
TETCO 400221	1,117,591			$0.0125	$13,970	
TETCO 400185	48,907			$0.0125	$611	
GSS 300169	190,815	$0.0164	$0.0013	$0.0125	$5,763	
COL FSS 9630	196,842		$0.0222	$0.0125	$6,830	
TENN 62918	201,398			$0.1165	$23,463	
	3,070,633				$146,020	**$0.0476**

Testimony of
Ann E. Leary

SUPPLEMENTAL DIRECT TESTIMONY

OF

ANN E. LEARY

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I. Introduction

Q. Please state your name and business address.

A. My name is Ann E. Leary. My business address is 40 Sylvan Road, Waltham, Massachusetts 02451.

Q. Have you previously submitted testimony in this Docket?

A. Yes. I submitted my direct testimony on September 1, 2017.

Q. What is the purpose of your supplemental testimony?

A. The purpose of this supplemental testimony is to update the proposed GCR factors to become effective on November 1, 2017 for the following: (1) The Narragansett Electric Company's (the Company) market area hedge proposal for the 2017-18 winter season, submitted on September 20, 2017 in RIPUC Docket No. 4647; and (2) the Company's proposal for addressing design day requirements in the area of the decommissioned Cumberland liquefied natural gas (LNG) site, as presented by the pre-filed direct testimony of Company Witness Stephen P. Greco.

Q. How are your supplemental testimony and attachments organized?

A. My supplemental testimony briefly addresses the impact on the proposed GCR factors resulting from the two supplemental items. For ease of reference, this supplemental filing includes all attachments I provided in the Company's September 1, 2017 Gas Cost

Recovery (GCR) filing, and identifies those that have been updated with "S" after the attachment number as follows:

Attachment AEL-1S	Gas Cost Recovery Factors
Attachment AEL-2	Annual GCR Reconciliation Filing
Attachment AEL-3S	Projected Gas Cost Balances
Attachment AEL-4S	Bill Impact Analysis
Attachment AEL-5S	FT-2 Demand Rate
Attachment AEL-6	FT-2 Capacity Allocator Percentages
Attachment AEL-7	Marketer Reconciliation

II. <u>GCR Rate Updates</u>

Q. What is the impact on the proposed GCR factors as a result of the two updates the Company is proposing in this supplemental filing?

A. As presented in the supplemental attachments of Company Witness Nancy G. Culliford, the Company has reflected its market area hedge proposal in the determination of forecasted gas supply costs for the upcoming GCR period, November 2017 through October 2018. In addition, Ms. Culliford's supplemental attachments also reflect the Company's update to the estimated cost of gas purchased to reflect the additional gas the Company will need to purchase to meet design day requirements in the Cumberland area as a result of decommissioning the Cumberland LNG tank, as presented in Mr. Greco's testimony. The impact of the updated forecast as presented by Ms. Culliford is an

increase in annual forecasted gas supply costs of $1.27 million from the forecast filed on September 1, 2017.

The impact of the Company's proposal regarding Cumberland LNG, as presented by Mr. Greco, is an increase in forecasted gas supply cost of $637,000.

Therefore, the Company's supplemental GCR filing presents an increase of $1.9 million from the forecasted gas supply costs filed on September 1, 2017.

Overall, the proposed GCR factors in Attachment AEL-1S are intended to recover approximately $133.4 million in net costs over the period November 2017 through October 2018.

Q. Does the Company's update change the proposed FT-2 Marketer Demand rate and the Storage and Peaking Charge for FT-1 customers filed on September 1, 2017?

A. Yes. The updated FT-2 Marketer Demand rate, as well as the updated Storage and Peaking charge for FT-1 firm transportation customers eligible for TSS service, has increased slightly, as presented in Attachment AEL-5S.

Q. Did the Company make any other changes to its GCR filing submitted on September 1, 2017?

A. Yes. In preparing its response to the Division of Public Utilities and Carriers' data request 2-5, the Company identified an error in the Design Day detail provided in Attachment AEL-1, page 12, submitted September 1, 2017. Specifically, there were offsetting errors in the amount of 71,166 dekatherms for Underground Storage and LNG Design Day Sendout volumes. The Company has corrected the Underground Storage and LNG Design Day Sendout volumes in this supplemental filing. The correction of this error has no impact on the proposed GCR factors presented in this proceeding.

Q. Regarding the proposal related to Cumberland presented in Mr. Greco's testimony, how does the Company currently recover supply-related LNG operation and maintenance (O&M) costs in the GCR?

A. Typically, the amount of supply-related local production and storage costs recovered through the GCR are determined in a general rate case and are fixed at that level until a new level is determined in a subsequent general rate case and that amount becomes allowed for recovery in the GCR. This is set forth in the GCR Clause in the Company's tariff, RIPUC NG-GAS No. 101, at Section 2, Schedule A, Sheets 3-4, paragraph 3.1. As such, the Company is requesting a waiver of the definition of supply-related local production and storage costs in paragraph 3.1 of the GCR Clause to allow for an upward adjustment to the current production and storage costs recovered through the GCR of $637,000. The Company proposes that the costs attributed to the LNG proposal presented in Mr. Greco's testimony be fixed at the amount requested in this year's GCR

filing until the Company implements a long-term solution or until the Company no longer utilizes the proposed temporary solution. If the PUC approves this request, such amount will be an add-on in future GCR filings to the amount of production and storage costs determined through a rate case.

III. Bill Impacts

Q. What is the updated bill impact of the proposed DAC and updated GCR factors on customer bills as compared to bills over the past year?

A. An average residential heating customer using 846 therms per year will experience a total annual bill of $1,229.20 based on the proposed GCR and DAC factors, which is an increase of $44.85, or 3.8%, from last year's bills. This increase of $44.85 is comprised of an increase of $47.63 as a result of the proposed GCR factors; a decrease of $4.13 as a result of the proposed DAC factors, for which the Company submitted a supplemental filing on September 1, 2017 in Docket No. 4708; and an increase of $1.35 in Gross Earnings Tax. A summary of annual bill impacts for customers with various levels of usage is provided in Attachment AEL-4 S. The annual bill impact has increased from the initial September 1, 2017 GCR filing by $6.39, or 0.5%.

IV. Conclusion

Q. Does this conclude your testimony?

A. Yes.

Attachments of
Ann E. Leary

Attachments of Ann E. Leary

Attachment AEL-1S	Gas Cost Recovery Factors
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Attachment AEL-6	FT-2 Capacity Allocator Percentages
Attachment AEL-7	Marketer Reconciliation

Attachment AEL-1S

REDACTED

Attachment AEL-1S
Gas Cost Recovery Factors

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Factors Effective November 1, 2017

Line No.	Description (a)	Source Reference (b)	Source Line # (c)	High Load[1] (d)	Low Load[2] (e)	FT-2 Mkter[3] (f)
(1)	Fixed Cost Factor - $/dktherm	AEL-1S pg 2	Line (18)	$1.1616	$1.5891	
(2)	Variable Cost Factor -$/dktherm	AEL-1S pg 3	Line (13)	$3.5711	$3.5711	
(3)	Total Gas Cost Recovery Charge- $/dktherm	(1) + (2)		$4.7327	$5.1602	
(4)	Uncollectible %	Docket 4323		3.18%	3.18%	
(5)	Total GCR Charge adjusted for Uncollectibles- $/dkdtherm	(3) / [1 - (4)]		$4.8881	$5.3296	
(6)	**GCR Charge on a per therm basis**	(5) / 10		**$0.4888**	**$0.5329**	
(7)	Current rate effective 11/01/16* - $/therm			$0.4525	$0.4766	
(8)	Increase- $/therm	(6) - (7)		$0.0363	$0.0563	
(9)	Percent Increase	(8) / (7)		8.0%	11.8%	

* GCR rates approved with the Revised GCR filing per Docket 4647 filed on October 03, 2016

[1] Includes: Residential Non Heating, Large High Load and Extra Large High Load

[2] Includes: Residential Heating, Small C&I, Medium C&I, Large Low Load, Extra Large Low Load

[3] See AEL-5S for calculation of FT-2 rate

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Fixed Cost Calculation ($ per Dth)

Line No.	Description	Source Reference	Source Line #	Amount	High Load Factor Total	Low Load Factor Total
	(a)	(b)	(c)	(d)	(e)	(f)
(1)	Fixed Costs (net of Cap Rel to marketers)	AEL-1S pg 4	Line (61)	$53,292,283		
	Less:					
(2)	NGPMP Customer Benefit	NGC-1S		($10,900,000)		
(3)	Interruptible Costs			$0		
(4)	FT-2 Storage Demand Costs	AEL-5S pg 2	Line (25)	($1,851,536)		
(5)	Systeme Pressure to DAC	AEL-1S pg 4 * 75.77%	Line (16)	($2,389,483)		
(6)	Refunds			$0		
(7)	Total Credits	sum[(2):(6)]		($15,141,019)		
	Plus:					
(8)	Supply Related LNG O&M Costs	Dkt 4323	Compliance Attachment 6 Schedule MDL-3-GAS	$575,581		
(9)	Portable LNG Storage Cost			$637,000		
(10)	Working Capital Requirement	AEL-1S pg 8	Line (16)	$293,378		
(11)	Deferred Fixed Cost Under-recovered	AEL-1S pg 6	Line (17)	$1,169,851		
(12)	Reconciliation Amount from Fixed costs- Marketers	AEL-7 pg 2	Line (50)	$36,098		
(13)	Total Additions	sum[(8):(12)]		$2,711,908		
(14)	Total Fixed Costs	(1) + (7) + (13)		$40,863,173		
(15)	Design Winter Sales Percentage	AEL-1S pg 12	Lines (10) & (11)		2.12%	97.88%
(16)	Allocated Supply Fixed Costs	(14) x (15)			$867,130	$39,996,042
(17)	Sales (Dt) Nov 2017 - Oct 2018	AEL-1S pg 11	Line (9)	25,914,442	746,482	25,167,960
(18)	**Fixed Factor**	(16) / (17)			**$1.1616**	**$1.5891**

Line (17)
Col (e): AEL-1S, page 11, Sum of Lines (1), (6), (8)
Col (f): AEL-1S, page 11, Sum of Lines (2):(5) and (7)

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Variable Cost Calculation ($ per Dth)

Line No.	Description	Source Reference	Source Line #	Amount
	(a)	(b)	(c)	(d)
(1)	Variable Costs, excluding Refunds	AEL-1S pg 5	Line (90) - Line (84)	$78,329,672
	Less:			
(2)	Non-Firm Sales			$0
(3)	Refunds	AEL-1S pg 5	Line (84)	$0
(4)	Total Credits	sum [(2):(3)]		$0
	Plus:			
(5)	Working Capital	AEL-1S pg 8	Line (32)	$451,453
(6)	Deferred Variable Cost Under-recovered	AEL-1S pg 6	Line (35)	$12,377,603
(7)	Supply Related LNG O&M	Docket 4323	Compliance Attachment 6 Schedule MDL-3-GAS	$572,694
(8)	Inventory Financing - LNG	AEL-1S pg 10	Line (22)	$212,808
(9)	Inventory Financing - Storage	AEL-1S pg 10	Line (12)	$600,752
(10)	Total Additions	sum [(5):(9)]		$14,215,310
(11)	Total Variable Supply Costs	(1) + (4) + (10)		$92,544,983
(12)	Sales (Dt) Nov 2017 - Oct 2018	AEL-1S pg 11	Line (9)	25,914,442
(13)	**Variable Cost Factor**	(11) / (12)		**$3.5711**

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Gas Cost Estimate

Line No.	Description (a)	Reference (b)	Nov-17 (c)	Dec-17 (d)	Jan-18 (e)	Feb-18 (f)	Mar-18 (g)	Apr-18 (h)	May-18 (i)	Jun-18 (j)	Jul-18 (k)	Aug-18 (l)	Sep-18 (m)	Oct-18 (n)	Nov-Oct (o)
	SUPPLY FIXED COSTS - Pipeline Delivery														
(1)	Algonquin	NGC-2S	$657,206	$657,206	$657,206	$657,206	$657,206	$657,206	$657,206	$657,206	$657,206	$657,206	$657,206	$657,206	$7,886,473
(2)	Texas Eastern	NGC-2S	$212,562	$212,562	$212,562	$212,562	$212,562	$212,562	$212,562	$212,562	$212,562	$212,562	$212,562	$212,562	$2,550,744
(3)	TETCO	NGC-2S	$504,711	$504,711	$504,711	$504,711	$504,711	$504,711	$504,711	$504,711	$504,711	$504,711	$504,711	$504,711	$6,056,532
(4)	Tennessee	NGC-2S	$957,991	$957,991	$957,991	$957,991	$957,991	$957,991	$957,991	$957,991	$957,991	$957,991	$957,991	$957,991	$11,495,897
(5)	Tennessee Dracut for peaking	NGC-2S	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$135,224	$1,622,687
(6)	NETNE	NGC-2S	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(7)	Iroquois	NGC-2S	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$6,070	$5,667	$5,667	$72,036
(8)	Union	NGC-2S	$2,887	$2,984	$2,984	$2,695	$2,984	$2,887	$2,984	$2,887	$2,984	$2,984	$2,887	$2,984	$35,130
(9)	Transcanada	NGC-2S	$13,623	$14,077	$14,077	$12,715	$14,077	$13,623	$14,077	$13,623	$14,077	$14,077	$13,623	$14,077	$165,748
(10)	Dominion	NGC-2S	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$2,238	$26,853
(11)	Transco	NGC-2S	$4,854	$5,016	$5,016	$4,530	$5,016	$4,854	$5,016	$4,854	$5,016	$5,016	$4,854	$5,016	$59,055
(12)	National Fuel	NGC-2S	$4,480	$4,480	$4,480	$4,480	$4,480	$0	$0	$0	$0	$0	$0	$0	$22,402
(13)	AMA Credits	NGC-2S													
(14)	Columbia	NGC-2S	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$307,935	$3,695,226
(15)	Algonquin AIM	NGC-2S	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$752,152	$9,025,819
(16)	Algonquin AFT (Crary Street)	NGC-2S	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$262,800	$3,153,600
(17)	Westerly Lateral	NGC-2S													
(18)	Less Credits from Mkter Releases	NGC-2S	($745,134)	($745,134)	($745,134)	($745,134)	($745,134)	($745,134)	($745,134)	($745,134)	($745,134)	($745,134)	($745,134)	($745,134)	($8,941,613)
(19)	**TOTAL SUPPLY FIXED COSTS - Pipeline**	sum[(1):(18)]													
	Supply Fixed - Supplier														
(20)	Distrigas FCS	NGC-2 S	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(21)	**Total**	(20)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(22)	**Total Supply Fixed (Pipeline & Supplier)**	(19) + (21)													
	STORAGE FIXED COSTS - Facilities														
(23)	Texas Eastern SS-1 Demand	NGC-2S	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$80,478	$965,742
(24)	Texas Eastern SS-1 Capacity	NGC-2S	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$13,361	$160,336
(25)	Texas Eastern FSS-1 Demand	NGC-2S	$84	$84	$84	$84	$84	$84	$84	$84	$84	$84	$84	$84	$1,013
(26)	Texas Eastern FSS-1 Capacity	NGC-2S	$610	$610	$610	$610	$610	$610	$610	$610	$610	$610	$610	$610	$7,324
(27)	Dominion GSS Demand	NGC-2S	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$21,304	$255,651
(28)	Dominion GSS Capacity	NGC-2S	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$15,070	$180,839
(29)	Dominion GSS-TE Demand	NGC-2S	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$26,786	$321,430
(30)	Dominion GSS-TE Capacity	NGC-2S	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$19,957	$239,480
(31)	Tennessee FSMA Demand	NGC-2S	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$31,622	$379,467
(32)	Tennessee FSMA Capacity	NGC-2S	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$16,715	$200,574
(33)	Columbia FSS Demand	NGC-2S	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$3,820	$45,841
(34)	Columbia FSS Capacity	NGC-2S	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$5,874	$70,488
(35)	Keyspan LNG Tank Lease Payment	NGC-2S	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$1,964,880
(36)	**TOTAL FIXED STORAGE COSTS**	sum[(23):(35)]	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$4,793,063
	STORAGE FIXED COSTS - Delivery														
(37)	Algonquin for TETCO SS-1	NGC-2S	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$92,928	$1,115,138
(38)	Algonquin delivery for FSS	NGC-2S	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$6,205	$74,463
(39)	TETCO delivery for FSS	NGC-2S	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$4,880	$58,566
(40)	Algonquin SCT for SS-1	NGC-2S	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$1,749	$20,983
(41)	Algonquin delivery for GSS, GSS-TE	NGC-2S	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$77,165	$925,982
(42)	Algonquin SCT delivery for GSS-TE	NGC-2S	$492	$492	$492	$492	$492	$492	$492	$492	$492	$492	$492	$492	$5,900
(43)	Algonquin delivery for GSS Conv	NGC-2S	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$20,168	$242,013
(44)	Tennessee delivery for GSS	NGC-2S	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$54,792	$657,503
(45)	Tennessee delivery for FSMA	NGC-2S	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$33,494	$401,932
(46)	TETCO delivery for GSS/GSS-TE	NGC-2S	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$34,117	$409,403
(47)	TETCO delivery for GSS-TE	NGC-2S	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$3,538	$42,455
(48)	TETCO delivery for GSS-TE	NGC-2S	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$34,396	$412,746
(49)	TETCO delivery for GSS Conv	NGC-2S	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$10,674	$128,087
(50)	Dominion delivery for GSS Conv	NGC-2S	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$8,588	$103,061
(51)	Dominion delivery for GSS	NGC-2S	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$22,186	$266,228
(52)	Algonquin delivery for FSS	NGC-2S	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$16,729	$200,752
(53)	Columbia Delivery for FSS	NGC-2S	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$16,082	$192,982
(54)	GAZ METRO Demand Payment Summer	NGC-2S													
(55)	ENGIE Gas Demand Payment Summer	NGC-2S													
(56)	ENGIE Gas Demand Payment Winter	NGC-2S													
(57)	Peaking Supply at Dracut	NGC-2S													
(58)	Less Credits from Mkter Releases	NGC-2S													
(59)	**STORAGE DELIVERY FIXED COST**	sum[(37):(58)]													
(60)	**TOTAL STORAGE FIXED**	(36) + (59)													
(61)	**TOTAL FIXED COSTS**	22) + (36) + (59	$4,361,988	$4,395,979	$4,394,646	$4,392,509	$4,394,646	$4,478,639	$4,479,351	$4,478,639	$4,479,351	$4,479,351	$4,478,236	$4,478,948	$53,292,283

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Gas Cost Estimate

Line No.	Description	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-Oct
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
	VARIABLE SUPPLY COSTS (Includes Injections)														
(62)	Tennessee Zone 0	NGC-2S	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(63)	Tennessee Zone 4	NGC-2S	$845,439	$1,453,037	$1,277,317	$1,156,241	$901,341	$397,343	$0	$0	$0	$0	$0	$430,604	$6,461,322
(64)	Tennessee Connexion	NGC-2S	$754,066	$892,315	$967,967	$915,725	$954,509	$863,531	$808,384	$625,476	$235,672	$341,482	$695,216	$865,400	$8,919,742
(65)	Tennessee Dracut	NGC-2S	$0	$90,810	$206,945	$1,268,786	$210,276	$0	$0	$0	$0	$0	$0	$0	$1,776,817
(66)	TETCO STX	NGC-2S	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(67)	TETCO ELA	NGC-2S	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(68)	TETCO WLA	NGC-2S	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(69)	TETCO ETX	NGC-2S	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(70)	TRANSCO LEIDY	NGC-2S	$86,657	$101,078	$109,569	$100,291	$108,797	$29,063	$5,426	$5,314	$5,498	$5,543	$5,202	$5,482	$567,921
(71)	M3 Delivered	NGC-2S	$1,206,267	$358,037	$1,004,019	$1,071,522	$492,051	$953,412	$1,601,067	$394,143	$0	$0	$1,264,838	$905,916	$9,251,271
(72)	Maumee	NGC-2S	$203,482	$2,618,510	$2,116,872	$1,893,668	$1,106,712	$135,821	$0	$0	$0	$0	$0	$0	$8,075,065
(73)	Broadrun Col	NGC-2S	$0	$919,211	$944,180	$855,377	$801,857	$27,113	$0	$0	$0	$0	$0	$0	$3,547,738
(74)	Columbia Eagle and Downingtown	NGC-2S	$37,160	$143,521	$1,189,634	$1,057,130	$678,817	$85,803	$100,371	$100,914	$88,226	$103,587	$62,852	$35,232	$3,683,249
(75)	TETCO M2	NGC-2S	$1,804,450	$2,149,949	$2,376,156	$2,158,248	$2,324,151	$1,917,135	$661,786	$1,868,680	$1,914,664	$1,914,345	$1,022,209	$1,885,105	$21,996,878
(76)	Dominion to TETCO FTS	NGC-2S	$18,052	$44,181	$50,488	$43,119	$46,103	$10,849	$0	$0	$0	$0	$0	$0	$212,793
(77)	ANE to Tennessee	NGC-2S	$0	$105,267	$108,782	$97,505	$0	$0	$14,545	$0	$0	$0	$0	$0	$326,099
(78)	Niagara to Tennessee	NGC-2S	$5,575	$0	$15,379	$9,221	$0	$74,298	$70,872	$68,780	$70,972	$70,439	$66,876	$70,772	$523,183
(79)	TETCO to B & W	NGC-2S	$0	$145,309	$192,774	$164,234	$89,597	$0	$0	$0	$0	$0	$0	$0	$591,915
(80)	Algonquin - AIM	NGC-2S	$292,889	$565,086	$2,614,995	$2,287,588	$1,338,226	$953,794	$962,085	$26,862	$0	$0	$0	$7,967	$9,049,493
(81)	Total Pipeline Commodity Charges	sum[(62):(80)]	$5,254,037	$9,586,311	$13,175,077	$13,078,655	$9,052,438	$5,448,163	$4,224,537	$3,090,168	$2,315,033	$2,435,396	$3,117,193	$4,206,480	$74,983,488
(82)	Hedging	NGC-2S	$198,550	$1,315	$17,705	($178,417)	($154,391)	($563)	$75,327	$37,304	$19,000	$15,521	$15,412	$59,837	$106,600
(83)	Costs of Injections	NGC-2S	$0	$0	$0	$0	$0	($156,931)	($1,211,609)	($1,177,976)	($803,616)	($1,052,352)	($1,665,341)	($1,431,657)	($7,499,482)
(84)	Refunds														
(85)	**TOTAL VARIABLE SUPPLY COSTS**	sum[(81):(84)]	$5,452,587	$9,587,626	$13,192,782	$12,900,238	$8,898,047	$5,290,669	$3,088,255	$1,949,497	$1,530,417	$1,398,564	$1,467,263	$2,834,660	$67,590,607
(86)	Underground Storage	NGC-2 S	$113,091	$1,262,219	$1,966,608	$1,797,495	$1,642,057	$113,173	$0	$0	$0	$0	$0	$0	$6,894,644
(87)	LNG Withdrawals and Trucking	NGC-2 S	$75,435	$77,949	$1,934,136	$738,848	$77,949	$75,435	$77,411	$74,643	$77,133	$78,855	$78,219	$80,052	$3,446,064
(88)	Storage Delivery Costs	NGC-2 S	$4,801	$70,340	$115,421	$105,741	$97,222	$4,833	$0	$0	$0	$0	$0	$0	$398,358
(89)	**TOTAL VARIABLE STORAGE COSTS**	sum[(86):(88)]	$193,327	$1,410,509	$4,016,165	$2,642,083	$1,817,228	$193,441	$77,411	$74,643	$77,133	$78,855	$78,219	$80,052	$10,739,066
(90)	**TOTAL VARIABLE COSTS**	(85) + (89)	$5,645,914	$10,998,135	$17,208,947	$15,542,321	$10,715,275	$5,484,110	$3,165,666	$2,024,140	$1,607,551	$1,477,419	$1,545,483	$2,914,712	$78,329,672
(91)	**TOTAL SUPPLY COSTS**	(61) + (90)	$10,007,902	$15,394,114	$21,603,592	$19,934,830	$15,109,921	$9,962,749	$7,645,018	$6,502,779	$6,086,902	$5,956,770	$6,023,719	$7,393,660	$131,621,956
	Storage Costs for FT-2 Calculation														
(92)	**Storage Fixed Costs - Facilities**	(36)	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$399,422	$4,793,063
(93)	**Storage Fixed Costs - Deliveries**	(59)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
(94)	**Total Storage Costs**	sum[(92):(93)]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
GCR Deferred Balances

Line No.	Description	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-Oct
		actual	actual	actual	actual	actual	actual	actual	actual	actual	forecast	forecast	forecast	
(1)	# of Days in Month	30	31	31	28	31	30	31	30	31	31	30	31	365
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
(2)	I. Fixed Cost Deferred													
(3)	Beginning Under/(Over) Recovery	($8,917,829)	($8,528,360)	($8,267,752)	($10,429,146)	($12,450,052)	($11,826,387)	($13,164,136)	($12,103,896)	($8,333,016)	($6,320,297)	($3,659,063)	($981,744)	($8,917,829)
(4)	Supply Fixed Costs (net of cap rel)	$3,643,234	$3,860,783	$4,169,536	$4,258,775	$4,080,805	$4,016,513	$4,152,016	$3,809,981	$4,111,094	$4,557,903	$4,557,229	$4,557,903	$49,775,773
(5)	LNG Demand to DAC	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($1,488,790)
(6)	Supply Related LNG O & M	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$575,581
(7)	NGPMP Credits	($1,141,667)	($8,218)	($1,141,667)	($1,141,667)	$1,297,811	($1,171,974)	($1,141,667)	$1,327,146	($1,141,667)	($1,141,667)	($1,141,667)	($1,141,667)	($7,688,569)
(8)	Working Capital	$20,283	$21,537	$23,316	$23,830	$22,805	$22,434	$23,215	$21,244	$22,979	$25,554	$25,551	$25,554	$278,302
(9)	Total Supply Fixed Costs	$2,445,750	$3,798,001	$2,975,085	$3,064,838	$5,325,320	$2,790,872	$2,957,464	$5,082,271	$2,916,306	$3,365,690	$3,365,012	$3,365,690	$41,452,298
(10)	Supply Fixed - Revenue	$2,008,144	$3,525,810	$5,122,594	$5,070,397	$4,682,340	$4,108,098	$1,875,782	$1,293,559	$889,599	$694,930	$683,406	$1,214,275	$31,168,935
(11)	Monthly Under/(Over) Recovery	$437,605	$272,191	($2,147,509)	($2,005,560)	$642,980	($1,317,226)	$1,081,682	$3,788,712	$2,026,707	$2,670,760	$2,681,606	$2,151,415	$10,283,363
(12)	Prelim. Ending Under/(Over) Recovery	($8,480,224)	($8,256,170)	($10,415,261)	($12,434,705)	($11,807,072)	($13,143,612)	($12,082,454)	($8,315,184)	($6,306,309)	($3,649,537)	($977,456)	$1,169,672	$1,365,534
(13)	Month's Average Balance	($8,699,027)	($8,392,265)	($9,341,507)	($11,431,925)	($12,128,562)	($12,485,000)	($12,623,295)	($10,209,540)	($7,319,663)	($4,984,917)	($2,318,260)	$93,964	
(14)	Interest Rate (BOA Prime minus 200 bps)	1.50%	1.63%	1.75%	1.75%	1.88%	2.00%	2.00%	2.13%	2.25%	2.25%	2.25%	2.25%	
(15)	Interest Applied	($10,725)	($11,582)	($13,884)	($15,347)	($19,314)	($20,523)	($21,442)	($17,832)	($13,988)	($9,526)	($4,287)	$180	($158,271)
(16)	Marketer Reconcilation	($37,411)												($37,411)
(17)	Fixed Ending Under/(Over) Recovery	($8,528,360)	($8,267,752)	($10,429,146)	($12,450,052)	($11,826,387)	($13,164,136)	($12,103,896)	($8,333,016)	($6,320,297)	($3,659,063)	($981,744)	$1,169,851	$1,169,851
(18)	II. Variable Cost Deferred													
(19)	Beginning Under/(Over) Recovery	$9,293,216	$10,097,501	$16,318,521	$18,038,689	$16,722,311	$19,524,584	$13,611,687	$12,383,066	$12,501,947	$12,843,601	$12,570,099	$12,347,092	$9,293,216
(20)														
(21)	Variable Supply Costs	$6,640,193	$16,506,195	$16,528,212	$13,317,911	$16,213,679	$5,609,288	$3,862,631	$3,439,237	$2,431,631	$1,251,233	$1,247,082	$3,102,767	$90,150,058
(22)	Supply Related LNG to DAC	$0	($165,005)	($1,334)	($1,334)	($243,849)	$0	$0	$0	$0	$0	$0	$0	($411,522)
(23)	Supply Related LNG O & M	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$572,694
(24)	Inventory Financing - LNG	$27,598	$24,431	$21,983	$20,642	$16,793	$17,368	$18,893	$22,903	$27,563	$26,170	$31,594	$32,502	$288,440
(25)	Inventory Financing - UG	$88,475	$75,678	$68,419	$51,816	$37,107	$41,623	$50,698	$60,880	$71,907	$63,650	$74,481	$83,947	$768,680
(26)	Working Capital	$38,271	$94,182	$95,253	$76,750	$92,042	$32,329	$22,262	$19,822	$14,015	$7,211	$7,188	$17,883	$517,208
(27)	Total Supply Variable Costs	$6,842,261	$16,583,205	$16,760,256	$13,513,509	$16,163,497	$5,748,333	$4,002,209	$3,590,567	$2,592,840	$1,395,989	$1,408,068	$3,284,823	$91,885,558
(28)	Supply Variable - Revenue	$6,217,781	$10,380,401	$15,065,602	$14,853,204	$13,390,062	$11,688,443	$5,252,890	$3,493,398	$2,275,379	$1,693,750	$1,654,094	$3,277,914	$89,242,920
(29)	Monthly Under/(Over) Recovery	$624,480	$6,202,804	$1,694,654	($1,339,695)	$2,773,435	($5,940,110)	($1,250,681)	$97,169	$317,460	($297,761)	($246,026)	$6,909	$2,642,638
(30)	Prelim. Ending Under/(Over) Recovery	$9,917,696	$16,300,305	$18,013,175	$16,698,994	$19,495,746	$13,584,474	$12,361,007	$12,480,234	$12,819,407	$12,545,840	$12,324,074	$12,354,001	$11,935,855
(31)	Month's Average Balance	$9,605,456	$13,198,903	$17,165,848	$17,368,841	$18,109,028	$16,554,529	$12,986,347	$12,431,650	$12,660,677	$12,694,721	$12,447,086	$12,350,547	
(32)	Interest Rate (BOA Prime minus 200 bps)	1.50%	1.63%	1.75%	1.75%	1.88%	2.00%	2.00%	2.13%	2.25%	2.25%	2.25%	2.25%	
(33)	Interest Applied	$11,842	$18,216	$25,514	$23,317	$28,838	$27,213	$22,059	$21,713	$24,194	$24,259	$23,019	$23,601	$273,785
(34)	Gas Procurement Incentive/(penalty)	$167,963	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$167,963
(35)	Variable Ending Under/(Over) Recovery	$10,097,501	$16,318,521	$18,038,689	$16,722,311	$19,524,584	$13,611,687	$12,383,066	$12,501,947	$12,843,601	$12,570,099	$12,347,092	$12,377,603	$12,377,603
(36)	**GCR Deferred Summary**													
(37)	Beginning Under/(Over) Recovery	$375,387	$1,569,141	$8,050,769	$7,609,543	$4,272,259	$7,698,197	$447,551	$279,169	$4,168,931	$6,523,304	$8,911,037	$11,365,349	$375,387
(38)	Gas Costs	$10,217,640	$20,173,596	$20,668,038	$17,546,975	$20,022,259	$9,597,425	$7,986,271	$7,220,842	$6,514,348	$5,780,760	$5,775,935	$7,632,294	$139,136,384
(39)	Inventory Finance	$116,073	$100,108	$90,401	$72,458	$53,900	$58,991	$69,592	$83,783	$99,470	$89,820	$106,075	$116,449	$1,057,120
(40)	Working Capital	$58,553	$115,719	$118,569	$100,581	$114,847	$54,763	$45,477	$41,066	$36,994	$32,766	$32,738	$43,437	$795,510
(41)	NGPMP Credits	($1,141,667)	($8,218)	($1,141,667)	($1,141,667)	$1,297,811	($1,171,974)	($1,141,667)	$1,327,146	($1,141,667)	($1,141,667)	($1,141,667)	($1,141,667)	($7,688,569)
(42)	Total Costs	$9,250,599	$20,381,206	$19,735,341	$16,578,347	$21,488,817	$8,539,205	$6,959,673	$8,672,837	$5,509,146	$4,761,679	$4,773,081	$6,650,514	$133,300,445
(43)	Revenue	$8,225,926	$13,906,212	$20,188,196	$19,923,602	$18,072,402	$15,796,541	$7,128,672	$4,786,957	$3,164,979	$2,388,680	$2,337,500	$4,492,189	$120,411,855
(44)	Monthly Under/(Over) Recovery	$1,024,674	$6,474,995	($452,855)	($3,345,255)	$3,416,415	($7,257,335)	($168,999)	$3,885,880	$2,344,167	$2,372,999	$2,435,581	$2,158,324	$12,888,590
(45)	Prelim. Ending Under/(Over) Recovery	$1,400,061	$8,044,136	$7,597,914	$4,264,289	$7,688,674	$440,862	$278,553	$4,165,050	$6,513,098	$8,896,303	$11,346,617	$13,523,673	$13,263,977
(46)	Month's Average Balance	$887,724	$4,806,638	$7,824,342	$5,936,916	$5,980,466	$4,069,529	$363,052	$2,222,110	$5,341,014	$7,709,804	$10,128,827	$12,444,511	
(47)	Interest Rate (BOA Prime minus 200 bps)	1.50%	1.63%	1.75%	1.75%	1.88%	2.00%	2.00%	2.13%	2.25%	2.25%	2.25%	2.25%	
(48)	Interest Applied	$1,118	$6,634	$11,629	$7,970	$9,524	$6,690	$617	$3,881	$10,206	$14,733	$18,731	$23,781	$115,514
(49)	Gas Purchase Plan Incentives/(Penalties)	$167,963	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$167,963
(50)														
(51)	**Ending Under/(Over) Recovery W/ Interest**	**$1,569,141**	**$8,050,769**	**$7,609,543**	**$4,272,259**	**$7,698,197**	**$447,551**	**$279,169**	**$4,168,931**	**$6,523,304**	**$8,911,037**	**$11,365,349**	**$13,547,454**	$13,547,454

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
GCR - Gas Cost Revenue

Line No.	Description	Reference	Nov-17 fcst	Dec-17 fcst	Jan-18 fcst	Feb-18 fcst	Mar-18 fcst	Apr-18 fcst	May-18 fcst	Jun-18 fcst	Jul-18 fcst	Aug-18 fcst	Sep-18 fcst	Oct-18 fcst	Total Nov-Oct
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
(1)	**I. Fixed Cost Revenue --**														
(2)	(a) Low Load dth	AEL-1S pg 11, sum [Line (2):(5), (7)]	1,688,674	3,093,242	4,240,813	4,549,104	3,980,376	2,797,424	1,507,174	857,523	589,461	527,941	593,153	743,076	25,167,960
(3)	Fixed Cost Factor	AEL-1S pg 1, Line 1, col (e)	$1.5891	$1.5891	$1.5891	$1.5891	$1.5891	$1.5891	$1.5891	$1.5891	$1.5891	$1.5891	$1.5891	$1.5891	
(4)	Low Load Revenue	(2) * (3)	$2,683,472	$4,915,470	$6,739,076	$7,228,981	$6,325,215	$4,445,386	$2,395,050	$1,362,690	$936,712	$838,951	$942,580	$1,180,822	$39,994,405
(5)	(b) High Load dth	AEL-1S pg 11, sum [Line (1), (6), (8)]	58,256	74,104	84,371	78,341	97,463	81,132	60,848	54,946	41,400	33,790	37,285	44,548	746,482
(6)	Fixed Cost Factor	AEL-1S pg 1, Line 1, col (d)	$1.1616	$1.1616	$1.1616	$1.1616	$1.1616	$1.1616	$1.1616	$1.1616	$1.1616	$1.1616	$1.1616	$1.1616	
(7)	High Load Revenue	(5) * (6)	$67,670	$86,079	$98,005	$91,001	$113,213	$94,242	$70,681	$63,825	$48,090	$39,250	$43,310	$51,747	$867,113
(8)	sub-total Dth	(2) + (5)	1,746,930	3,167,346	4,325,184	4,627,445	4,077,839	2,878,555	1,568,022	912,469	630,861	561,730	630,438	787,624	25,914,442
(9)	FT-2 Storage Revenue from ı	[AEL-5S pg 2, Line (25)] / 12	$154,295	$154,295	$154,295	$154,295	$154,295	$154,295	$154,295	$154,295	$154,295	$154,295	$154,295	$154,295	$1,851,536
(10)	**TOTAL Fixed Revenue**	(4) + (7) + (9)	**$2,905,437**	**$5,155,844**	**$6,991,376**	**$7,474,277**	**$6,592,723**	**$4,693,923**	**$2,620,026**	**$1,580,810**	**$1,139,097**	**$1,032,496**	**$1,140,185**	**$1,386,864**	**$42,713,054**
(11)	**II. Variable Cost Revenue --**														
(12)	(a) Firm Sales dth	(8)	1,746,930	3,167,346	4,325,184	4,627,445	4,077,839	2,878,555	1,568,022	912,469	630,861	561,730	630,438	787,624	25,914,442
(13)	Variable Cost Factor	AEL-1S pg 1, Line (2)	$3.5711	$3.5711	$3.5711	$3.5711	$3.5711	$3.5711	$3.5711	$3.5711	$3.5711	$3.5711	$3.5711	$3.5711	
(14)	Variable Revenue	(12) * (13)	$6,238,462	$11,310,908	$15,445,663	$16,525,069	$14,562,370	$10,279,609	$5,599,562	$3,258,518	$2,252,867	$2,005,995	$2,251,356	$2,812,684	$92,543,063
(15)	**TOTAL Variable Revenue**	(14)	**$6,238,462**	**$11,310,908**	**$15,445,663**	**$16,525,069**	**$14,562,370**	**$10,279,609**	**$5,599,562**	**$3,258,518**	**$2,252,867**	**$2,005,995**	**$2,251,356**	**$2,812,684**	**$92,543,063**
(16)	**Total Gas Cost Revenue**	(10) + (15)	**$9,143,899**	**$16,466,752**	**$22,437,039**	**$23,999,346**	**$21,155,093**	**$14,973,532**	**$8,219,588**	**$4,839,328**	**$3,391,964**	**$3,038,491**	**$3,391,541**	**$4,199,548**	**$135,256,117**

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Working Capital Estimate

Line No.	Description	Source	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
(1)	**Fixed Costs**	AEL-1S Pg 4 , Line (61)	$4,361,988	$4,395,979	$4,394,646	$4,392,509	$4,394,646	$4,478,639	$4,479,351	$4,478,639	$4,479,351	$4,479,351	$4,478,236	$4,478,948	$53,292,283
(2)	Capacity Release Revenue		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(3)	Less: System Pressure to DAC	AEL-1S Pg 4 Line (16) * 75.77%	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($2,389,483)
(4)	Less: Credits		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(5)	Plus: Supply Related LNG O&M Costs	Dkt 4323	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(6)	Allowable Working Capital Costs	sum[(1):(5)]	$4,162,865	$4,196,855	$4,195,522	$4,193,386	$4,195,522	$4,279,516	$4,280,228	$4,279,516	$4,280,228	$4,280,228	$4,279,112	$4,279,824	$50,902,801
(7)	Number of Days Lag	Dkt 4323	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	
(8)	Working Capital Requirement	[(6) * (7)] / 365	$245,324	$247,327	$247,248	$247,123	$247,248	$252,198	$252,240	$252,198	$252,240	$252,240	$252,175	$252,217	
(9)	Cost of Capital	Dkt 4323	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	
(10)	Return on Working Capital Requirement	(8) * (9)	$17,811	$17,956	$17,950	$17,941	$17,950	$18,310	$18,313	$18,310	$18,313	$18,313	$18,308	$18,311	
(11)	Weighted Cost of Debt	Dkt 4323	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	
(12)	Interest Expense	(8) * (11)	$6,329	$6,381	$6,379	$6,376	$6,379	$6,507	$6,508	$6,507	$6,508	$6,508	$6,506	$6,507	
(13)	Taxable Income	(10) - (12)	$11,481	$11,575	$11,571	$11,565	$11,571	$11,803	$11,805	$11,803	$11,805	$11,805	$11,802	$11,804	
(14)	1 - Combined Tax Rate	Dkt 4323	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	
(15)	Return and Tax Requirement	(13) / (14)	$17,663	$17,808	$17,802	$17,793	$17,802	$18,158	$18,161	$18,158	$18,161	$18,161	$18,157	$18,160	
(16)	**Fixed Working Capital Requirement**	(12) + (15)	$23,993	$24,189	$24,181	$24,169	$24,181	$24,665	$24,669	$24,665	$24,669	$24,669	$24,663	$24,667	$293,378
(17)	**Variable Costs**	AEL-1S Pg 5 , Line (90)	$5,645,914	$10,998,135	$17,208,947	$15,542,321	$10,715,275	$5,484,110	$3,165,666	$2,024,140	$1,607,551	$1,477,419	$1,545,483	$2,914,712	$78,329,672
(18)	Less: Non-firm Sales														$0
(19)	Less: Supply Refunds														$0
(20)	Less: Balancing Related System Pressure Commodity to DAC		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(21)	Plus: Supply Related LNG O&M Costs	Dkt 4323	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(22)	Allowable Working Capital Costs	sum[(17):(21)]	$5,645,914	$10,998,135	$17,208,947	$15,542,321	$10,715,275	$5,484,110	$3,165,666	$2,024,140	$1,607,551	$1,477,419	$1,545,483	$2,914,712	$78,329,672
(23)	Number of Days Lag	Dkt 4323	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	
(24)	Working Capital Requirement	[(22) * (23)] / 365	$332,722	$648,137	$1,014,149	$915,932	$631,467	$323,187	$186,557	$119,286	$94,735	$87,067	$91,078	$171,768	
(25)	Cost of Capital	Dkt 4323	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	
(26)	Return on Working Capital Requirement	(24) * (25)	$24,156	$47,055	$73,627	$66,497	$45,845	$23,463	$13,544	$8,660	$6,878	$6,321	$6,612	$12,470	
(27)	Weighted Cost of Debt	Dkt 4323	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	
(28)	Interest Expense	(24) * (27)	$8,584	$16,722	$26,165	$23,631	$16,292	$8,338	$4,813	$3,078	$2,444	$2,246	$2,350	$4,432	
(29)	Taxable Income	(26) - (28)	$15,571	$30,333	$47,462	$42,866	$29,553	$15,125	$8,731	$5,583	$4,434	$4,075	$4,262	$8,039	
(30)	1 - Combined Tax Rate	Dkt 4323	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	
(31)	Return and Tax Requirement	(29) / (30)	$23,956	$46,666	$73,019	$65,947	$45,466	$23,269	$13,432	$8,589	$6,821	$6,269	$6,558	$12,367	
(32)	**Variable Working Capital Requirement**	(28) + (31)	$32,540	$63,388	$99,184	$89,578	$61,758	$31,608	$18,245	$11,666	$9,265	$8,515	$8,907	$16,799	$451,453

REDACTED

Storage Fixed Cost Working Capital Calculation for FT-2 Demand Rate (see AEL-5S pg 2)

Line No.	Description (a)	Source (b)	Nov-17 (c)	Dec-17 (d)	Jan-18 (e)	Feb-18 (f)	Mar-18 (g)	Apr-18 (h)	May-18 (i)	Jun-18 (j)	Jul-18 (k)	Aug-18 (l)	Sep-18 (m)	Oct-18 (n)	Total (o)
(33)	**Storage Fixed Costs**	AEL-1 S pg 4, Line (60)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$15,804,120
(34)	Less: System Pressure to DAC	AEL-1 S Pg 8 , Line (3)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($2,389,483)
(35)	Less: Credits		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(36)	Plus: Supply Related LNG O&M Costs	Dkt 4323	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(37)	Allowable Working Capital Costs	sum[(33):(36)]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$13,414,637
(38)	Number of Days Lag	Dkt 4323	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	
(39)	Working Capital Requirement	[(37) * (38)] / 365	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
(40)	Cost of Capital	Dkt 4323	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	
(41)	Return on Working Capital Requirement	(39) * (40)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
(42)	Weighted Cost of Debt	Dkt 4323	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	
(43)	Interest Expense	(39) * (42)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
(44)	Taxable Income	(41) - (43)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
(45)	1 - Combined Tax Rate	Dkt 4323	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	
(46)	Return and Tax Requirement	(44) / (45)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
(47)	**Storage Fixed Working Capital Requirement**	(43) + (46)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$77,315

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Inventory Finance Estimate

Line No.	Description (a)	Source (b)	Nov-17 (c)	Dec-17 (d)	Jan-18 (e)	Feb-18 (f)	Mar-18 (g)	Apr-18 (h)	May-18 (i)	Jun-18 (j)	Jul-18 (k)	Aug-18 (l)	Sep-18 (m)	Oct-18 (n)	Total (o)
(1)	**Storage Inventory Balance**	NGC-2S pg 15	$9,436,055	$8,139,654	$6,127,822	$4,288,451	$2,610,887	$2,653,444	$3,877,029	$5,066,626	$5,878,226	$6,941,021	$8,623,396	$10,069,304	
(2)	Hedging														
(3)	Subtotal	(1) + (2)	$9,436,055	$8,139,654	$6,127,822	$4,288,451	$2,610,887	$2,653,444	$3,877,029	$5,066,626	$5,878,226	$6,941,021	$8,623,396	$10,069,304	
(4)	Cost of Capital	Dkt 4323	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	
(5)	Return on Working Capital Requirement	(3) * (4)	$685,058	$590,939	$444,880	$311,342	$189,550	$192,640	$281,472	$367,837	$426,759	$503,918	$626,059	$731,031	$5,351,485
(6)	Weighted Cost of Debt	Dkt 4323	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	
(7)	Interest Charges Financed	(3) * (6)	$243,450	$210,003	$158,098	$110,642	$67,361	$68,459	$100,027	$130,719	$151,658	$179,078	$222,484	$259,788	$1,901,767
(8)	Taxable Income	(5) - (7)	$441,607	$380,936	$286,782	$200,700	$122,189	$124,181	$181,445	$237,118	$275,101	$324,840	$403,575	$471,243	
(9)	1 - Combined Tax Rate	Dkt 4323	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	
(10)	Return and Tax Requirement	(8) / (9)	$679,396	$586,055	$441,203	$308,768	$187,984	$191,048	$279,146	$364,797	$423,232	$499,754	$620,884	$724,990	$5,307,258
(11)	Working Capital Requirement	(7) + (10)	$922,846	$796,058	$599,301	$419,411	$255,345	$259,507	$379,173	$495,516	$574,891	$678,832	$843,368	$984,778	$7,209,025
(12)	Storage-Related Inventory Costs	(11) / 12	$76,904	$66,338	$49,942	$34,951	$21,279	$21,626	$31,598	$41,293	$47,908	$56,569	$70,281	$82,065	$600,752
(13)	**LNG Inventory Balance**	NGC-2S pg 17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
(14)	Cost of Capital	Dkt 4323	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	7.26%	
(15)	Return on Working Capital Requirement	(13) * (14)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$1,895,692
(16)	Weighted Cost of Debt	Dkt 4323	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	2.58%	
(17)	Interest Charges Financed	(13) * (16)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$673,676
(18)	Taxable Income	(15) - (17)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
(19)	1 - Combined Tax Rate	Dkt 4323	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	
(20)	Return and Tax Requirement	(18) / (19)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$1,880,025
(21)	Working Capital Requirement	(17) + (20)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$2,553,701
(22)	LNG-Related Inventory Costs	(21) / 12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$212,808
(23)	Total Inventory Financing Costs	(12) + (22)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	$813,560

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Forecasted Throughput (Dth)

Line No.	Rate Class	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-Oct
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
	SALES													
(1)	Residential Non-Heating	26,718	39,278	49,465	46,689	63,744	50,294	32,303	22,003	16,157	14,197	15,072	17,788	393,708
(2)	Residential Heating	1,304,358	2,321,462	3,187,357	3,515,651	3,025,940	2,123,608	1,134,913	640,980	439,872	378,733	439,199	549,175	19,061,247
(3)	Small C&I	126,421	299,220	422,898	433,958	388,594	265,063	116,832	75,482	45,315	41,777	47,836	57,800	2,321,194
(4)	Medium C&I	214,633	381,004	511,908	478,851	459,399	337,938	214,438	122,975	95,239	99,371	93,976	121,150	3,130,883
(5)	Large LLF	40,481	84,267	110,073	111,958	99,039	65,916	38,351	16,635	8,837	7,982	11,775	14,173	609,485
(6)	Large HLF	21,195	26,978	30,535	27,387	26,615	23,997	23,632	27,213	19,713	14,410	15,671	18,743	276,089
(7)	Extra Large LLF	2,782	7,288	8,577	8,686	7,404	4,898	2,641	1,452	198	78	368	778	45,151
(8)	Extra Large HLF	10,343	7,847	4,370	4,265	7,104	6,841	4,912	5,730	5,529	5,182	6,542	8,018	76,684
(9)	**Total Sales**	1,746,930	3,167,346	4,325,184	4,627,445	4,077,839	2,878,555	1,568,022	912,469	630,861	561,730	630,438	787,624	25,914,442
	TRANSPORTATION													
(10)	FT- Small	12,272	18,893	24,139	25,356	22,502	17,022	10,822	5,728	3,123	2,694	3,241	6,419	152,213
(11)	FT- Medium	178,314	296,045	363,113	338,573	321,535	250,078	163,314	97,278	76,751	68,943	71,759	103,719	2,329,421
(12)	FT- Large LLF	175,480	302,854	367,744	351,289	307,673	196,206	110,624	53,831	33,111	31,428	43,563	82,128	2,055,929
(13)	FT- Large HLF	71,231	92,021	105,119	95,337	95,991	85,834	76,094	74,437	62,058	59,775	62,566	67,803	948,265
(14)	FT- Extra Large LLF	123,724	188,656	217,213	189,250	165,531	102,609	61,813	28,070	19,933	18,691	25,191	77,537	1,218,219
(15)	FT- Extra Large HLF	565,425	648,997	660,906	568,148	596,012	595,549	550,705	539,808	545,748	538,527	515,155	540,161	6,865,140
(16)	**Total FT Transportation**	1,126,446	1,547,466	1,738,235	1,567,954	1,509,244	1,247,298	973,371	799,151	740,723	720,059	721,474	877,767	13,569,188
	Total THROUGHPUT													
(17)	Residential Non-Heating	26,718	39,278	49,465	46,689	63,744	50,294	32,303	22,003	16,157	14,197	15,072	17,788	393,708
(18)	Residential Heating	1,304,358	2,321,462	3,187,357	3,515,651	3,025,940	2,123,608	1,134,913	640,980	439,872	378,733	439,199	549,175	19,061,247
(19)	Small C&I	138,693	318,113	447,037	459,314	411,096	282,085	127,654	81,210	48,438	44,471	51,076	64,219	2,473,406
(20)	Medium C&I	392,947	677,050	875,021	817,424	780,934	588,016	377,752	220,253	171,990	168,314	165,735	224,869	5,460,304
(21)	Large LLF	215,961	387,121	477,817	463,247	406,712	262,122	148,974	70,466	41,947	39,409	55,337	96,300	2,665,414
(22)	Large HLF	92,425	118,999	135,655	122,724	122,605	109,831	99,726	101,650	81,771	74,186	78,236	86,545	1,224,355
(23)	Extra Large LLF	126,506	195,944	225,790	197,936	172,935	107,508	64,454	29,522	20,131	18,769	25,559	78,316	1,263,370
(24)	Extra Large HLF	575,769	656,844	665,276	572,413	603,116	602,390	555,617	545,537	551,277	543,710	521,696	548,179	6,941,825
(25)	**Total Throughput**	2,873,376	4,714,812	6,063,418	6,195,399	5,587,083	4,125,854	2,541,393	1,711,620	1,371,584	1,281,789	1,351,911	1,665,391	39,483,630

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Design Winter Period and Design Day Throughput (Dth)

Line No.	Rate Class (a)	Reference	Line #	Nov-17 (b)	Dec-17 (c)	Jan-18 (d)	Feb-18 (e)	Mar-18 (f)	Total (g)	% (h)
	SALES (dth)									
(1)	Residential Non-Heating	AEL-1S pg 15	Line (70)	29,535	42,188	52,449	49,989	70,803	244,963	1.24%
(2)	Residential Heating	AEL-1S pg 15	Line (71)	1,515,940	2,551,787	3,428,758	3,830,274	3,405,142	14,731,901	74.53%
(3)	Small C&I	AEL-1S pg 15	Line (72)	145,923	330,020	455,868	473,415	438,598	1,843,823	9.33%
(4)	Medium C&I	AEL-1S pg 15	Line (74)	243,152	415,446	548,130	518,121	512,176	2,237,025	11.32%
(5)	Large LLF	AEL-1S pg 15	Line (76)	47,853	93,326	118,846	122,328	112,067	494,420	2.50%
(6)	Large HLF	AEL-1S pg 15	Line (78)	22,368	28,216	31,737	28,615	28,048	138,985	0.70%
(7)	Extra Large LLF	AEL-1S pg 15	Line (80)	3,390	8,146	9,307	9,538	8,451	38,833	0.20%
(8)	Extra Large HLF	AEL-1S pg 15	Line (82)	11,459	8,094	4,370	4,265	7,293	35,482	0.18%
(9)	Total Sales			2,019,620	3,477,223	4,649,465	5,036,546	4,582,578	19,765,432	100.00%
(10)	Low Load Factor	sum[(2:5),(7)]		1,956,258	3,398,725	4,560,909	4,953,676	4,476,435	19,346,003	97.88%
(11)	High Load Factor	sum[(1),(6),(8)]		63,362	78,498	88,556	82,870	106,143	419,429	2.12%

2017/2018 Design Day Send Out

(12)	Pipeline	174,349	Dktherm
(13)	Underground Storage	42,694	Dktherm
(14)	LNG	140,965	Dktherm
(15)	Total Projected 2017/2018 Design Day	358,008	Dktherm

REDACTED

Derivation of Monthly Design Sales

Normal Volumes (Dth)

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-Oct
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
(1)	Residential Non-Heating	26,718	39,278	49,465	46,689	63,744	50,294	32,303	22,003	16,157	14,197	15,072	17,788	393,708
(2)	Residential Heating	1,304,358	2,321,462	3,187,357	3,515,651	3,025,940	2,123,608	1,134,913	640,980	439,872	378,733	439,199	549,175	19,061,247
(3)	Small C&I	126,421	299,220	422,898	433,958	388,594	265,063	116,832	75,482	45,315	41,777	47,836	57,800	2,321,194
(4)	Small Transport	12,272	18,893	24,139	25,356	22,502	17,022	10,822	5,728	3,123	2,694	3,241	6,419	152,213
(5)	Medium C&I	214,633	381,004	511,908	478,851	459,399	337,938	214,438	122,975	95,239	99,371	93,976	121,150	3,130,883
(6)	Med Transport	178,314	296,045	363,113	338,573	321,535	250,078	163,314	97,278	76,751	68,943	71,759	103,719	2,329,421
(7)	Large Low Load	40,481	84,267	110,073	111,958	99,039	65,916	38,351	16,635	8,837	7,982	11,775	14,173	609,485
(8)	Large Low Load- Transport	175,480	302,854	367,744	351,289	307,673	196,206	110,624	53,831	33,111	31,428	43,563	82,128	2,055,929
(9)	Large High Load	21,195	26,978	30,535	27,387	26,615	23,997	23,632	27,213	19,713	14,410	15,671	18,743	276,089
(10)	Large High Load- Transport	71,231	92,021	105,119	95,337	95,991	85,834	76,094	74,437	62,058	59,775	62,566	67,803	948,265
(11)	XL Low Load	2,782	7,288	8,577	8,686	7,404	4,898	2,641	1,452	198	78	368	778	45,151
(12)	XL Low Load-Transport	123,724	188,656	217,213	189,250	165,531	102,609	61,813	28,070	19,933	18,691	25,191	77,537	1,218,219
(13)	XL High Load	10,343	7,847	4,370	4,265	7,104	6,841	4,912	5,730	5,529	5,182	6,542	8,018	76,684
(14)	XL High Load-Transport	565,425	648,997	660,906	568,148	596,012	595,549	550,705	539,808	545,748	538,527	515,155	540,161	6,865,140
(15)	**Total**	2,873,376	4,714,812	6,063,418	6,195,399	5,587,083	4,125,854	2,541,393	1,711,620	1,371,584	1,281,789	1,351,911	1,665,391	39,483,630
(16)	HLF	694,912	815,122	850,396	741,826	789,465	762,515	687,647	669,190	649,205	632,093	615,005	652,512	8,559,887
(17)	LLF	2,178,464	3,899,690	5,213,022	5,453,573	4,797,617	3,363,339	1,853,746	1,042,430	722,379	649,696	736,906	1,012,879	30,923,743

Baseload

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-Oct
		30	31	31	28	31	30	31	30	31	31	30	31	
(18)	Residential Non-Heating	14,813	15,307	15,307	13,826	15,307	14,813	15,307	14,813	15,307	14,197	14,813	15,307	179,116
(19)	Residential Heating	410,153	423,825	423,825	382,810	423,825	410,153	423,825	410,153	423,825	378,733	410,153	423,825	4,945,108
(20)	Small C&I	43,998	45,465	45,465	41,065	45,465	43,998	45,465	43,998	45,315	41,777	43,998	45,465	531,470
(21)	Small Transport	2,954	3,052	3,052	2,757	3,052	2,954	3,052	2,954	3,052	2,694	2,954	3,052	35,580
(22)	Medium C&I	94,104	97,241	97,241	87,831	97,241	94,104	97,241	94,104	95,239	97,241	93,976	97,241	1,142,805
(23)	Med Transport	70,908	73,272	73,272	66,181	73,272	70,908	73,272	70,908	73,272	68,943	70,908	73,272	858,389
(24)	Large Low Load	9,324	9,635	9,635	8,702	9,635	9,324	9,635	9,324	8,837	7,982	9,324	9,635	110,990
(25)	Large Low Load- Transport	35,250	36,425	36,425	32,900	36,425	35,250	36,425	35,250	33,111	31,428	35,250	36,425	420,565
(26)	Large High Load	16,237	16,779	16,779	15,155	16,779	16,237	16,779	16,237	16,779	14,410	15,671	16,779	194,619
(27)	Large High Load- Transport	60,130	62,134	62,134	56,121	62,134	60,130	62,134	60,130	62,058	59,775	60,130	62,134	729,146
(28)	XL Low Load	210	217	217	196	217	210	217	210	198	78	210	217	2,398
(29)	XL Low Load-Transport	20,809	21,503	21,503	19,422	21,503	20,809	21,503	20,809	19,933	18,691	20,809	21,503	248,799
(30)	XL High Load	5,626	5,814	4,370	4,265	5,814	5,626	4,912	5,626	5,529	5,182	5,626	5,814	64,204
(31)	XL High Load-Transport	521,553	538,938	538,938	486,783	538,938	521,553	538,938	521,553	538,938	538,527	515,155	538,938	6,338,754
(32)	Total	1,306,071	1,349,607	1,348,163	1,218,014	1,349,607	1,306,071	1,348,705	1,306,071	1,341,393	1,279,659	1,298,978	1,349,607	15,801,945
(33)	HLF	618,360	638,972	637,528	576,150	638,972	618,360	638,070	618,360	638,611	632,093	611,395	638,972	7,505,839
(34)	LLF	687,711	710,635	710,635	641,864	710,635	687,711	710,635	687,711	702,782	647,567	687,583	710,635	8,296,105

REDACTED

Derivation of Monthly Design Sales

Heat Volumes

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-Oct
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
(35)	Residential Non-Heating	11,905	23,971	34,158	32,863	48,437	35,481	16,997	7,190	851	0	259	2,481	214,592
(36)	Residential Heating	894,204	1,897,637	2,763,532	3,132,842	2,602,114	1,713,455	711,087	230,826	16,046	0	29,045	125,350	14,116,139
(37)	Small C&I	82,423	253,755	377,433	392,893	343,130	221,065	71,367	31,484	0	0	3,838	12,335	1,789,723
(38)	Small Transport	9,319	15,841	21,087	22,599	19,450	14,068	7,770	2,774	71	0	287	3,367	116,632
(39)	Medium C&I	120,529	283,763	414,667	391,021	362,158	243,834	117,197	28,870	0	2,130	0	23,909	1,988,079
(40)	Med Transport	107,405	222,773	289,841	272,391	248,263	179,170	90,042	26,370	3,479	0	850	30,447	1,471,032
(41)	Large Low Load	31,157	74,633	100,438	103,256	89,404	56,592	28,716	7,311	0	0	2,451	4,538	498,495
(42)	Large Low Load- Transport	140,230	266,428	331,319	318,389	271,248	160,956	74,198	18,581	0	0	8,312	45,703	1,635,364
(43)	Large High Load	4,957	10,200	13,757	12,232	9,836	7,760	6,854	10,976	2,935	0	0	1,964	81,471
(44)	Large High Load- Transport	11,100	29,887	42,985	39,216	33,856	25,704	13,960	14,307	0	0	2,436	5,668	219,119
(45)	XL Low Load	2,572	7,071	8,360	8,490	7,187	4,688	2,424	1,242	0	0	158	561	42,753
(46)	XL Low Load-Transport	102,915	167,153	195,710	169,828	144,028	81,800	40,310	7,260	0	0	4,382	56,034	969,420
(47)	XL High Load	4,717	2,034	0	0	1,291	1,215	0	104	0	0	916	2,204	12,480
(48)	XL High Load-Transport	43,872	110,059	121,968	81,365	57,073	73,996	11,767	18,254	6,809	0	0	1,223	526,386
(49)	Total	1,567,305	3,365,205	4,715,255	4,977,385	4,237,476	2,819,783	1,192,688	405,549	30,191	2,130	52,933	315,784	23,681,686
(50)	HLF	76,552	176,150	212,868	165,676	150,494	144,155	49,577	50,831	10,595	0	3,610	13,540	1,054,048
(51)	LLF	1,490,753	3,189,055	4,502,387	4,811,709	4,086,982	2,675,627	1,143,111	354,719	19,596	2,130	49,323	302,244	22,627,637
(52)	**Normal Billing DD**	**579**	**931**	**1099**	**936**	**796**	**453**	**227**	**44**	**1**	**1**	**52**	**339**	**5458**

Heat Factors

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-Oct
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	
(53)	Residential Non-Heating	21	26	31	35	61	78	75	163	851	-	5	7	39
(54)	Residential Heating	1,544	2,038	2,515	3,347	3,269	3,782	3,133	5,246	16,046	-	559	370	2,586
(55)	Small C&I	142	273	343	420	431	488	314	716	-	-	74	36	328
(56)	Small Transport	16	17	19	24	24	31	34	63	71	-	6	10	21
(57)	Medium C&I	208	305	377	418	455	538	516	656	-	2,130	-	71	364
(58)	Med Transport	186	239	264	291	312	396	397	599	3,479	-	16	90	270
(59)	Large Low Load	54	80	91	110	112	125	127	166	-	-	47	13	91
(60)	Large Low Load- Transport	242	286	301	340	341	355	327	422	-	-	160	135	300
(61)	Large High Load	9	11	13	13	12	17	30	249	2,935	-	-	6	15
(62)	Large High Load- Transport	19	32	39	42	43	57	61	325	-	-	47	17	40
(63)	XL Low Load	4	8	8	9	9	10	11	28	-	-	3	2	8
(64)	XL Low Load-Transport	178	180	178	181	181	181	178	165	-	-	84	165	178
(65)	XL High Load	8	2	-	-	2	3	-	2	-	-	18	7	2
(66)	XL High Load-Transport	76	118	111	87	72	163	52	415	6,809	-	-	4	96
(67)	Total	2,707	3,615	4,290	5,318	5,323	6,225	5,254	9,217	30,191	2,130	1,018	932	4,339
(68)	**NormalBilling DD**	**579**	**931**	**1099**	**936**	**796**	**453**	**227**	**44**	**1**	**1**	**52**	**339**	**5458**
(69)	**DesignBilling DD**	**716**	**1044**	**1195**	**1030**	**912**	**546**	**217**	**35**	**5**	**10**	**88**	**370**	**6168**

REDACTED

Derivation of Monthly Design Sales

Design Sales

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-Oct
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	
(70)	Residential Non-Heating	29,535	42,188	52,449	49,989	70,803	57,578	31,555	20,532	15,307	14,197	15,251	18,014	417,398
(71)	Residential Heating	1,515,940	2,551,787	3,428,758	3,830,274	3,405,142	2,475,377	1,103,587	593,765	423,825	378,733	459,307	560,638	20,727,134
(72)	Small C&I	145,923	330,020	455,868	473,415	438,598	310,448	113,688	69,042	45,315	41,777	50,492	58,928	2,533,512
(73)	Small Transport	14,477	20,816	25,981	27,626	25,337	19,910	10,480	5,161	3,052	2,694	3,440	6,727	165,700
(74)	Medium C&I	243,152	415,446	548,130	518,121	512,176	387,997	209,275	117,069	95,239	97,241	93,976	123,337	3,361,159
(75)	Med Transport	203,728	323,084	388,432	365,928	357,714	286,861	159,347	91,884	73,272	68,943	72,347	106,503	2,498,043
(76)	Large Low Load	47,853	93,326	118,846	122,328	112,067	77,534	37,086	15,140	8,837	7,982	13,472	14,588	669,057
(77)	Large Low Load- Transport	208,660	335,191	396,686	383,264	347,202	229,250	107,355	50,030	33,111	31,428	49,317	86,307	2,257,801
(78)	Large High Load	22,368	28,216	31,737	28,615	28,048	25,590	23,330	24,968	16,779	14,410	15,671	18,922	278,655
(79)	Large High Load- Transport	73,857	95,648	108,874	99,276	100,924	91,111	75,479	71,511	62,058	59,775	64,252	68,321	971,087
(80)	XL Low Load	3,390	8,146	9,307	9,538	8,451	5,861	2,534	1,198	198	78	477	829	50,010
(81)	XL Low Load-Transport	148,075	208,944	234,309	206,306	186,520	119,403	60,037	26,585	19,933	18,691	28,225	82,662	1,339,689
(82)	XL High Load	11,459	8,094	4,370	4,265	7,293	7,090	4,912	5,709	5,529	5,182	7,175	8,220	79,299
(83)	XL High Load-Transport	575,806	662,355	671,560	576,319	604,329	610,741	550,187	536,074	538,938	538,527	515,155	540,273	6,920,264
(84)	Total	3,244,224	5,123,263	6,475,306	6,695,265	6,204,604	4,704,750	2,488,852	1,628,667	1,341,393	1,279,659	1,388,557	1,694,268	42,268,808
(85)	HLF	713,025	836,502	868,991	758,465	811,397	792,110	685,463	658,793	638,611	632,093	617,504	653,750	8,666,702
(86)	LLF	2,531,199	4,286,761	5,606,315	5,936,800	5,393,208	3,912,640	1,803,389	969,874	702,782	647,567	771,053	1,040,518	33,602,106

Source: Forecast per Ted Poe

Attachment AEL-2

REDACTED

Attachment AEL-2
Annual GCR Reconciliation Filing

REDACTED

National Grid
Rhode Island - Gas

Deferred Gas Cost Balances

Line No.	Description	Reference	Apr Actual	May Actual	Jun Actual	Jul Actual	Aug Actual	Sep Actual	Oct Actual	Nov Actual	Dec Actual	Jan Actual	Feb Actual	Mar Actual	Apr-Mar
1	# of Days in Month		30	31	30	31	31	30	31	30	31	31	28	31	**365**
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
2	I. Fixed Cost Deferred														
3	Beginning Under/(Over) Recovery	Dkt 4647, Sch. AEL-2, pg. 1, line 18, col. m	($14,239,567)	($14,928,683)	($14,318,399)	($13,310,613)	($11,537,505)	($9,677,792)	($10,501,693)	($8,917,829)	($8,528,360)	($8,267,752)	($10,429,146)	($12,450,052)	($14,239,567)
4															
5	Supply Fixed Costs (net of cap rel)	Sch. 2, line 36	$3,430,478	$3,549,690	$3,622,469	$3,487,231	$3,478,867	$3,440,498	$3,438,848	$3,643,234	$3,860,783	$4,169,536	$4,258,775	$4,080,805	$44,461,214
6	LNG Demand to DAC	Dkt 4339	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($1,488,790)
7	Supply Related LNG O & M	Dkt 4323	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$575,581
8	NGPMP Credits		($783,333)	($783,333)	($1,363,515)	($783,333)	($783,333)	($3,428,704)	($783,333)	($1,141,667)	($8,218)	($1,141,667)	($1,141,667)	$1,297,811	($10,844,293)
9	Working Capital	Sch. 4, line 15	$19,037	$19,723	$20,142	$19,364	$19,316	$19,095	$19,085	$20,283	$21,537	$23,316	$23,830	$22,805	$247,533
10	Total Supply Fixed Costs	sum[(5):(9)]	$2,590,081	$2,709,979	$2,202,996	$2,647,160	$2,638,748	($45,212)	$2,598,499	$2,445,750	$3,798,001	$2,975,085	$3,064,838	$5,325,320	$32,951,245
11	Supply Fixed - Revenue	Sch. 3, line 13	$3,261,277	$2,081,128	$1,178,236	$858,277	$765,567	$766,291	$1,002,307	$2,008,144	$3,525,810	$5,122,594	$5,070,397	$4,682,340	$30,322,369
12	Monthly Under/(Over) Recovery	(10) - (11)	($671,196)	$628,852	$1,024,760	$1,788,883	$1,873,181	($811,503)	$1,596,192	$437,605	$272,191	($2,147,509)	($2,005,560)	$642,980	$2,628,876
13	Prelim. Ending Under/(Over) Recovery	(3) + (12)	($14,910,763)	($14,299,831)	($13,293,639)	($11,521,730)	($9,664,323)	($10,489,295)	($8,905,501)	($8,480,224)	($8,256,170)	($10,415,261)	($12,434,705)	($11,807,072)	($11,610,691)
14	Month's Average Balance	[(3) + (13)] / 2	($14,575,165)	($14,614,257)	($13,806,019)	($12,416,172)	($10,600,914)	($10,083,543)	($9,703,597)	($8,699,027)	($8,392,265)	($9,341,507)	($11,431,925)	($12,128,562)	
15	Interest Rate (BOA Prime minus 200 bps)		1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.63%	1.75%	1.75%	1.88%	
16	Interest Applied	[(14) * (15) / 365] * (1)[1]	($17,920)	($18,567)	($16,975)	($15,775)	($13,468)	($12,398)	($12,328)	($10,725)	($11,582)	($13,884)	($15,347)	($19,314)	($178,284)
17	Marketer Reconcilation	Dkt 4647	$0	$0	$0	$0	$0	$0	$0	($37,411)	$0	$0	$0	$0	($37,411)
18	Fixed Ending Under/(Over) Recovery	(13) + (16) + (17)	($14,928,683)	($14,318,399)	($13,310,613)	($11,537,505)	($9,677,792)	($10,501,693)	($8,917,829)	($8,528,360)	($8,267,752)	($10,429,146)	($12,450,052)	($11,826,387)	($11,826,387)
19	II. Variable Cost Deferred														
20	Beginning Under/(Over) Recovery	Dkt 4647, Sch. AEL-2, pg. 1, line 36, col. m	$17,436,635	$13,348,985	$10,671,012	$9,605,781	$8,676,347	$8,715,976	$9,147,577	$9,293,216	$10,097,501	$16,318,521	$18,038,689	$16,722,311	$17,436,635
21															
22	Variable Supply Costs	Sch. 2, line 82	$7,022,068	$4,009,303	$2,624,934	$1,530,041	$2,165,611	$2,544,151	$3,132,289	$6,640,193	$16,506,195	$16,528,212	$13,317,911	$16,213,679	$92,234,586
23	Supply Related LNG to DAC	Dkt 4339	$0	$0	$0	$0	$0	$0	$0	$0	($165,005)	($1,334)	($1,334)	($243,849)	($411,522)
24	Supply Related LNG O & M	Dkt 4323	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$572,694
25	Inventory Financing - LNG	Sch. 5, line 22	$18,463	$20,244	$22,254	$25,515	$28,002	$28,664	$27,264	$27,598	$24,431	$21,983	$20,642	$16,793	$281,852
26	Inventory Financing - UG	Sch. 5, line 12	$60,142	$66,692	$73,294	$79,910	$84,004	$89,827	$93,592	$88,475	$75,678	$68,419	$51,816	$37,107	$868,956
27	Working Capital	Sch. 4, line 30	$40,430	$23,084	$15,113	$8,809	$12,469	$14,648	$18,034	$38,271	$94,182	$95,253	$76,750	$92,042	$529,087
28	Total Supply Variable Costs	sum[(22):(27)]	$7,188,828	$4,167,049	$2,783,320	$1,692,000	$2,337,810	$2,725,015	$3,318,904	$6,842,261	$16,583,205	$16,760,256	$13,513,509	$16,163,497	$94,075,653
29	Supply Variable - Revenue	Sch. 3, line 30	$11,295,391	$6,860,270	$3,861,009	$2,633,039	$2,309,223	$2,304,388	$3,184,972	$6,217,781	$10,380,401	$15,065,602	$14,853,204	$13,390,062	$92,355,345
30	Monthly Under/(Over) Recovery	(28) - (29)	($4,106,564)	($2,693,222)	($1,077,689)	($941,040)	$28,587	$420,627	$133,932	$624,480	$6,202,804	$1,694,654	($1,339,695)	$2,773,435	$1,720,309
31	Prelim. Ending Under/(Over) Recovery	(20) + (30)	$13,330,071	$10,655,763	$9,593,323	$8,664,741	$8,704,934	$9,136,602	$9,281,509	$9,917,696	$16,300,305	$18,013,175	$16,698,994	$19,495,746	$19,156,943
32	Month's Average Balance	[(20) + (31)] / 2	$15,383,353	$12,002,374	$10,132,168	$9,135,261	$8,690,641	$8,926,289	$9,214,543	$9,605,456	$13,198,903	$17,165,848	$17,368,841	$18,109,028	
33	Interest Rate (BOA Prime minus 200 bps)		1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.63%	1.75%	1.75%	1.88%	
34	Interest Applied	[(32) * (33) / 365] * (1)[1]	$18,914	$15,249	$12,458	$11,606	$11,041	$10,975	$11,707	$11,842	$18,216	$25,514	$23,317	$28,838	$199,677
35	Gas Procurement Incentive/(penalty)		$0	$0	$0	$0	$0	$0	$0	$167,963	$0	$0	$0	$0	$167,963
36	Variable Ending Under/(Over) Recovery	(31) + (34) + (35)	$13,348,985	$10,671,012	$9,605,781	$8,676,347	$8,715,976	$9,147,577	$9,293,216	$10,097,501	$16,318,521	$18,038,689	$16,722,311	$19,524,584	$19,524,584
37	**GCR Deferred Summary**														
38	Beginning Under/(Over) Recovery	(3) + (20)	$3,197,068	($1,579,698)	($3,647,387)	($3,704,833)	($2,861,157)	($961,816)	($1,354,115)	$375,387	$1,569,141	$8,050,769	$7,609,543	$4,272,259	$3,197,068
39	Gas Costs	sum[(4):(7),(17),(22):(24)]	$10,424,170	$7,530,617	$6,219,027	$4,988,895	$5,616,102	$5,956,273	$6,542,760	$10,217,640	$20,173,596	$20,668,038	$17,546,975	$20,022,259	$135,906,353
40	Inventory Finance	(25) + (26)	$78,605	$86,937	$95,548	$105,425	$112,006	$118,491	$120,856	$116,073	$100,108	$90,401	$72,458	$53,900	$1,150,808
41	Working Capital	(9) + (27)	$59,467	$42,807	$35,256	$28,173	$31,784	$33,743	$37,120	$58,553	$115,719	$118,569	$100,581	$114,847	$776,619
42	NGPMP Credits	(8)	($783,333)	($783,333)	($1,363,515)	($783,333)	($783,333)	($3,428,704)	($783,333)	($1,141,667)	($8,218)	($1,141,667)	($1,141,667)	$1,297,811	($10,844,293)
43	Total Costs	sum[(39):(42)]	$9,778,909	$6,877,028	$4,986,316	$4,339,160	$4,976,558	$2,679,803	$5,917,402	$9,250,599	$20,381,206	$19,735,341	$16,578,347	$21,488,817	$126,989,488
44	Revenue	(11) + (29)	$14,556,669	$8,941,398	$5,039,245	$3,491,316	$3,074,790	$3,070,679	$4,187,279	$8,225,926	$13,906,212	$20,188,196	$19,923,602	$18,072,402	$122,677,714
45	Monthly Under/(Over) Recovery	(43) - (44)	($4,777,760)	($2,064,370)	($52,929)	$847,844	$1,901,768	($390,876)	$1,730,124	$1,024,674	$6,474,995	($452,855)	($3,345,255)	$3,416,415	$4,311,773
46	Prelim. Ending Under/(Over) Recovery	(38) + (45)	($1,580,692)	($3,644,068)	($3,700,316)	($2,856,989)	($959,389)	($1,352,693)	$376,008	$1,400,061	$8,044,136	$7,597,914	$4,264,289	$7,688,674	$7,508,841
47	Month's Average Balance	[(38) + (46)] / 2	$808,188	($2,611,883)	($3,673,851)	($3,280,911)	($1,910,273)	($1,157,254)	($489,054)	$887,724	$4,806,638	$7,824,342	$5,936,916	$5,980,466	
48	Interest Rate (BOA Prime minus 200 bps)		1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.63%	1.75%	1.75%	1.88%	
49	Interest Applied	(16) + (34)	$994	($3,318)	($4,517)	($4,168)	($2,427)	($1,423)	($621)	$1,118	$6,634	$11,629	$7,970	$9,524	$21,393
50	Gas Purchase Plan Incentives/(Penalties)	(35)	$0	$0	$0	$0	$0	$0	$0	$167,963	$0	$0	$0	$0	$167,963
51															
52	**Ending Under/(Over) Recovery W/ Interest**	(46) + (49) + (50)	**($1,579,698)**	**($3,647,387)**	**($3,704,833)**	**($2,861,157)**	**($961,816)**	**($1,354,115)**	**$375,387**	**$1,569,141**	**$8,050,769**	**$7,609,543**	**$4,272,259**	**$7,698,197**	$7,698,197

[1] For the period Apr 16 through Oct 16 the Company computed interest based on a 366 days year.

REDACTED

Supply Estimate and Actuals for Filing

Line No.	Description	Reference	Apr Actual (a)	May Actual (b)	Jun Actual (c)	Jul Actual (d)	Aug Actual (e)	Sep Actual (f)	Oct Actual (g)	Nov Actual (h)	Dec Actual (i)	Jan Actual (j)	Feb Actual (k)	Mar Actual (l)	Apr-Mar (m)
1	**SUPPLY FIXED COSTS - Pipeline Delivery**														
2	Algonquin (includes East to West,Hubline, AIM, AMA credits)		$837,279	$845,234	$841,198	$841,032	$841,087	$840,941	$840,843	$866,814	$1,181,848	$1,494,194	$1,531,807	$1,469,882	$12,432,159
3	TETCO/Texas Eastern		$721,221	$721,221	$721,240	$719,948	$726,244	$726,252	$726,252	$724,537	$728,107	$728,107	$729,926	$729,926	$8,702,980
4	Tennessee		$976,328	$976,328	$976,328	$976,328	$976,328	$976,328	$976,328	$1,093,209	$1,093,190	$1,093,228	$1,093,228	$1,093,228	$12,300,378
5	NETNE		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Iroquois		$6,676	$5,719	$6,676	$6,676	$6,676	$6,676	$5,858	$6,267	$6,277	$6,267	$6,267	$6,267	$76,304
7	Union		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Transcanada		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Dominion		($28,460)	($28,460)	($28,460)	($28,460)	($28,460)	($28,460)	($28,460)	$2,235	$2,317	$2,276	$2,276	$2,276	($187,840)
10	Transco		$4,869	$5,010	$4,858	$5,020	$5,039	$4,858	$5,021	$4,859	$5,021	$5,021	$4,535	$5,020	$59,131
11	National Fuel		$4,574	$4,574	$4,574	$4,574	$4,574	$4,574	$4,574	$4,574	$4,387	$4,480	$4,480	$4,480	$54,419
12	Columbia		$296,729	$296,849	$241,832	$286,233	$286,354	$286,233	$293,897	$293,747	$293,746	$288,311	$291,046	$319,503	$3,474,481
13	Alberta Northeast		$348	$586	$2,646	$371	$379	$365	$366	$58	$0	$0	$0	$0	$5,119
14	Emera Energy		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15	Cargill Ltd.		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
16	Westerly Lateral		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
17	Less Credits from Mkter Releases		($666,778)	($682,800)	($665,674)	($680,511)	($680,654)	($666,763)	($682,797)	($643,994)	($665,274)	($663,322)	($622,002)	($664,983)	($7,985,552)
18	**Supply Fixed - Supplier**														
19	Distrigas FCS		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
20	**STORAGE FIXED COSTS - Facilities**														
21	Texas Eastern		$85,570	$85,117	$85,190	$85,170	$85,668	$76,927	$94,385	$85,718	$85,828	$85,804	$85,886	$75,826	$1,017,089
22	Dominion		$82,949	$82,949	$82,949	$80,255	$82,949	$82,949	$82,949	$82,949	$83,284	$83,117	$83,117	$83,117	$993,534
23	Tennessee		$48,337	$48,337	$48,337	$48,337	$48,883	$48,337	$48,337	$48,337	$48,337	$48,337	$48,337	$48,337	$580,588
24	Columbia		$9,694	$9,694	$9,694	$9,694	$9,694	$9,694	$9,694	$9,694	$9,694	$9,694	$9,694	$9,694	$116,328
25	Keyspan LNG Tank Lease Payment		$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$163,740	$1,964,880
26	**STORAGE FIXED COSTS - Delivery**														
27	Algonquin		$215,436	$215,436	$215,436	$215,436	$215,436	$215,436	$215,436	$215,436	$215,436	$215,436	$215,436	$215,436	$2,585,230
28	TETCO		$87,599	$87,599	$87,599	$87,599	$87,599	$87,599	$87,599	$87,625	$87,625	$87,625	$87,625	$87,625	$1,051,318
29	Tennessee		$91,219	$91,219	$91,219	$91,219	$91,219	$91,219	$91,219	$88,273	$88,273	$88,273	$88,273	$88,273	$1,079,896
30	Dominion		$30,695	$30,695	$30,695	$30,695	$30,695	$30,695	$30,695	$30,736	$30,736	$30,736	$30,736	$30,736	$368,543
31	Columbia		$15,171	$15,171	$15,171	$15,171	$15,171	$15,171	$15,171	$15,321	$15,321	$15,321	$15,321	$15,321	$182,800
32	Distrigas FLS call payment		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
33	BP Energy Company		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
34	Emera Energy		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
35	Repsol Peaking Supply at Dracut		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
36	**TOTAL FIXED COSTS**	sum[(2):(35)]	$3,430,478	$3,549,690	$3,622,469	$3,487,231	$3,478,867	$3,440,498	$3,438,848	$3,643,234	$3,860,783	$4,169,536	$4,258,775	$4,080,805	$44,461,214

REDACTED

Supply Estimate and Actuals for Filing

Line No.	Description	Reference	Apr Actual (a)	May Actual (b)	Jun Actual (c)	Jul Actual (d)	Aug Actual (e)	Sep Actual (f)	Oct Actual (g)	Nov Actual (h)	Dec Actual (i)	Jan Actual (j)	Feb Actual (k)	Mar Actual (l)	Apr-Mar (m)
37	**VARIABLE SUPPLY COSTS (Includes Injections)**		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
38	Tennessee (Includes ANE and Niagara)														
39	TETCO (Includes B&W)														
40	M3 Delivered														
41	Maumee														
42	Broadrun Col														
43	Columbia Eagle and Downingtown														
44	TETCO M2														
45	Dominion to TETCO FTS														
46	Transco Zone 3														
47	DistriGas FCS														
48	Hubline														
49	Total Pipeline Commodity Charges	sum[(37):(47)]	$3,311,471	$1,459,452	$605,570	$591,807	$503,438	$1,166,877	$1,220,480	$3,584,595	$12,874,611	$14,824,070	$10,345,460	$11,425,889	$61,913,719
50	Hedging Settlements and Amortization		$2,734,885	$1,589,254	$959,398	$324,878	$714,028	$471,224	$1,005,091	$1,401,803	$799,897	($1,704,181)	$143,044	$1,518,471	$9,957,792
51	Hedging Contracts - Commission & Other Fees		$495	$598	$256	$544	$413	$883	$1,297	$161,244	$703,912	$863,419	$767,448	$703,178	$3,203,689
52	Hedging Contracts - Net Carry of Collateral		$9,676	$10,480	$6,553	$6,532	$6,932	$3,658	$2,574	$5,873	$1,126	$1,212	$2,298	$1,410	$58,325
53	Refunds		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
54	Less: Costs of Injections		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
55	**TOTAL VARIABLE SUPPLY COSTS**	sum[(49):(54)]	$6,056,527	$3,059,784	$1,571,778	$923,762	$1,224,811	$1,642,642	$2,229,442	$5,153,515	$14,379,547	$13,984,520	$11,258,251	$13,648,948	$75,133,526
56	Underground Storage		$401,889	$247,694	$215,901	$28,902	$318,596	$192,240	$234,001	$771,467	$1,189,881	$1,482,766	$1,557,396	$1,560,812	$8,201,544
57	LNG Withdrawals and Trucking		$80,699	$79,140	$143,928	$86,749	$83,762	$66,480	$80,873	$75,749	$383,462	$310,935	$162,861	$489,167	$2,043,805
58	Storage Delivery Costs		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
59	**TOTAL VARIABLE STORAGE COSTS**	sum[(56):(58)]	$482,587	$326,835	$359,829	$115,651	$402,358	$258,720	$314,874	$847,215	$1,573,343	$1,793,701	$1,720,258	$2,049,979	$10,245,349
60	**TOTAL VARIABLE COSTS**	(55) + (59)	$6,539,114	$3,386,618	$1,931,606	$1,039,413	$1,627,169	$1,901,362	$2,544,316	$6,000,730	$15,952,889	$15,778,221	$12,978,509	$15,698,927	$85,378,874
61	**TOTAL SUPPLY COSTS**	(36) + (60)	$9,969,592	$6,936,308	$5,554,076	$4,526,643	$5,106,036	$5,341,860	$5,983,163	$9,643,964	$19,813,672	$19,947,757	$17,237,283	$19,779,733	$129,840,088
62	**Storage Costs for FT-2 Calculation**														
63	**Storage Fixed Costs - Facilities**		$390,290	$389,837	$389,910	$387,196	$390,934	$381,648	$399,105	$390,438	$390,882	$390,692	$390,774	$380,714	$4,672,419
64	**Storage Fixed Costs - Deliveries**		$1,441,583	$1,485,055	$1,627,282	$1,456,945	$1,456,949	$1,457,099	$1,456,949	$1,246,357	$849,883	$849,883	$849,883	$721,716	$14,899,583
65	**sub-total Storage Costs**	sum[(63):(64)]	$1,831,873	$1,874,892	$2,017,191	$1,844,141	$1,847,883	$1,838,747	$1,856,054	$1,636,795	$1,240,765	$1,240,574	$1,240,657	$1,102,430	$19,572,002
66	**LNG Demand to DAC**		($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($1,488,790)
67	**Inventory Financing**		$78,605	$86,937	$95,548	$105,425	$112,006	$118,491	$120,856	$116,073	$100,108	$90,401	$72,458	$53,900	$1,150,808
68	**Supply related LNG O&M Costs**		$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$47,965	$575,581
69	**Working Capital Requirement**		$19,037	$19,723	$20,142	$19,364	$19,316	$19,095	$19,085	$20,283	$21,537	$23,316	$23,830	$22,805	$247,533
70	**Total FT-2 Storage Fixed Costs**	sum[(65):(69)]	$1,853,414	$1,905,452	$2,056,781	$1,892,829	$1,903,104	$1,900,232	$1,919,895	$1,697,050	$1,286,309	$1,278,191	$1,260,844	$1,103,034	$20,057,134
71	**System Storage MDQ (Dth)**		179,070	181,646	182,090	181,336	181,765	181,224	182,216	183,069	191,153	198,008	196,094	198,576	2,236,245
72	**FT-2 Storage Cost per MDQ (Dth)**	(70) / (71)	$10.3502	$10.4899	$11.2954	$10.4382	$10.4701	$10.4855	$10.5364	$9.2700	$6.7292	$6.4552	$6.4298	$5.5547	$8.9691
73	Pipeline Variable	(60)	$6,539,114	$3,386,618	$1,931,606	$1,039,413	$1,627,169	$1,901,362	$2,544,316	$6,000,730	$15,952,889	$15,778,221	$12,978,509	$15,698,927	$85,378,874
74	Less Non-firm Gas Costs		($38,360)	($46,463)	($25,461)	($45,930)	($8,608)	$7,761	($8,693)	($65,801)	($143,846)	($342,994)	($216,056)	($21,936)	($956,388)
75	Less Company Use		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
76	Less Manchester St Balancing		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
77	Plus Cashout		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
78	Less Mkter W/drawals/Injections		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
79	Mkter Over-takes/Undertakes		($29,047)	$175,857	$213,671	$47,717	$45,593	$130,629	$114,727	$197,046	$171,885	$569,958	$113,194	$37,261	$1,788,493
80	Plus Pipeline Srchg/Credit		$504,864	$487,829	$504,046	$487,836	$504,180	$504,399	$488,006	$504,150	$506,090	$523,851	$523,610	$473,159	$6,012,019
81	Less Mkter FT-2 Daily weather true-up		$45,497	$5,462	$1,072	$1,006	($2,722)	$0	($6,067)	$4,068	$19,177	($824)	($81,347)	$26,267	$11,588
82	**TOTAL FIRM COMMODITY COSTS**	sum[(73):(81)]	$7,022,068	$4,009,303	$2,624,934	$1,530,041	$2,165,611	$2,544,151	$3,132,289	$6,640,193	$16,506,195	$16,528,212	$13,317,911	$16,213,679	$92,234,586

REDACTED

GCR Revenue

Line No.	Description	Reference	Apr Actual (a)	May Actual (b)	Jun Actual (c)	Jul Actual (d)	Aug Actual (e)	Sep Actual (f)	Oct Actual (g)	Nov Actual (h)	Dec Actual (i)	Jan Actual (j)	Feb Actual (k)	Mar Actual (l)	Apr-Mar (m)
1	**I. Fixed Cost Revenue --**														
2	(a) Low Load dth	Sch. 6, lines sum[(24:28), 30]	2,586,408	1,540,314	849,324	582,453	515,862	502,144	698,406	1,568,307	2,901,568	4,237,034	4,126,253	3,771,580	23,879,653
3	Fixed Cost Factor	(4) / (2)	$1.1428	$1.1434	$1.1442	$1.1425	$1.1236	$1.1457	$1.1444	$1.1469	$1.1423	$1.1414	$1.1418	$1.1415	
4	Low Load Revenue		$2,955,623	$1,761,188	$971,830	$665,435	$579,628	$575,296	$799,275	$1,798,769	$3,314,554	$4,835,965	$4,711,484	$4,305,354	$27,274,402
5	(b) High Load dth	Sch. 6, lines sum (22, 23, 29, 31)	86,125	63,662	54,863	40,550	32,422	38,614	51,328	56,445	67,133	76,865	83,534	77,012	728,552
6	Fixed Cost Factor	(7) / (5)	$0.8795	$0.8792	$0.8815	$0.8798	$0.8788	$0.8841	$0.8803	$0.8998	$0.9090	$0.8907	$0.9190	$0.9077	
7	High Load Revenue		$75,752	$55,969	$48,361	$35,677	$28,492	$34,137	$45,183	$50,787	$61,025	$68,460	$76,771	$69,906	$650,521
8	sub-total throughput Dth	(2) + (5)	2,672,534	1,603,977	904,187	623,002	548,284	540,759	749,733	1,624,752	2,968,700	4,313,898	4,209,787	3,848,592	24,608,205
9	FT-2 Storage Revenue from marketers		$228,326	$262,198	$156,584	$155,936	$156,304	$155,839	$156,692	$157,426	$149,264	$217,213	$281,274	$306,234	$2,383,289
10	Manchester Steet Volumes (dth)	Monthly Meter Use	1,337	1,502	1,239	1,041	968	863	981	986	822	812	737	718	12,004
11	Fixed cost factor (dth)	Inherent in approved GCR	$1.1796	$1.1796	$1.1796	$1.1796	$1.1796	$1.1796	$1.1796	$1.1787	$1.1787	$1.1787	$1.1787	$1.1787	
12	Manchester Street Revenue	(10) * (11)	$1,577	$1,772	$1,461	$1,228	$1,142	$1,018	$1,157	$1,163	$968	$957	$869	$846	$14,157
13	**TOTAL Fixed Revenue**	(4) + (7) + (9)	**$3,261,277**	**$2,081,128**	**$1,178,236**	**$858,277**	**$765,567**	**$766,291**	**$1,002,307**	**$2,008,144**	**$3,525,810**	**$5,122,594**	**$5,070,397**	**$4,682,340**	**$30,322,369**
14	**II. Variable Cost Revenue --**														
15	(a) Firm Sales dth	(8)	2,672,534	1,603,977	904,187	623,002	548,284	540,759	749,733	1,624,752	2,968,700	4,313,898	4,209,787	3,848,592	24,608,205
16	Variable Supply Cost Factor	(17) / (15)	$4.2153	$4.2175	$4.2210	$4.2144	$4.1486	$4.2268	$4.2212	$3.8616	$3.4773	$3.4727	$3.4766	$3.4748	
17	Variable Supply Revenue		11,265,583	6,764,778	3,816,541	2,625,554	2,274,612	2,285,672	3,164,793	6,274,073	10,323,084	14,980,899	14,635,608	13,373,070	$91,784,269
18	(b) TSS Sales dth	Sch. 6, line 20	25,815	16,736	8,187	1,342	1,320	(5,259)	6,941	3,116	6,555	4,658	14,712	17,411	101,533
19	TSS Surcharge Factor	Company's website	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.3880	$0.0000	$0.0000	
20	TSS Surcharge Revenue	(18) * (19)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,807	$0	$0	$1,807
21	(c) Default Sales dth	Sch. 6, line 60	4,502	4,208	102	527	1,411	1,527	2,003	1,315	5,384	7,861	7,933	6,877	43,649
22	Variable Supply Cost Factor	(23) / (21)	$4.1523	$5.3542	$5.3626	$5.3545	$5.3546	$5.3545	$5.3546	$5.3539	$9.2291	$9.4962	$26.9586	$1.0927	
23	Variable Supply Revenue		$18,695	$22,530	$546	$2,819	$7,553	$8,174	$10,726	$7,042	$49,685	$74,646	$213,868	$7,515	$423,800
24	(d) Peaking Gas Revenue		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
25	(e) Deferred Responsibility		$5,295	$66,426	$38,532	$136	$22,845	$6,789	$5,185	($66,873)	$4,684	$5,339	$1,084	$6,902	$96,343
26	(f) FT-1 Storage and Peaking		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
27	(g) Manchester Street Volumes (dth)	Monthly Meter Use	1,337	1,502	1,239	1,041	968	863	981	986	822	812	737	718	12,004
28	Variable Supply Cost Factor (dth)	Inherent in approved GCR	$4.3514	$4.3514	$4.3514	$4.3514	$4.3514	$4.3514	$4.3514	$3.5879	$3.5879	$3.5879	$3.5879	$3.5879	
29	Manchester Street Revenue	(27) * (28)	$5,818	$6,536	$5,390	$4,531	$4,213	$3,753	$4,268	$3,539	$2,948	$2,912	$2,644	$2,575	$49,125
30	**TOTAL Variable Revenue**	(17)+(20)+(23)+(24)+(25)+(26)+(29)	**$11,295,391**	**$6,860,270**	**$3,861,009**	**$2,633,039**	**$2,309,223**	**$2,304,388**	**$3,184,972**	**$6,217,781**	**$10,380,401**	**$15,065,602**	**$14,853,204**	**$13,390,062**	**$92,355,345**
31	**Total Gas Cost Revenue**	(13) + (30)	**$14,556,669**	**$8,941,398**	**$5,039,245**	**$3,491,316**	**$3,074,790**	**$3,070,679**	**$4,187,279**	**$8,225,926**	**$13,906,212**	**$20,188,196**	**$19,923,602**	**$18,072,402**	**$122,677,714**

Lines 12 and 29: Pursuant to the Division of Public Utilities and Carriers' approval in Docket No. D-15-04 of the Company's transportation contract for gas delivered to Manchester St. Station, beginning in July 2015, the Company is crediting imputed revenue to offset the gas costs associated with heater gas used at Manchester St. Station.

REDACTED

Working Capital

Line No.	Description	Reference	Apr Actual (a)	May Actual (b)	Jun Actual (c)	Jul Actual (d)	Aug Actual (e)	Sep Actual (f)	Oct Actual (g)	Nov Actual (h)	Dec Actual (i)	Jan Actual (j)	Feb Actual (k)	Mar Actual (l)	Apr-Mar (m)
1	**Supply Fixed Costs**	Sch. 1, line 5	$3,430,478	$3,549,690	$3,622,469	$3,487,231	$3,478,867	$3,440,498	$3,438,848	$3,643,234	$3,860,783	$4,169,536	$4,258,775	$4,080,805	$44,461,214
2	Less: LNG Demand to DAC	Sch. 1, line 6	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($1,488,790)
3	Plus: Supply Related LNG O&M Costs	Dkt 4323	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	Total Adjustments	(2) + (3)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($124,066)	($1,488,790)
5	Allowable Working Capital Costs	(1) + (4)	$3,306,413	$3,425,624	$3,498,403	$3,363,165	$3,354,801	$3,316,432	$3,314,782	$3,519,169	$3,736,717	$4,045,470	$4,134,709	$3,956,740	$42,972,424
6	Number of Days Lag	Dkt 4323	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	
7	Working Capital Requirement	[(5) * (6)] / 365	$194,852	$201,877	$206,166	$198,196	$197,703	$195,442	$195,345	$207,390	$220,210	$238,406	$243,665	$233,177	
8	Cost of Capital	Dkt 4339	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.26%	7.26%	7.26%	7.26%	7.26%	
9	Return on Working Capital Requirement	(7) * (8)	$14,127	$14,636	$14,947	$14,369	$14,334	$14,170	$14,163	$15,057	$15,987	$17,308	$17,690	$16,929	
10	Weighted Cost of Debt	Dkt 4339	2.57%	2.57%	2.57%	2.57%	2.57%	2.57%	2.57%	2.58%	2.58%	2.58%	2.58%	2.58%	
11	Interest Expense	(7) * (10)	$5,008	$5,188	$5,298	$5,094	$5,081	$5,023	$5,020	$5,351	$5,681	$6,151	$6,287	$6,016	
12	Taxable Income	(9) - (11)	$9,119	$9,448	$9,649	$9,276	$9,253	$9,147	$9,142	$9,706	$10,306	$11,157	$11,404	$10,913	
13	1 - Combined Tax Rate	Dkt 4323	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
14	Return and Tax Requirement	(12) / (13)	$14,029	$14,535	$14,844	$14,270	$14,235	$14,072	$14,065	$14,932	$15,855	$17,165	$17,544	$16,789	
15	**Supply Fixed Working Capital Requirement**	(11) + (14)	$19,037	$19,723	$20,142	$19,364	$19,316	$19,095	$19,085	$20,283	$21,537	$23,316	$23,830	$22,805	$247,533
16	**Supply Variable Costs**	Sch. 1, line 22	$7,022,068	$4,009,303	$2,624,934	$1,530,041	$2,165,611	$2,544,151	$3,132,289	$6,640,193	$16,506,195	$16,528,212	$13,317,911	$16,213,679	$92,234,586
17	Less: Balancing Related LNG Commodity (to DAC)	Sch. 1, line 23	$0	$0	$0	$0	$0	$0	$0	$0	($165,005)	($1,334)	($1,334)	($243,849)	($411,522)
18	Plus: Supply Related LNG O&M Costs	Dkt 4323	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
19	Total Adjustments	(17) + (18)	$0	$0	$0	$0	$0	$0	$0	$0	($165,005)	($1,334)	($1,334)	($243,849)	($411,522)
20	Allowable Working Capital Costs	(16) + (19)	$7,022,068	$4,009,303	$2,624,934	$1,530,041	$2,165,611	$2,544,151	$3,132,289	$6,640,193	$16,341,190	$16,526,878	$13,316,577	$15,969,830	$91,823,065
21	Number of Days Lag	Dkt 4323	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	21.51	
22	Working Capital Requirement	[(20) * (21)] / 365	$413,821	$236,274	$154,691	$90,168	$127,623	$149,931	$184,590	$391,317	$963,011	$973,954	$784,766	$941,126	
23	Cost of Capital	Dkt 4339	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.26%	7.26%	7.26%	7.26%	7.26%	
24	Return on Working Capital Requirement	(22) * (23)	$30,002	$17,130	$11,215	$6,537	$9,253	$10,870	$13,383	$28,410	$69,915	$70,709	$56,974	$68,326	
25	Weighted Cost of Debt	Dkt 4339	2.57%	2.57%	2.57%	2.57%	2.57%	2.57%	2.57%	2.58%	2.58%	2.58%	2.58%	2.58%	
26	Interest Expense	(22) * (25)	$10,635	$6,072	$3,976	$2,317	$3,280	$3,853	$4,744	$10,096	$24,846	$25,128	$20,247	$24,281	
27	Taxable Income	(24) - (26)	$19,367	$11,058	$7,240	$4,220	$5,973	$7,017	$8,639	$18,314	$45,069	$45,581	$36,727	$44,045	
28	1 - Combined Tax Rate	Dkt 4323	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
29	Return and Tax Requirement	(27) / (28)	$29,795	$17,012	$11,138	$6,492	$9,189	$10,795	$13,291	$28,175	$69,337	$70,125	$56,503	$67,761	
30	**Supply Variable Working Capital Requirement**	(26) + (29)	$40,430	$23,084	$15,113	$8,809	$12,469	$14,648	$18,034	$38,271	$94,182	$95,253	$76,750	$92,042	$529,087

REDACTED

Inventory Finance

Line No.	Description	Reference	Apr Actual (a)	May Actual (b)	Jun Actual (c)	Jul Actual (d)	Aug Actual (e)	Sep Actual (f)	Oct Actual (g)	Nov Actual (h)	Dec Actual (i)	Jan Actual (j)	Feb Actual (k)	Mar Actual (l)	Apr-Mar (m)
1	**Storage Inventory Balance**		$6,846,012	$7,084,306	$7,390,915	$7,992,207	$7,953,536	$8,251,903	$8,302,891	$7,822,815	$6,955,021	$6,926,335	$5,655,452	$4,553,020	
2	Monthly Storage Deferral/Amortization		$540,966	$1,107,192	$1,611,364	$1,822,776	$2,364,223	$2,781,054	$3,192,588	$3,032,959	$2,330,590	$1,468,592	$702,371	$1	
3	**Subtotal**	(1) + (2)	**$7,386,979**	**$8,191,498**	**$9,002,279**	**$9,814,983**	**$10,317,759**	**$11,032,957**	**$11,495,479**	**$10,855,774**	**$9,285,611**	**$8,394,927**	**$6,357,824**	**$4,553,021**	
4	Cost of Capital	Dkt 4339	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.26%	7.26%	7.26%	7.26%	7.26%	
5	Return on Working Capital Requirement	(3) * (4)	$535,556	$593,884	$652,665	$711,586	$748,038	$799,889	$833,422	$788,129	$674,135	$609,472	$461,578	$330,549	$7,738,904
6	Weighted Cost of Debt	Dkt 4339	2.57%	2.57%	2.57%	2.57%	2.57%	2.57%	2.57%	2.58%	2.58%	2.58%	2.58%	2.58%	
7	Interest Charges Financed	(3) * (6)	$189,845	$210,522	$231,359	$252,245	$265,166	$283,547	$295,434	$280,079	$239,569	$216,589	$164,032	$117,468	$2,745,854
8	Taxable Income	(5) - (7)	$345,711	$383,362	$421,307	$459,341	$482,871	$516,342	$537,988	$508,050	$434,567	$392,883	$297,546	$213,081	
9	1 - Combined Tax Rate	Dkt 4323	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
10	Return and Tax Requirement	(8) / (9)	$531,862	$589,788	$648,164	$706,679	$742,879	$794,373	$827,674	$781,616	$668,564	$604,435	$457,763	$327,818	$7,681,615
11	Working Capital Requirement	(7) + (10)	$721,708	$800,309	$879,523	$958,924	$1,008,045	$1,077,920	$1,123,108	$1,061,695	$908,133	$821,024	$621,795	$445,285	$10,427,469
12	Monthly Average	(11) / 12	$60,142	$66,692	$73,294	$79,910	$84,004	$89,827	$93,592	$88,475	$75,678	$68,419	$51,816	$37,107	$868,956
13	**LNG Inventory Balance**		$2,267,685	$2,486,527	$2,733,364	$3,133,824	$3,439,318	$3,520,714	$3,348,673	$3,386,262	$2,997,625	$2,697,248	$2,532,709	$2,060,523	
14	Cost of Capital	Dkt 4339	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.26%	7.26%	7.26%	7.26%	7.26%	
15	Return on Working Capital Requirement	(13) * (14)	$164,407	$180,273	$198,169	$227,202	$249,351	$255,252	$242,779	$245,843	$217,628	$195,820	$183,875	$149,594	$2,510,192
16	Weighted Cost of Debt	Dkt 4339	2.57%	2.57%	2.57%	2.57%	2.57%	2.57%	2.57%	2.58%	2.58%	2.58%	2.58%	2.58%	
17	Interest Charges Financed	(13) * (16)	$58,280	$63,904	$70,247	$80,539	$88,390	$90,482	$86,061	$87,366	$77,339	$69,589	$65,344	$53,161	$890,702
18	Taxable Income	(15) - (17)	$106,128	$116,369	$127,921	$146,663	$160,960	$164,769	$156,718	$158,477	$140,289	$126,231	$118,531	$96,432	
19	1 - Combined Tax Rate	Dkt 4323	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
20	Return and Tax Requirement	(18) / (19)	$163,273	$179,030	$196,802	$225,635	$247,631	$253,491	$241,104	$243,811	$215,829	$194,202	$182,355	$148,358	$2,491,522
21	Working Capital Requirement	(17) + (20)	$221,553	$242,934	$267,050	$306,175	$336,021	$343,974	$327,165	$331,176	$293,168	$263,791	$247,699	$201,519	$3,382,224
22	Monthly Average	(21) / 12	$18,463	$20,244	$22,254	$25,515	$28,002	$28,664	$27,264	$27,598	$24,431	$21,983	$20,642	$16,793	$281,852
23	TOTAL GCR Inventory Financing Costs	(12) + (22)	**$78,605**	**$86,937**	**$95,548**	**$105,425**	**$112,006**	**$118,491**	**$120,856**	**$116,073**	**$100,108**	**$90,401**	**$72,458**	**$53,900**	**$1,150,808**

REDACTED

Actual Dth Usage for Filing

Line No.	THROUGHPUT (Dth) Rate Class	Apr Actual (a)	May Actual (b)	Jun Actual (c)	Jul Actual (d)	Aug Actual (e)	Sep Actual (f)	Oct Actual (g)	Nov Actual (h)	Dec Actual (i)	Jan Actual (j)	Feb Actual (k)	Mar Actual (l)	Apr-Mar (m)
1	**SALES**													
2	Residential Non-Heating	60,019	39,167	28,743	18,658	16,187	16,103	19,867	27,860	38,287	50,638	50,625	47,073	**413,226**
3	Residential Non-Heating Low Income	2,941	1,956	1,023	327	259	277	392	708	1,220	1,697	1,646	1,406	**13,852**
4	Residential Heating	1,778,181	1,062,089	573,872	392,213	337,357	341,248	470,510	1,105,743	2,028,011	2,935,054	2,884,975	2,623,389	**16,532,640**
5	Residential Heating Low Income	152,450	100,566	55,710	40,021	33,305	34,078	46,179	99,712	178,044	250,781	238,178	213,710	**1,442,733**
6	Small C&I	236,605	124,634	68,665	47,017	41,144	34,719	46,769	116,386	260,153	412,737	405,424	368,672	**2,162,923**
7	Medium C&I	310,734	195,493	122,262	92,582	92,842	91,211	118,506	202,328	353,053	502,001	473,805	444,548	**2,999,365**
8	Large LLF	77,000	38,092	17,590	8,111	9,003	7,444	14,885	38,117	70,274	111,810	100,523	94,633	**587,482**
9	Large HLF	14,204	15,349	19,350	15,912	10,345	14,381	17,352	17,053	21,083	26,215	26,803	24,099	**222,146**
10	Extra Large LLF	8,303	5,409	3,332	1,167	1,113	283	744	3,267	6,464	12,229	9,417	10,069	**61,797**
11	Extra Large HLF	6,283	4,488	5,453	5,653	5,410	6,275	7,588	10,464	5,556	6,078	3,679	3,582	**70,507**
12	**Total Sales**	2,646,719	1,587,241	896,000	621,661	546,964	546,017	742,792	1,621,637	2,962,145	4,309,240	4,195,075	3,831,181	**24,506,672**
13	**TSS**													
14	Small	101	55	14	1	0	1	3	1	820	1,643	1,720	1,352	**5,711**
15	Medium	17,296	10,629	427	871	692	666	738	1,651	2,542	5,657	6,588	6,566	**54,323**
16	Large LLF	5,738	3,350	7,452	470	406	(7,506)	71	1,104	2,207	5,122	5,623	8,641	**32,678**
17	Large HLF	2,679	2,702	294	0	221	1,580	6,129	360	986	(7,763)	781	852	**8,821**
18	Extra Large LLF	0	0	0	0	0	0	0	0	0	0	0	0	**0**
19	Extra Large HLF	0	0	0	0	0	0	0	0	0	0	0	0	**0**
20	**Total TSS**	25,815	16,736	8,187	1,342	1,320	(5,259)	6,941	3,116	6,555	4,658	14,712	17,411	**101,533**
21	**Sales & TSS THROUGHPUT**													
22	Residential Non-Heating	60,019	39,167	28,743	18,658	16,187	16,103	19,867	27,860	38,287	50,638	50,625	47,073	**413,226**
23	Residential Non-Heating Low Income	2,941	1,956	1,023	327	259	277	392	708	1,220	1,697	1,646	1,406	**13,852**
24	Residential Heating	1,778,181	1,062,089	573,872	392,213	337,357	341,248	470,510	1,105,743	2,028,011	2,935,054	2,884,975	2,623,389	**16,532,640**
25	Residential Heating Low Income	152,450	100,566	55,710	40,021	33,305	34,078	46,179	99,712	178,044	250,781	238,178	213,710	**1,442,733**
26	Small C&I	236,705	124,688	68,679	47,017	41,144	34,720	46,772	116,387	260,972	414,380	407,145	370,024	**2,168,634**
27	Medium C&I	328,031	206,121	122,689	93,453	93,534	91,877	119,244	203,978	355,596	507,658	480,393	451,114	**3,053,688**
28	Large LLF	82,739	41,442	25,042	8,581	9,409	(62)	14,956	39,221	72,481	116,932	106,146	103,274	**620,160**
29	Large HLF	16,883	18,051	19,644	15,912	10,566	15,961	23,481	17,413	22,069	18,451	27,584	24,951	**230,967**
30	Extra Large LLF	8,303	5,409	3,332	1,167	1,113	283	744	3,267	6,464	12,229	9,417	10,069	**61,797**
31	Extra Large HLF	6,283	4,488	5,453	5,653	5,410	6,275	7,588	10,464	5,556	6,078	3,679	3,582	**70,507**
32	**Total Sales & TSS Throughput**	2,672,534	1,603,977	904,187	623,002	548,284	540,759	749,733	1,624,752	2,968,700	4,313,898	4,209,787	3,848,592	**24,608,205**
33	**FT-1 TRANSPORTATION**													
34	FT-1 Medium	50,248	46,317	16,972	12,658	23,275	19,597	25,082	15,039	57,778	91,539	92,513	76,349	**527,366**
35	FT-1 Large LLF	70,276	54,505	4,166	(6,639)	15,268	12,755	21,342	30,674	85,561	138,218	139,766	118,745	**684,636**
36	FT-1 Large HLF	36,833	33,922	28,372	31,907	24,836	26,008	28,244	3,130	34,229	46,585	45,978	41,018	**381,061**
37	FT-1 Extra Large LLF	106,626	93,152	12,455	(19,882)	16,867	16,137	27,896	49,729	116,405	178,743	179,983	159,841	**937,951**
38	FT-1 Extra Large HLF	410,300	485,818	417,435	478,958	424,379	489,409	401,651	26,686	491,114	557,480	552,086	489,501	**5,224,817**
39	Default	4,502	4,208	102	527	1,411	1,527	2,003	1,315	5,384	7,861	7,933	6,877	**43,649**
40	**Total FT-1 Transportation**	678,786	717,920	479,501	497,528	506,036	565,433	506,217	126,573	790,470	1,020,427	1,018,260	892,330	**7,799,481**
41	**FT-2 TRANSPORTATION**													
42	FT-2 Small	8,922	4,864	2,660	1,939	1,894	1,805	2,711	5,763	12,400	19,816	18,921	18,027	**99,721**
43	FT-2 Medium	180,341	117,208	72,110	51,904	45,212	44,845	62,395	113,132	196,524	277,630	266,892	257,186	**1,685,377**
44	FT-2 Large LLF	124,706	75,799	25,923	15,596	13,724	15,849	28,855	90,345	164,245	224,090	204,116	189,418	**1,172,665**
45	FT-2 Large HLF	39,401	32,801	27,650	21,669	21,990	26,358	24,907	36,219	43,989	56,893	59,620	56,196	**447,691**
46	FT-2 Extra Large LLF	9,132	6,423	3,574	2,469	2,001	475	818	1,374	4,987	7,574	6,675	5,895	**51,397**
47	FT-2 Extra Large HLF	40,735	36,244	36,123	35,144	32,540	38,843	37,476	42,225	46,991	50,604	47,994	55,613	**500,532**
48	**Total FT-2 Transportation**	403,236	273,340	168,039	128,721	117,359	128,175	157,161	289,058	469,135	636,607	604,218	582,335	**3,957,383**
49	**Total THROUGHPUT**													
50	Residential Non-Heating	60,019	39,167	28,743	18,658	16,187	16,103	19,867	27,860	38,287	50,638	50,625	47,073	**413,226**
51	Residential Non-Heating Low Income	2,941	1,956	1,023	327	259	277	392	708	1,220	1,697	1,646	1,406	**13,852**
52	Residential Heating	1,778,181	1,062,089	573,872	392,213	337,357	341,248	470,510	1,105,743	2,028,011	2,935,054	2,884,975	2,623,389	**16,532,640**
53	Residential Heating Low Income	152,450	100,566	55,710	40,021	33,305	34,078	46,179	99,712	178,044	250,781	238,178	213,710	**1,442,733**
54	Small C&I	245,627	129,552	71,339	48,956	43,038	36,525	49,483	122,150	273,372	434,196	426,066	388,051	**2,268,355**
55	Medium C&I	558,619	369,646	211,771	158,015	162,022	156,319	206,721	332,149	609,897	876,827	839,797	784,649	**5,266,431**
56	Large LLF	277,720	171,746	55,130	17,537	38,400	28,542	65,153	160,240	322,287	479,241	450,028	411,438	**2,477,462**
57	Large HLF	93,117	84,774	75,665	69,488	57,392	68,327	76,631	56,763	100,288	121,930	133,181	122,164	**1,059,720**
58	Extra Large LLF	124,061	104,983	19,361	(16,246)	19,981	16,895	29,458	54,369	127,856	198,546	196,075	175,805	**1,051,145**
59	Extra Large HLF	457,318	526,550	459,011	519,756	462,329	534,527	446,715	79,375	543,661	614,162	603,758	548,696	**5,795,856**
60	Default	4,502	4,208	102	527	1,411	1,527	2,003	1,315	5,384	7,861	7,933	6,877	**43,649**
61	**Total Throughput**	3,754,555	2,595,237	1,551,727	1,249,252	1,171,679	1,234,367	1,413,111	2,040,383	4,228,306	5,970,932	5,832,264	5,323,257	**36,365,069**

Attachment AEL-3S

Attachment AEL-3S
Projected Gas Cost Balances

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Projected Gas Cost Deferred Balances

Line No.	Description	Reference	Nov-17 forecast	Dec-17 forecast	Jan-18 forecast	Feb-18 forecast	Mar-18 forecast	Apr-18 forecast	May-18 forecast	Jun-18 forecast	Jul-18 forecast	Aug-18 forecast	Sep-18 forecast	Oct-18 forecast	Nov - Oct
(1)	# of Days in Month		30	31	31	28	31	30	31	30	31	31	30	31	365
(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
(2)	I. Fixed Cost Deferred														
(3)	Beginning Under/(Over) Recovery	Nov-17: AEL-1S pg 6, Col m, Line (17); Dec 17 - Oct 18: Previous month Line (16)	$1,169,851	$1,682,686	($57,848)	($3,640,336)	($7,714,133)	($10,912,218)	($12,130,532)	($11,275,288)	($9,378,282)	($7,035,435)	($4,581,408)	($2,231,396)	$1,169,851
(4)	Fixed Costs (net of cap rel)	AEL-1S pg 4, Line (61)	$4,361,988	$4,395,979	$4,394,646	$4,392,509	$4,394,646	$4,478,639	$4,479,351	$4,478,639	$4,479,351	$4,479,351	$4,478,236	$4,478,948	$53,292,283
(5)	NGPMP Credits	NGC-1S	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($10,900,000)
(6)	Working Capital	AEL-1S pg 8, Line (16)	$23,993	$24,189	$24,181	$24,169	$24,181	$24,665	$24,669	$24,665	$24,669	$24,669	$24,663	$24,667	$293,378
(7)	System Pressure to DAC	AEL-1S pg 4 Line (16) * 75.77%	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($199,124)	($2,389,483)
(8)	Supply Related LNG O & M	AEL-1S pg 3, sum [Line (8), (9)] / 12	$101,048	$101,048	$101,048	$101,048	$101,048	$101,048	$101,048	$101,048	$101,048	$101,048	$101,048	$101,048	$1,212,581
(9)	Total Supply Fixed Costs	sum[(4):(8)]	$3,379,572	$3,413,759	$3,412,418	$3,410,269	$3,412,418	$3,496,896	$3,497,612	$3,496,896	$3,497,612	$3,497,612	$3,496,490	$3,497,206	$41,508,760
(10)	Fixed - Revenue	AEL-1S pg 7, Line (10)	($2,905,437)	($5,155,844)	($6,991,376)	($7,474,277)	($6,592,723)	($4,693,923)	($2,620,026)	($1,580,810)	($1,139,097)	($1,032,496)	($1,140,185)	($1,386,864)	($42,713,054)
(11)	Prelim. Ending Under/(Over) Recovery	(3) + (9) + (10)	$1,643,987	($59,399)	($3,636,805)	($7,704,343)	($10,894,438)	($12,109,245)	($11,252,946)	($9,359,202)	($7,019,767)	($4,570,319)	($2,225,102)	($121,054)	
(12)	Month's Average Balance	[(3) + (11)] / 2	$1,406,919	$811,644	($1,847,327)	($5,672,339)	($9,304,286)	($11,510,732)	($11,691,739)	($10,317,245)	($8,199,025)	($5,802,877)	($3,403,255)	($1,176,225)	
(13)	Interest Rate (BOA Prime minus 200 bps)		2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	
(14)	Interest Applied	[(12) * (13)] / 365 * (1)	$2,602	$1,551	($3,530)	($9,791)	($17,780)	($21,287)	($22,342)	($19,080)	($15,668)	($11,089)	($6,294)	($2,248)	($124,956)
(15)	Marketer Reconciliation	AEL-7, Line (50)	$36,098												$36,098
(16)	Fixed Ending Under/(Over) Recovery	(11) + (14) + (15)	$1,682,686	($57,848)	($3,640,336)	($7,714,133)	($10,912,218)	($12,130,532)	($11,275,288)	($9,378,282)	($7,035,435)	($4,581,408)	($2,231,396)	($123,301)	($123,301)
(17)	II. Variable Cost Deferred														
(18)	Beginning Under/(Over) Recovery	Nov-17: AEL-1S pg 6, Col m, Line (35); Dec 17 - Oct 18: Previous month line (32)	$12,377,603	$11,991,389	$11,904,896	$13,899,917	$13,116,953	$9,425,736	$4,753,108	$2,437,824	$1,327,010	$809,919	$417,636	($133,544)	$12,377,603
(19)	Variable Costs	AEL-1S pg 5, Line (90)	$5,645,914	$10,998,135	$17,208,947	$15,542,321	$10,715,275	$5,484,110	$3,165,666	$2,024,140	$1,607,551	$1,477,419	$1,545,483	$2,914,712	$78,329,672
(20)	Supply Related Syst. Pressure to DAC		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(21)	Supply Related LNG O & M	Dkt 4323	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$47,725	$572,694
(22)	Inventory Financing - LNG	AEL-1S pg 10, Line (22)	$26,654	$26,019	$10,255	$4,234	$3,598	$8,815	$14,180	$19,402	$21,289	$22,312	$27,518	$28,532	$212,808
(23)	Inventory Financing - UG	AEL-1S pg 10, Line (12)	$76,904	$66,338	$49,942	$34,951	$21,279	$21,626	$31,598	$41,293	$47,908	$56,569	$70,281	$82,065	$600,752
(24)	Working Capital	AEL-1S pg 8, Line (32)	$32,540	$63,388	$99,184	$89,578	$61,758	$31,608	$18,245	$11,666	$9,265	$8,515	$8,907	$16,799	$451,453
(25)	Total Variable Costs	sum[(19):(24)]	$5,829,736	$11,201,604	$17,416,052	$15,718,809	$10,849,635	$5,593,883	$3,277,414	$2,144,226	$1,733,737	$1,612,540	$1,699,914	$3,089,832	$80,167,380
(26)	Variable - Revenue	AEL-1S pg 7, Line (15)	($6,238,462)	($11,310,908)	($15,445,663)	($16,525,069)	($14,562,370)	($10,279,609)	($5,599,562)	($3,258,518)	($2,252,867)	($2,005,995)	($2,251,356)	($2,812,684)	($92,543,063)
(27)	Prelim. Ending Under/(Over) Recovery	(18) + (25) + (26)	$11,968,877	$11,882,085	$13,875,285	$13,093,657	$9,404,217	$4,740,009	$2,430,959	$1,323,532	$807,880	$416,464	($133,806)	$143,604	
(28)	Month's Average Balance	[(18) + (27)] / 2	$12,173,240	$11,936,737	$12,890,090	$13,496,787	$11,260,585	$7,082,873	$3,592,034	$1,880,678	$1,067,445	$613,192	$141,915	$5,030	
(29)	Interest Rate (BOA Prime minus 200 bps)		2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	
(30)	Interest Applied	[(28) * (29)] / 365 * (1)	$22,512	$22,811	$24,632	$23,296	$21,519	$13,098	$6,864	$3,478	$2,040	$1,172	$262	$10	$141,694
(31)	Gas Procurement Incentive/(penalty)		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
(32)	Variable Ending Under/(Over) Recovery	(27) + (30) + (31)	$11,991,389	$11,904,896	$13,899,917	$13,116,953	$9,425,736	$4,753,108	$2,437,824	$1,327,010	$809,919	$417,636	($133,544)	$143,614	$143,614
(33)	**GCR Deferred Summary**														
(34)	Beginning Under/(Over) Recovery	(3) + (18)	$13,547,454	$13,674,075	$11,847,048	$10,259,582	$5,402,819	($1,486,482)	($7,377,424)	($8,837,465)	($8,051,273)	($6,225,516)	($4,163,772)	($2,364,940)	$13,547,454
(35)	Gas Costs	sum[(4),(7):(8),(15),(19):(21)]	$9,993,649	$15,343,763	$21,553,242	$19,884,480	$15,059,570	$9,912,399	$7,594,667	$6,452,428	$6,036,551	$5,906,419	$5,973,368	$7,343,309	$131,053,845
(36)	Inventory Finance	(22) + (23)	$103,558	$92,357	$60,197	$39,185	$24,877	$30,441	$45,777	$60,695	$69,197	$78,882	$97,799	$110,596	$813,560
(37)	Working Capital	(6) + (24)	$56,533	$87,576	$123,365	$113,747	$85,938	$56,273	$42,914	$36,331	$33,934	$33,184	$33,570	$41,466	$744,832
(38)	NGPMP Credits	(5)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($908,333)	($10,900,000)
(39)	Total Costs	sum[(35):(38)]	$9,245,406	$14,615,363	$20,828,470	$19,129,078	$14,262,053	$9,090,778	$6,775,025	$5,641,122	$5,231,349	$5,110,152	$5,196,404	$6,587,038	$121,712,237
(40)	Revenue	(10) + (26)	($9,143,899)	($16,466,752)	($22,437,039)	($23,999,346)	($21,155,093)	($14,973,532)	($8,219,588)	($4,839,328)	($3,391,964)	($3,038,491)	($3,391,541)	($4,199,548)	($135,256,117)
(41)	Prelim. Ending Under/(Over) Recovery	(34) + (39) + (40)	$13,648,961	$11,822,686	$10,238,479	$5,389,314	($1,490,221)	($7,369,236)	($8,821,986)	($8,035,671)	($6,211,887)	($4,153,854)	($2,358,909)	$22,550	$3,574
(42)	Month's Average Balance	[(34) + (41)] / 2	$13,598,208	$12,748,381	$11,042,764	$7,824,448	$1,956,299	($4,427,859)	($8,099,705)	($8,436,568)	($7,131,580)	($5,189,685)	($3,261,340)	($1,171,195)	
(43)	Interest Rate (BOA Prime minus 200 bps)		2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	
(44)	Interest Applied	(14) + (30)	$25,114	$24,362	$21,102	$13,505	$3,738	($8,189)	($15,478)	($15,602)	($13,628)	($9,917)	($6,031)	($2,238)	$16,738
(45)	Gas Purchase Plan Incentives/(Penalties)	(31)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
(46)	**Ending Under/(Over) Recovery W/ Interest**	(41) + (44) + (45)	$13,674,075	$11,847,048	$10,259,582	$5,402,819	($1,486,482)	($7,377,424)	($8,837,465)	($8,051,273)	($6,225,516)	($4,163,772)	($2,364,940)	**$20,312**	$20,312

Attachment AEL-4S

Attachment AEL-4S
Bill Impact Analysis
Includes the proposed GCR And DAC Factors

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Bill Impact Analysis with Various Levels of Consumption:

Residential Heating:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(1)												
(2)												
(3)												
(4)			---	---	---	---	---	---	---	---	---	---
(5)		550	$867.54	$838.40	$29.14	3.5%	$30.97	($2.70)	$0.00	$0.00	$0.00	$0.87
(6)		608	$940.56	$908.32	$32.24	3.5%	$34.23	($2.96)	$0.00	$0.00	$0.00	$0.97
(7)		667	$1,014.68	$979.32	$35.36	3.6%	$37.56	($3.26)	$0.00	$0.00	$0.00	$1.06
(8)		727	$1,089.04	$1,050.52	$38.52	3.7%	$40.92	($3.56)	$0.00	$0.00	$0.00	$1.16
(9)		788	$1,161.60	$1,119.80	$41.79	3.7%	$44.37	($3.83)	$0.00	$0.00	$0.00	$1.25
(10)	**Average Customer**	**846**	**$1,229.20**	**$1,184.35**	**$44.85**	**3.8%**	$47.63	($4.13)	$0.00	$0.00	$0.00	$1.35
(11)		904	$1,297.02	$1,249.10	$47.93	3.8%	$50.90	($4.41)	$0.00	$0.00	$0.00	$1.44
(12)		966	$1,369.28	$1,318.07	$51.21	3.9%	$54.37	($4.70)	$0.00	$0.00	$0.00	$1.54
(13)		1,023	$1,435.54	$1,381.33	$54.21	3.9%	$57.57	($4.99)	$0.00	$0.00	$0.00	$1.63
(14)		1,081	$1,502.25	$1,444.93	$57.32	4.0%	$60.86	($5.26)	$0.00	$0.00	$0.00	$1.72
(15)		1,145	$1,574.82	$1,514.12	$60.70	4.0%	$64.46	($5.58)	$0.00	$0.00	$0.00	$1.82

Residential Heating Low Income:

Line No.		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(16)												
(17)												
(18)												
(19)			---	---	---	---	---	---	---	---	---	---
(20)		550	$825.05	$795.90	$29.14	3.7%	$30.97	($2.70)	$0.00	$0.00	$0.00	$0.87
(21)		608	$895.33	$863.09	$32.24	3.7%	$34.23	($2.96)	$0.00	$0.00	$0.00	$0.97
(22)		667	$966.68	$931.32	$35.36	3.8%	$37.56	($3.26)	$0.00	$0.00	$0.00	$1.06
(23)		727	$1,038.31	$999.80	$38.52	3.9%	$40.92	($3.56)	$0.00	$0.00	$0.00	$1.16
(24)		788	$1,108.42	$1,066.62	$41.79	3.9%	$44.37	($3.83)	$0.00	$0.00	$0.00	$1.25
(25)	**Average Customer**	**846**	**$1,173.79**	**$1,128.95**	**$44.85**	**4.0%**	$47.63	($4.13)	$0.00	$0.00	$0.00	$1.35
(26)		904	$1,239.42	$1,191.49	$47.93	4.0%	$50.90	($4.41)	$0.00	$0.00	$0.00	$1.44
(27)		966	$1,309.32	$1,258.12	$51.21	4.1%	$54.37	($4.70)	$0.00	$0.00	$0.00	$1.54
(28)		1,023	$1,373.44	$1,319.23	$54.21	4.1%	$57.57	($4.99)	$0.00	$0.00	$0.00	$1.63
(29)		1,081	$1,438.04	$1,380.72	$57.32	4.2%	$60.86	($5.26)	$0.00	$0.00	$0.00	$1.72
(30)		1,145	$1,508.39	$1,447.68	$60.70	4.2%	$64.46	($5.58)	$0.00	$0.00	$0.00	$1.82

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Bill Impact Analysis with Various Levels of Consumption:

Residential Non-Heating:

	Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
	140	$351.72	$347.56	$4.15	1.2%	$5.04	($1.01)	$0.00	$0.00	$0.00	$0.12
	155	$371.10	$366.48	$4.62	1.3%	$5.62	($1.14)	$0.00	$0.00	$0.00	$0.14
	171	$391.74	$386.68	$5.06	1.3%	$6.18	($1.27)	$0.00	$0.00	$0.00	$0.15
	184	$408.58	$403.11	$5.47	1.4%	$6.68	($1.37)	$0.00	$0.00	$0.00	$0.16
	198	$426.63	$420.73	$5.90	1.4%	$7.17	($1.45)	$0.00	$0.00	$0.00	$0.18
Average Customer	**214**	**$446.89**	**$440.52**	**$6.37**	**1.4%**	$7.75	($1.57)	$0.00	$0.00	$0.00	$0.19
	228	$465.39	$458.59	$6.80	1.5%	$8.27	($1.67)	$0.00	$0.00	$0.00	$0.20
	244	$486.06	$478.79	$7.27	1.5%	$8.84	($1.79)	$0.00	$0.00	$0.00	$0.22
	258	$504.15	$496.47	$7.68	1.5%	$9.36	($1.91)	$0.00	$0.00	$0.00	$0.23
	275	$526.17	$517.93	$8.24	1.6%	$10.00	($2.01)	$0.00	$0.00	$0.00	$0.25
	288	$542.85	$534.32	$8.54	1.6%	$10.42	($2.14)	$0.00	$0.00	$0.00	$0.26

Residential Non-Heating Low Income:

	Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
	140	$329.30	$325.14	$4.15	1.3%	$5.04	($1.01)	$0.00	$0.00	$0.00	$0.12
	155	$348.00	$343.38	$4.62	1.3%	$5.62	($1.14)	$0.00	$0.00	$0.00	$0.14
	171	$367.92	$362.86	$5.06	1.4%	$6.18	($1.27)	$0.00	$0.00	$0.00	$0.15
	184	$384.17	$378.70	$5.47	1.4%	$6.68	($1.37)	$0.00	$0.00	$0.00	$0.16
	198	$401.59	$395.69	$5.90	1.5%	$7.17	($1.45)	$0.00	$0.00	$0.00	$0.18
Average Customer	**214**	**$421.14**	**$414.77**	**$6.37**	**1.5%**	$7.75	($1.57)	$0.00	$0.00	$0.00	$0.19
	228	$438.99	$432.19	$6.80	1.6%	$8.27	($1.67)	$0.00	$0.00	$0.00	$0.20
	244	$458.93	$451.67	$7.27	1.6%	$8.84	($1.79)	$0.00	$0.00	$0.00	$0.22
	258	$476.39	$468.71	$7.68	1.6%	$9.36	($1.91)	$0.00	$0.00	$0.00	$0.23
	275	$497.64	$489.40	$8.24	1.7%	$10.00	($2.01)	$0.00	$0.00	$0.00	$0.25
	288	$513.74	$505.20	$8.54	1.7%	$10.42	($2.14)	$0.00	$0.00	$0.00	$0.26

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Bill Impact Analysis with Various Levels of Consumption:

C & I Small:

		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(61)												
(62)												
(63)												
(64)			---	---	---	---	---	---	---	---	---	---
(65)		880	$1,427.18	$1,378.09	$49.09	3.6%	$49.53	($1.91)	$0.00	$0.00	$0.00	$1.47
(66)		973	$1,534.41	$1,480.11	$54.30	3.7%	$54.77	($2.10)	$0.00	$0.00	$0.00	$1.63
(67)		1,067	$1,641.97	$1,582.43	$59.54	3.8%	$60.08	($2.33)	$0.00	$0.00	$0.00	$1.79
(68)		1,162	$1,748.33	$1,683.46	$64.87	3.9%	$65.41	($2.49)	$0.00	$0.00	$0.00	$1.95
(69)		1,258	$1,850.01	$1,779.82	$70.19	3.9%	$70.82	($2.74)	$0.00	$0.00	$0.00	$2.11
(70)	**Average Customer**	**1,352**	**$1,948.51**	**$1,873.10**	**$75.41**	**4.0%**	$76.10	($2.95)	$0.00	$0.00	$0.00	$2.26
(71)		1,446	$2,047.76	$1,967.07	$80.69	4.1%	$81.41	($3.14)	$0.00	$0.00	$0.00	$2.42
(72)		1,542	$2,148.50	$2,062.47	$86.03	4.2%	$86.80	($3.35)	$0.00	$0.00	$0.00	$2.58
(73)		1,635	$2,246.20	$2,155.00	$91.21	4.2%	$92.05	($3.58)	$0.00	$0.00	$0.00	$2.74
(74)		1,730	$2,344.93	$2,248.37	$96.56	4.3%	$97.41	($3.75)	$0.00	$0.00	$0.00	$2.90
(75)		1,825	$2,443.63	$2,341.80	$101.84	4.3%	$102.73	($3.95)	$0.00	$0.00	$0.00	$3.06

C & I Medium:

		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(76)												
(77)												
(78)												
(79)			---	---	---	---	---	---	---	---	---	---
(80)		7,941	$8,975.48	$8,463.58	$511.90	6.0%	$447.10	$49.44	$0.00	$0.00	$0.00	$15.36
(81)		8,796	$9,847.89	$9,280.88	$567.01	6.1%	$495.21	$54.79	$0.00	$0.00	$0.00	$17.01
(82)		9,650	$10,718.82	$10,096.80	$622.02	6.2%	$543.27	$60.09	$0.00	$0.00	$0.00	$18.66
(83)		10,505	$11,591.28	$10,914.15	$677.13	6.2%	$591.41	$65.41	$0.00	$0.00	$0.00	$20.31
(84)		11,361	$12,464.05	$11,731.70	$732.35	6.2%	$639.63	$70.75	$0.00	$0.00	$0.00	$21.97
(85)	**Average Customer**	**12,217**	**$13,337.07**	**$12,549.58**	**$787.48**	**6.3%**	$687.80	$76.06	$0.00	$0.00	$0.00	$23.62
(86)		13,073	$14,210.16	$13,367.48	$842.68	6.3%	$736.00	$81.40	$0.00	$0.00	$0.00	$25.28
(87)		13,928	$15,082.05	$14,184.27	$897.78	6.3%	$784.13	$86.72	$0.00	$0.00	$0.00	$26.93
(88)		14,782	$15,953.54	$15,000.71	$952.84	6.4%	$832.21	$92.04	$0.00	$0.00	$0.00	$28.59
(89)		15,637	$16,825.38	$15,817.41	$1,007.97	6.4%	$880.36	$97.37	$0.00	$0.00	$0.00	$30.24
(90)		16,492	$17,697.84	$16,634.78	$1,063.06	6.4%	$928.48	$102.69	$0.00	$0.00	$0.00	$31.89

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Bill Impact Analysis with Various Levels of Consumption:

C & I LLF Large:

		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(91)												
(92)												
(93)												
(94)			---	---	---	---	---	---	---	---	---	---
(95)		41,066	$43,381.70	$41,425.78	$1,955.92	4.7%	$2,312.02	($414.78)	$0.00	$0.00	$0.00	$58.68
(96)		45,488	$47,818.83	$45,652.29	$2,166.54	4.7%	$2,560.96	($459.42)	$0.00	$0.00	$0.00	$65.00
(97)		49,910	$52,256.04	$49,878.87	$2,377.18	4.8%	$2,809.96	($504.10)	$0.00	$0.00	$0.00	$71.32
(98)		54,334	$56,694.98	$54,107.14	$2,587.84	4.8%	$3,058.99	($548.79)	$0.00	$0.00	$0.00	$77.64
(99)		58,757	$61,133.02	$58,334.48	$2,798.54	4.8%	$3,308.03	($593.45)	$0.00	$0.00	$0.00	$83.96
(100)	**Average Customer**	**63,179**	**$65,570.34**	**$62,561.17**	**$3,009.18**	**4.8%**	$3,556.99	($638.09)	$0.00	$0.00	$0.00	$90.28
(101)		67,600	$70,006.50	$66,786.75	$3,219.75	4.8%	$3,805.88	($682.72)	$0.00	$0.00	$0.00	$96.59
(102)		72,023	$74,444.59	$71,014.21	$3,430.38	4.8%	$4,054.90	($727.43)	$0.00	$0.00	$0.00	$102.91
(103)		76,447	$78,884.12	$75,243.03	$3,641.09	4.8%	$4,303.97	($772.11)	$0.00	$0.00	$0.00	$109.23
(104)		80,870	$83,322.21	$79,470.43	$3,851.77	4.8%	$4,552.98	($816.76)	$0.00	$0.00	$0.00	$115.55
(105)		85,292	$87,759.34	$83,696.95	$4,062.39	4.9%	$4,801.93	($861.41)	$0.00	$0.00	$0.00	$121.87

C & I HLF Large:

		Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
(106)												
(107)												
(108)												
(109)			---	---	---	---	---	---	---	---	---	---
(110)		50,411	$45,685.48	$44,308.29	$1,377.19	3.1%	$1,829.89	($494.02)	$0.00	$0.00	$0.00	$41.32
(111)		55,841	$50,372.16	$48,846.65	$1,525.52	3.1%	$2,027.01	($547.26)	$0.00	$0.00	$0.00	$45.77
(112)		61,273	$55,060.45	$53,386.49	$1,673.96	3.1%	$2,224.21	($600.47)	$0.00	$0.00	$0.00	$50.22
(113)		66,699	$59,743.99	$57,921.85	$1,822.13	3.1%	$2,421.14	($653.67)	$0.00	$0.00	$0.00	$54.66
(114)		72,129	$64,430.76	$62,460.22	$1,970.54	3.2%	$2,618.28	($706.86)	$0.00	$0.00	$0.00	$59.12
(115)	**Average Customer**	**77,558**	**$69,116.61**	**$66,997.75**	**$2,118.87**	**3.2%**	$2,815.35	($760.05)	$0.00	$0.00	$0.00	$63.57
(116)		82,989	$73,803.35	$71,536.13	$2,267.22	3.2%	$3,012.49	($813.29)	$0.00	$0.00	$0.00	$68.02
(117)		88,416	$78,487.73	$76,072.24	$2,415.48	3.2%	$3,209.48	($866.46)	$0.00	$0.00	$0.00	$72.46
(118)		93,847	$83,175.25	$80,611.39	$2,563.86	3.2%	$3,406.64	($919.70)	$0.00	$0.00	$0.00	$76.92
(119)		99,275	$87,860.38	$85,148.25	$2,712.13	3.2%	$3,603.66	($972.89)	$0.00	$0.00	$0.00	$81.36
(120)		104,705	$92,547.05	$89,686.57	$2,860.48	3.2%	$3,800.79	($1,026.12)	$0.00	$0.00	$0.00	$85.81

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Bill Impact Analysis with Various Levels of Consumption:

C & I LLF Extra-Large:

	Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
		---	---	---	---	---	---	---	---	---	---
	174,357	$140,471.05	$130,818.50	$9,652.56	7.4%	$9,816.31	($453.33)	$0.00	$0.00	$0.00	$289.58
	193,136	$155,032.69	$144,340.54	$10,692.15	7.4%	$10,873.55	($502.16)	$0.00	$0.00	$0.00	$320.76
	211,912	$169,592.25	$157,860.63	$11,731.62	7.4%	$11,930.65	($550.98)	$0.00	$0.00	$0.00	$351.95
	230,688	$184,152.39	$171,381.29	$12,771.09	7.5%	$12,987.76	($599.80)	$0.00	$0.00	$0.00	$383.13
	249,466	$198,713.29	$184,902.67	$13,810.62	7.5%	$14,044.93	($648.63)	$0.00	$0.00	$0.00	$414.32
Average Customer	**268,243**	**$213,273.49**	**$198,423.34**	**$14,850.14**	**7.5%**	$15,102.08	($697.44)	$0.00	$0.00	$0.00	$445.50
	287,018	$227,832.50	$211,942.95	$15,889.55	7.5%	$16,159.13	($746.27)	$0.00	$0.00	$0.00	$476.69
	305,796	$242,394.01	$225,464.88	$16,929.12	7.5%	$17,216.31	($795.06)	$0.00	$0.00	$0.00	$507.87
	324,573	$256,954.25	$238,985.67	$17,968.59	7.5%	$18,273.43	($843.90)	$0.00	$0.00	$0.00	$539.06
	343,350	$271,514.52	$252,506.39	$19,008.13	7.5%	$19,330.61	($892.72)	$0.00	$0.00	$0.00	$570.24
	362,127	$286,074.78	$266,027.12	$20,047.66	7.5%	$20,387.75	($941.52)	$0.00	$0.00	$0.00	$601.43

C & I HLF Extra-Large:

	Annual Consumption (Therms)	Proposed Rates	Current Rates	Difference	% Chg	Difference due to: GCR	DAC Base DAC	DAC ISR	EE	LIHEAP	GET
		---	---	---	---	---	---	---	---	---	---
	447,421	$319,123.88	$303,810.12	$15,313.76	5.0%	$16,241.36	($1,387.01)	$0.00	$0.00	$0.00	$459.41
	495,605	$352,923.62	$335,960.65	$16,962.97	5.0%	$17,990.44	($1,536.36)	$0.00	$0.00	$0.00	$508.89
	543,789	$386,724.11	$368,111.95	$18,612.15	5.1%	$19,739.52	($1,685.73)	$0.00	$0.00	$0.00	$558.36
	591,972	$420,523.22	$400,261.93	$20,261.29	5.1%	$21,488.57	($1,835.12)	$0.00	$0.00	$0.00	$607.84
	640,155	$454,322.30	$432,411.88	$21,910.41	5.1%	$23,237.59	($1,984.49)	$0.00	$0.00	$0.00	$657.31
Average Customer	**688,340**	**$488,123.12**	**$464,563.44**	**$23,559.68**	**5.1%**	$24,986.74	($2,133.85)	$0.00	$0.00	$0.00	$706.79
	736,523	$521,922.54	$496,713.71	$25,208.84	5.1%	$26,735.77	($2,283.20)	$0.00	$0.00	$0.00	$756.27
	784,708	$555,722.87	$528,864.83	$26,858.04	5.1%	$28,484.89	($2,432.59)	$0.00	$0.00	$0.00	$805.74
	832,891	$589,522.78	$561,015.61	$28,507.18	5.1%	$30,233.92	($2,581.96)	$0.00	$0.00	$0.00	$855.22
	881,074	$623,321.87	$593,165.51	$30,156.36	5.1%	$31,982.97	($2,731.30)	$0.00	$0.00	$0.00	$904.69
	929,259	$657,123.01	$625,317.44	$31,805.57	5.1%	$33,732.13	($2,880.73)	$0.00	$0.00	$0.00	$954.17

Attachment AEL-5S
REDACTED

Attachment AEL-5S
FT-2 Demand Rate

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Summary of Marketer Transportation Factors

Line No.	Item	Reference	Proposed	Billing Units
	(a)	(b)	(c)	(d)
(1)	FT-2 Demand Usage (Dt) Nov 2017 - Oct 2018	Pg 2, Line (21)	**$8.0328**	Dth/Mth
(2)	Weighted Average Upstream Pipeline Transportation Cost	NGC-4S	**$0.6682**	Per Dth of capacity
(3)	Storage and Peaking charge for FT-1 firm transportation Customers eligible for TSS	Pg 3, Line (5)	**$0.6831**	Per Dth

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Calculation of FT- 2 Demand Rate (per Dth)

Line No.	Description	Source Reference	Source Line #	Amount	
	(a)	(b)	(c)	(d)	
(1)	Storage Fixed Costs	AEL-1S pg 4	Line (60)	[redacted]	
	Less:				
(2)	System Pressure to DAC	AEL-1S pg 2	Line (5)	($2,389,483)	
(3)	Credits			$0	
(4)	Refunds			$0	
(5)	Total Credits	sum [(2):(4)]		($2,389,483)	
		NGC-4S			
	Plus:				
(6)	Supply Related LNG O&M Costs	AEL-1S Pg 2	Line (8) + Line (9)	$1,212,581	
(7)	Working Capital Requirement	AEL-1S pg 9	Line (47)	$77,315	
(8)	Tennessee Dracut for peaking	AEL-1S pg 4	Line(5)	$1,622,687	
(9)	Total Additions	sum [(6):(8)]		$2,912,584	
(10)	Total Storage Fixed Costs	(1) + (5) + (9)		[redacted]	
	Inventory Financing				
(11)	Underground	AEL-1S pg 10	Line (12)	$600,752	
(12)	LNG	AEL-1S pg 10	Line (22)	$212,808	
(13)	Total Storage Fixed Costs	(10) + (11) + (12)		[redacted]	
(14)	LNG Storage MDQ (Dth)	AEL-1S pg 12	Line (14)	[redacted]	
(15)	AGT	NGC-4S			
(16)	TENN	NGC-4S			
(17)	Total Storage MDQ	sum [(14):(16)]		[redacted]	
(18)	Storage MDQ X 12 Months	(17) *12		[redacted]	MDCQ Dth
(19)	FT- 2 Demand Rate	(13) / (18)		$7.7774	per MDCQ Dth
(20)	Uncollectible %	Docket 4323		3.18%	
(21)	Total FT-2 Demand Rate adjusted for Uncollectibles	(19) / [(1 - (20)]		$8.0328	per MDCQ Dth
(22)	MDQ-U	Mkter MDQ Forecast		4,379	
(23)	MDQ-P	Mkter MDQ Forecast		15,460	
(24)	Marketer MDQs	(22) + (23)		19,839	Dth/Mth
(25)	**FT-2 Storage Costs**	(19) x (24) x 12 Months		**$1,851,536**	

REDACTED

National Grid - RI Gas
Gas Cost Recovery (GCR) Filing
Calculation of FT-1 Storage and Peaking Charge Applied to Firm Transportation Customers Eligible for TSS

Line No.	Description	Source Reference	Source Line #	Amount	
	(a)	(b)	(c)	(d)	
(1)	Total Storage Fixed Costs	Pg 2	Line(13)	$17,140,781	
(2)	Usage (Dth) Nov 2017 - Oct 2018	AEL-1S pg 2	Line(17)	25,914,442	
(3)	Volumetric Rate	(1) / (2)	NGC-4S	$0.6614	
(4)	Uncollectible %	Docket 4323		3.18%	
(5)	Volumetric Rate Including Uncollectible	(3) / [1 - (4)]		$0.6831	per dth
(6)	**Storage and Peaking charge applied to FT-1 firm transportation Customers eligible for TSS**			$0.0683	per therm

Attachment AEL-6

Attachment AEL-6
FT-2 Capacity Allocator Percentages

RI Gas Company
Capacity Assignment Table

			% of Peak Day Requirement				% of Total Capacity		
Line	Load	Rate Class	Pipeline	Storage	Peaking	Total	Pipeline	Storage	Peaking
No.	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
(1)	HLF	Res - Non-Heating	62.0%	8.0%	30.0%	100.0%	1.0%	0.8%	0.8%
(2)	HLF	Res - Non-Heating LI	62.0%	8.0%	30.0%	100.0%			
(3)	LLF	Res - Heating	46.0%	12.0%	42.0%	100.0%	58.3%	60.7%	60.7%
(4)	LLF	Res - Heating LI	46.0%	12.0%	42.0%	100.0%			
(5)	LLF	Small	46.0%	12.0%	42.0%	100.0%	7.6%	8.1%	8.1%
(6)	LLF	Med	46.0%	12.0%	42.0%	100.0%	9.0%	8.7%	8.7%
(7)	LLF	Large Low Load	46.0%	12.0%	42.0%	100.0%	2.0%	2.2%	2.2%
(8)	HLF	Large High Load	62.0%	8.0%	30.0%	100.0%	0.5%	0.3%	0.3%
(9)	LLF	XL Low Load	46.0%	12.0%	42.0%	100.0%	0.2%	0.2%	0.2%
(10)	HLF	XL High Load	62.0%	8.0%	30.0%	100.0%	0.1%	0.0%	0.0%
(11)	HLF	High Load Factor	62.0%	8.0%	30.0%	100.0%	8.1%	4.5%	4.5%
(12)	LLF	Low Load Factor	46.0%	12.0%	42.0%	100.0%	91.9%	95.5%	95.5%
(13)		Total	47.0%	12.0%	42.0%	100.0%	100.0%	100.0%	100.0%

Attachment AEL-7

Attachment AEL-7
Marketer Reconciliation

2015-16 & 2016-17 Annual Marketer Reconciliation

	(a)	# of days (b)	Reference (c)	Tetco ELA/Algonquin (d)	Tetco WLA/Algonquin (e)	Tennessee Zone 1 to NEGC (f)	Tetco STX/Algonquin (g)	Algonquin @ Lambertville, NJ (h)	Columbia (Maumee/Downington) (i)	Tennessee 6 to 6 Dracut (j)	Total (k)
	2016-2017 Marketer Reconciliation										
	Month of activity										
(1)	**Nov-16**	30		195,000	255,000	285,000	121,320	81,420	15,900	120	953,760
(2)	**Dec-16**	31		201,500	263,500	294,500	125,333	84,134	35,154	248	1,004,369
(3)	**Jan-17**	31		201,500	263,500	294,500	125,364	84,134	29,605	217	998,820
(4)	**Feb-17**	28		182,000	237,972	265,972	113,232	75,992	32,116	224	907,508
(5)	**Mar-17**	31		201,500	263,500	294,500	125,364	84,103	31,031	248	1,000,246
(6)	**Apr-17**	30		195,000	255,000	285,000	121,320	81,420	59,040	240	997,020
(7)	**May-17**	31		201,469	263,500	294,469	125,364	84,134	61,938	248	1,031,122
(8)	**Jun-17**	30		190,890	249,660	279,030	118,800	79,710	66,150	240	984,480
(9)	**Jul-17**	31		201,469	263,500	294,469	125,364	84,134	61,938	248	1,031,122
(10)	**Aug-17**	31		201,469	263,500	294,469	125,364	84,134	61,938	248	1,031,122
(11)	**Sep-17**	30		201,469	263,500	294,469	125,364	84,134	61,938	248	1,031,122
(12)	**Oct-17**	31		201,469	263,500	294,469	125,364	84,134	61,938	248	1,031,122
(13)	**Total**		sum[(1):(12)]	2,374,735	3,105,632	3,470,847	1,477,553	991,583	578,686	2,777	12,001,813
	Approved										
(14)	System Average		Dkt 4647 EDA-4*	$0.3766	$0.3766	$0.3766	$0.3766	$0.3766	$0.3766	$0.3766	
(15)	Path		Dkt 4647 EDA-4*	$0.8476	$0.9687	$1.0093	$1.1810	$0.1524	$0.4162	$1.3261	
(16)	Credit/Surcharge		(14) - (15)	($0.4710)	($0.5921)	($0.6327)	($0.8044)	$0.2242	($0.0396)	($0.9495)	
	Revised										
(17)	System Average			$0.3748	$0.3748	$0.3748	$0.3748	$0.3748	$0.3748	$0.3748	
(18)	Path			$0.8476	$0.9687	$1.0093	$1.1810	$0.1524	$0.4162	$1.3261	
(19)	Credit/Surcharge		(17) - (18)	($0.4728)	($0.5939)	($0.6345)	($0.8062)	$0.2224	($0.0414)	($0.9513)	
(20)	Variance- approved Surcharge/Credit vs. Revised Surcharge/Credit		(19) - (16)	($0.0018)	($0.0018)	($0.0018)	($0.0018)	($0.0018)	($0.0018)	($0.0018)	
(21)	Annual MDCQ		(13)	2,374,735	3,105,632	3,470,847	1,477,553	991,583	578,686	2,777	11,999,036
(22)	Updated 2015-16 Marketer Reconciliation Adjustment		(20) * (21)	($4,275)	($5,590)	($6,248)	($2,660)	($1,785)	($1,042)	($5)	($21,603)

2015-16 & 2016-17 Annual Marketer Reconciliation

	2015-2016 Marketer Reconciliation										
	Month of activity										
(23)	**Nov-15**	30		195,000	255,000	285,000	121,320	81,420	32,040	0	969,780
(24)	**Dec-15**	31		201,500	263,469	294,500	125,364	84,134	39,308	0	1,008,275
(25)	**Jan-15**	31		201,500	263,500	294,500	125,364	84,134	58,683	0	1,027,681
(26)	**Feb-16**	29		188,500	246,500	275,471	117,247	78,706	57,797	0	964,221
(27)	**Mar-16**	31		201,500	263,500	294,500	125,364	84,134	68,727	0	1,037,725
(28)	**Apr-16**	30		195,000	255,000	285,000	121,290	81,420	80,220	0	1,017,930
(29)	**May-16**	31		201,469	263,500	294,500	125,364	84,134	83,948	0	1,052,915
(30)	**Jun-16**	30		194,970	255,000	285,000	121,290	81,420	79,830	0	1,017,510
(31)	**Jul-16**	31		201,500	263,500	294,500	125,364	84,134	81,685	0	1,050,683
(32)	**Aug-16**	31		201,500	263,500	294,469	125,364	84,134	77,159	0	1,046,126
(33)	**Sep-16**	30		195,000	255,000	285,000	121,320	81,390	77,550	0	1,015,260
(34)	**Oct-16**	31		201,500	263,500	294,500	125,364	84,134	82,243	0	1,051,241
(35)	**Total**		sum[(23):(34)]	2,378,939	3,110,969	3,476,940	1,480,015	993,294	819,190	0	12,259,347
	Approved										
(36)	System Average		Dkt 4576 EDA-4	$0.4219	$0.4219	$0.4219	$0.4219	$0.4219	$0.4219	$0.4219	
(37)	Path		Dkt 4576 EDA-4	$0.8797	$1.0025	$1.0482	$1.2561	$0.0500	$0.3634	$0.0000	
(38)	Credit/Surcharge		(36) - (37)	($0.4578)	($0.5806)	($0.6263)	($0.8342)	$0.3719	$0.0585	$0.4219	
	Revised										
(39)	System Average			$0.4187	$0.4187	$0.4187	$0.4187	$0.4187	$0.4187	$0.4187	
(40)	Path			$0.8797	$1.0025	$1.0257	$1.2561	$0.0500	$0.3634	$0.0000	
(41)	Credit/Surcharge		(39) - (40)	($0.4610)	($0.5838)	($0.6070)	($0.8374)	$0.3687	$0.0553	$0.4187	
(42)	Variance- approved Surcharge/Credit vs. Revised Surcharge/Credit		(41) - (38)	($0.0032)	($0.0032)	$0.0193	($0.0032)	($0.0032)	($0.0032)	($0.0032)	
(43)	Annual MDCQ		(35)	2,378,939	3,110,969	3,476,940	1,480,015	993,294	819,190	0	12,259,347
(44)	Updated 2014-15 Marketer Reconciliation Adjustment		(42) * (43)	($7,613)	($9,955)	$67,105	($4,736)	($3,179)	($2,621)		$39,001
(45)	Under/(Over)-collections for 2015-16 Marketer Reconciliation[1]										($14,451)
(46)	Total 2015-16 amount subject to Marketer Reconciliation		(44) + (45)								$24,550
(47)	Already Collected from Marketers[2]										$39,044
(48)	Under/(Over)-collections for 2016-17 Marketer Reconciliation		(46) - (47)								($14,494)
(49)	**Total 2017-18 Marketer Reconciliation- (Credit) to Marketers**		(22) + (48)								($36,098)
(50)	**Total 2017-18 Marketer Reconciliation- Surcharge to Firm Sales Customers**		- (49)								**$36,098**

* GCR rates approved with the Revised GCR filing per Docket 4647 filed on October 03, 2016

[1] Docket No. 4647 Attachment AEL-7, Line 48, filed on October 3, 2016 updated to reflect actual collections for Aug. 2016-Oct. 2016.

[2] Nov. 2016 - July 2017 as reflected in GCR Monthly Deferred Report filed on August 20, 2016 Schedule 2, Line 74. Aug. 2017-Oct. 2017 are projected collections.

Testimony of
Stephen P. Greco

DIRECT TESTIMONY

OF

STEPHEN P. GRECO

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I. Introduction

Q. Please state your name and business address.

A. My name is Stephen P. Greco. My business address is National Grid, 25 Hub Drive, Melville, New York 11747.

Q. What is your position at National Grid and responsibilities within that position?

A. I am the Director of Pressure Regulation and Liquefied Natural Gas (LNG) and Compressed Natural Gas (CNG) Assets for National Grid U.S.A. (National Grid). In this position, I am responsible for the asset management of National Grid's pressure regulating facilities, LNG facilities and related equipment, in all jurisdictions, including those related to The Narragansett Electric Company (Company).

Q. Please summarize your educational background.

A. I graduated from the New York Institute of Technology in 1981 with a Bachelor of Science degree in Mechanical Engineering Technology. In 1987, I graduated from the State University of New York at Stony Brook with a Master of Science degree in Engineering. I also hold a Professional Engineer license, and am licensed in the State of New York.

Q. Please summarize your professional experience.

A. I have worked for National Grid or one of its predecessor companies for the last 28 years. My experience at National Grid includes 15 years in various management roles related to LNG, including Plant Engineer, Plant Manager, and Project Manager. I have held my current position since August 2016.

Q. Are you a member of any professional organizations?

A. I am a member of the American Gas Association, as well as the American Society of Mechanical Engineers (ASME).

Q. Have you previously testified before the Public Utilities Commission (PUC) or before any other state public utility commission?

A. No. However, although I have not formally testified, I have met with the Division of Public Utilities and Carriers (Division) on several occasions to present the Company's capital plans for pressure regulating facilities in its annual Gas Infrastructure, Safety, and Reliability Plans.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony explains the Company's proposal to lease third-party portable LNG equipment and services at the LNG facility in Cumberland to replace a portion of the gas

supply that is no longer available as a result of the decommissioning of the Cumberland LNG tank.

Q. Are you sponsoring Attachments to your testimony?

A. Yes. I am sponsoring the following Attachments:

Attachment SPG-1	Portable LNG Cost Components
Attachment SPG-2	Peak LNG Supply Requirements for 2017-18 Winter Season

II. <u>Portable LNG Proposal</u>

Q. What is the status of the Cumberland LNG facility?

A. In 2016, the Company permanently took its Cumberland LNG tank out of service. As a result of the decommissioning of the storage tank and associated LNG pumps, additional equipment is required to operate the plant and fill the gap to meet daily design supply requirements for the upcoming winter. Historically, the Cumberland LNG tank has provided up to 30,000 dekatherms (Dth) per day and 80,000 Dth per season.

Q. What did the Company do for the 2016-17 winter season to make up for the supply historically provided by the Cumberland LNG tank?

A. The Company implemented two solutions to make up for the volumes historically provided by the Cumberland LNG tank. First, as Elizabeth D. Arangio explained in last

year's Gas Cost Recovery (GCR) filing in Docket No. 4647, in order to continue to meet the peak day needs of its firm gas customers for the 2016-17 winter season, the Company entered into an agreement with the Tennessee Gas Pipeline Company, L.L.C. (Tennessee) to secure an incremental 24,000 Dth per day of pipeline capacity for the period November 1, 2016 through October 31, 2017 from Dracut, Massachusetts to the Company's citygate in Lincoln, Rhode Island (the Tennessee Agreement). The Tennessee Agreement replaced most of the customer requirements previously fulfilled by the use of LNG from the Cumberland tank. Because such capacity was, at that time, reserved as part of the Northeast Energy Direct project, the Company negotiated the term of the capacity for one year. The total cost associated with the Tennessee Agreement was approximately $1.4 million for the year.

Second, as Ms. Arangio also explained in last year's GCR filing, in order to meet forecasted peak day and peak hour requirements during the 2016-17 winter season, the Company utilized portable LNG that would require up to seven truckloads on the peak day. The portable LNG pump brought on-site in Cumberland was supplied from the LNG trailers, each with a capacity of approximately 10,000 gallons. The pumps were to be utilized to pump LNG from the trailers to the existing vaporizers. At the forecasted demand for the Cumberland plant of 745 Dth per hour, vaporizing from each LNG trailer would provide approximately 45 minutes of gas into the distribution system.

Q. What is the Company's plan for the upcoming 2017-18 winter season to make up for the supply historically provided by the Cumberland LNG tank?

A. For the 2017-18 winter season, the Company is proposing to implement a similar two solution approach to make up for the volumes historically provided by the Cumberland LNG tank. The Tennessee Agreement for 24,000 Dth per day remains in the Company's portfolio through October 31, 2018. Before decommissioning the Cumberland LNG tank, the Company operated two permanent LNG vaporizers, each with a capacity of 750,000 thousand cubic feet per hour (mcfh), to achieve the design output of 30,000 Dth per day. To match such capacity for the 2017-18 winter season, the Company proposes to rent four portable high pressure trailers, each with a capacity of 13,520 gallons, for temporary use at the Cumberland site. The trailers will be connected by a manifold that can allow the units to supply the existing vaporizers. The high pressure trailers are capable of supplying the required pressure of 130 psig to the vaporizers without the use of external pumps. The capacity of the four trailers will approach 70% of the peak day forecast, thereby reducing the frequency of refilling and, consequently, reducing the amount of LNG transport to and from the site.

Q. What is the cost of the portable LNG?

A. The estimated cost for the rental of the portable high pressure trailers, plus vendor technicians to operate the units, for a period of six months is approximately $637,000 in

operation and maintenance (O&M) costs. The estimated cost of the liquid LNG is set forth in supplemental attachments of Company witness Nancy G. Culliford at Attachment NGC-2S, page 14, identified as ENGIE GAS DEMAND PAYMENT Winter.

Q. What are the details behind the estimated cost of $637,000?

A. The details behind the estimated cost are set forth in Attachment SPG-1. The Company is proposing to update this estimate by no later than October 30, 2017, the date on which the Company's evidentiary hearing for the GCR is to take place. By then, the Company should have finalized the contractual arrangements for this solution, as I discuss below.

Q. Why does the Company need portable LNG at the Cumberland site?

A. The decommissioning of the Cumberland LNG tank and associated LNG pumps mounted on the tank roof left the Cumberland LNG facility in need of a temporary source of LNG storage and pressure to supply its vaporizers in the event of a peak day when LNG would be needed to supply gas to the Company's customers. This proposal is the Company's plan to sustain the operation of the Cumberland site in order to meet peak supply requirements in the Cumberland area.

Q. Is this proposal the Company's long-term solution to replace the supply lost from the decommissioning of the Cumberland LNG tank?

A. No, the plan for portable LNG is a temporary solution. The Company proposes that the costs attributed to this plan be fixed at the amount requested in this year's GCR filing until the Company implements the long-term solution or until the Company no longer leases the equipment.

Q. What is the Company's long term solution?

A. The Company is still exploring long-term solutions, such as on-system distribution system projects and/or contracting for additional pipeline capacity to the Company's existing Pawtucket gate station.

Q. Did the Company consider any other options to replace the lost Cumberland LNG capacity?

A. Yes, the Company considered two other options. First, the Company considered the use of an existing Company-owned portable high pressure pump skid to pump LNG from the LNG trailers to the plant vaporizers. This option proved to be operationally challenging. In particular, test runs of the equipment proved the operation of the plant to be challenging due to the need for frequent trailer exchanges requiring a shutdown and re-purge of the pump each time. The test runs also revealed that both pumps were required to run simultaneously to meet the forecasted required amount of LNG of 745 Dth per hour, in order to supply the rated 30,000 Dth per day for the plant, further complicating

the operation. These equipment challenges impacted the reliability of the operation. Second, the Company considered alternative portable injection locations on the 60 psig system. However, the possible locations identified had prohibitive risks and restrictions, such as not having enough room for a portable LNG operation. Based on its analysis, the Company determined that leasing portable LNG from a third-party is the most prudent and reliable option for its customers.

Q. Why did the Company not implement this proposal earlier, such as in the 2016-17 winter season?

A. When the Company made the decision to decommission the Cumberland LNG tank in mid-2016, the Company had to move quickly to find adequate replacement supply. Based on the circumstances, the pipeline capacity provided by the Tennessee Agreement and the portable LNG utilizing equipment already owned by the Company were the Company's most prudent options at the time. Consistent with the Company's standard practice, after the winter operations, the Company reviewed its system reliability looking to improve performance for 2017-2018 winter season. In the spring of 2017, the Gas Asset Management team had some minor reliability concerns with the portable LNG equipment at the site. In May 2017, the Company retained consultants to evaluate the portable LNG pump skid in place for the 2016-17 winter season and make recommendations for improving the operational performance of the system. The

Company was expecting the consultants to make minor recommendations to the equipment to improve its reliability for the 2017-18 winter season. On September 7, 2017, the consultants issued a draft report, and the Company held a meeting with the consultants on September 8. During the meeting, the Company learned that the solutions were complex, involving a feed forward control system and an interface to the existing vaporizer controls. The Company did not believe that these solutions could be safely and successfully completed in time for the upcoming 2017-18 winter season. As a result, the Company pursued alternative solutions to provide a steady and controlled flow of LNG to the existing vaporizers.

For future winters, the Company is focused on achieving a long-term solution. However, based on the information to date, any long-term solution would not be in place in time for the upcoming winter season. Therefore, leasing the high pressure portable LNG trailer became a viable option when estimates were developed in September. The proposal was not finalized until September 21, 2017, and the Company made the decision to move forward with the plan for portable LNG this week. As a result, the Company could not have included this proposal in its initial GCR filing submitted on September 1, 2017.

Q. Was the Company required to make any upgrades at the Cumberland site for the solutions implemented in the 2016-17 winter season to make up for the loss of the LNG tank?

A. Yes. To allow for portable LNG at the Cumberland site last year, the Company made simple, but necessary capital upgrades to the site. Such upgrades included road work, relocating the fences, electrical work, piping work, and the relocation of the trucking station.

Q. Were the costs incurred by the Company in 2016-17 necessary to replace the lost Cumberland LNG supply and upgrade the site?

A. Yes. All of the costs associated with the replacement pipeline capacity through the Tennessee Agreement and capital upgrades to the LNG plant were necessary to accommodate the Cumberland site both last year and this year. Even if the Company had not completed the capital upgrades last year, it would have still needed to do the work this year.

Q. What is the Company's plan for implementation of the portable LNG proposal?

A. The Company anticipates an effective date for the portable LNG of December 1, 2017. On September 29, 2017, the Company expects to issue a request for proposal (RFP) to lease the equipment and services. The RFP will be open for two weeks, with an

approximately one to two-week period for the Company to review the proposals submitted. After a bid is accepted, mobilization would take approximately 30 days, with mobilization in November 2017. After the portable LNG system is in place, the Company will test the system in mid-December 2017, when the weather is cold enough.

Q. What are the Company's peak LNG supply requirements for the upcoming 2017-18 winter season?

A. The Company's peak LNG supply requirements for the 2017-18 winter season are set forth in Attachment SPG-2. The portable LNG supply requirements were calculated based on the anticipated need for testing the high pressure trailers, peak day requirement, and peak day contingency.

III. <u>Conclusion</u>

Q. Does this conclude your testimony?

A. Yes.

Attachments of
Stephen P. Greco

Attachments of Stephen P. Greco

Attachment SPG-1 Portable LNG Cost Components

Attachment SPG-2 Peak LNG Supply Requirements for 2017-18 Winter Season

Attachment SPG-1

Portable LNG Cost Components

Item	Description	Unit	Unit Cost	Quantity	Est Total Cost
1	1 month lease of 4- LNG high pressure trailers (13,520 gallon capacity) Complete Piping Solution -steel braided flex hosing -piping manifold setup -flanges/connections	Month	$67,500	6	$405,000
2	Mobilization of Equipment (Initial month setup) -Transportation (HAZMAT) of equipment to site (from Texas). -Transportation of cryogenic technicians. -Transportation of service vehicles -Labor to set up of equipment on site -Safety permitting & inspection	Ea	$77,000	1	$77,000
3	*Demobilization of Equipment Upon Project Completion (final month)	Ea	$74,000	1	$74,000
4	2 Field Service Technicians. All in price, includes all onsite and standby labor and per diem, per month. *Per Diem Includes airfare, lodging and meals for crew.	Month	$81,000	1	$81,000
	Conceptual Costs				**$637,000**

Note: The above estimate is taken from an actual proposal and shows a six-month rental period. The actual rental period may diminish depending on equipment setup time and weather.

Attachment SPG-2

Attachment SPG-2

Peak LNG Supply Requirements for 2017-18 Winter Season

RI Portable LNG Portfolio

Anticipated Inventory Usage	Portable LNG Supply Need	Onsite Storage Equivalent Dth	Calculated # Trucks	Equivalent Supply Makeup Dth	Calculated # Trucks	Total Calc # Trucks	Actual # Trucks
Testing	**4,691**	4,691	4.94	0	0	4.94	**5**
Peak Day Requirement	**6,000**	4,691	4.94	1,309	1.38	6.32	**7**
Peak Day Requirement Contingency	**6,000**	4,691	4.94	1,309	1.38	6.32	**7**
	16,691						**19**

Notes

1 - One (1) high pressure trailer holds 13,520 gallons of LNG
2 - Plan is to mobilize four (4) high pressure trailers
3 - One (1) LNG Truck can deliver an average of 10,000-12,000 gallons of LNG
4 - This is calculated using 950 dth per LNG Trailer
5 - Anticipated boiloff is less than 1% of total volume for the season