

SUPPLEMENTAL

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities

DG 17-198

Petition to Approve Firm Supply and Transportation Agreements and the
Granite Bridge Project

PLAN Data Requests - Set 2

Date Request Received: 6/8/18
Request No. PLAN 2-6

Date of Response: 10/12/18
Respondent: Francisco C. DaFonte

REQUEST:

Please describe any proposals that Liberty made to the owners of the Granite Ridge generating plant within the last five years to use a portion of Granite Ridge's firm capacity on the Concord Lateral during peak periods (through capacity release, for example), and the results of any discussions.

RESPONSE:

The Company has not made any formal proposal to the owner of the Granite Ridge generating plant over the past 5 years, but has had various discussions with the owners as to the business requirements of the generating facility and whether a firm peaking service or capacity service could be provided to EnergyNorth. In all instances, the owners of the Granite Ridge generating plant indicated that they could not provide such a service.

SUPPLEMENTAL RESPONSE:

For updated information with respect to the Company's responses to PLAN 1-3 and PLAN 2-6, please see Confidential Attachment PLAN 2-6.1 and Confidential Attachment PLAN 2-6.2, which are the same as Confidential Attachment PLAN 1-3.1 and Confidential Attachment PLAN 1-3.2.

Confidential Attachment PLAN 2-6.2 is a preliminary agreement, and Confidential Attachment PLAN 2-6.1 is an explanation of that preliminary agreement and its effects on various aspects of this proceeding. The preliminary agreement is confidential in its entirety and portions of the explanation are confidential because they contain third party pricing information, contract terms that are extremely sensitive for the counter party, and because the terms have not been reduced into a final contract, all of which render the identified information "confidential, commercial, or financial information" that are protected from disclosure by RSA 91-A:5, IV. The Company anticipates that it will be able to provide a less redacted version of the confidential attachments once the final agreement is executed. Therefore, pursuant to Puc 203.08(d), the Company has a good faith basis to seek confidential treatment of Confidential Attachment PLAN 2-6.1 and Confidential Attachment PLAN 2-6.2 and will submit a motion seeking confidential treatment prior to the final hearing in this docket.

Updated Information Regarding Liberty Utilities' Responses to PLAN 1-3 and PLAN 2-6
Docket No. DG 17-198

Liberty Utilities (EnergyNorth Natural Gas) Corp. (“EnergyNorth” or the “Company”) provides the following updated information with respect to the Company’s responses to PLAN 1-3 and PLAN 2-6 in Docket No. DG 17-198. Specifically, the Company has entered into a Memorandum of Understanding (“MOU”) to provide Calpine Corporation (“Calpine”) with certain natural gas supply services for its Granite Ridge Energy Center (“GREC”) located in Londonderry, New Hampshire.

As detailed below, the Company’s Base Case Prime natural gas supply portfolio, which includes the proposed Granite Bridge Pipeline and the Granite Bridge LNG facility at a tank size of 2.0 Bcf, continues to be the optimal supply portfolio for the customers of EnergyNorth and allows the Company to meet long-term forecasted demand requirements at the best cost. Specifically, the additional analysis conducted by the Company continues to demonstrate that the Base Case Prime portfolio (i.e., including the Granite Bridge LNG facility with a 2.0 Bcf storage tank, and the Granite Bridge Pipeline with 150,000 Mcf per day of capacity) produces the least-cost portfolio for the customers of EnergyNorth. The natural gas supply service to Calpine, which is enabled by the Company’s Base Case Prime portfolio, provides the Company with a unique opportunity to receive [REDACTED] of annual capacity mitigation (i.e., portfolio optimization) revenues as an additional benefit to EnergyNorth’s customers. As a result, the MOU with Calpine enhances the financial benefits associated with the Base Case Prime portfolio for the customers, and also provides the Company with another mechanism to balance demand growth with portfolio resources with no loss of portfolio reliability, diversity, flexibility, or resiliency.

I. Background

Calpine is one of the largest owners, operators, and developers of natural gas-fired power generation facilities in the U.S., with approximately 80 power plants in operation or under construction that can generate approximately 26,000 megawatts (“MW”).¹ In the New England region, Calpine owns and operates over 2,000 MW of power generation facilities, including GREC, the Fore River Energy Center, and the Westbrook Energy Center.

The GREC commenced operations in March 2003 and was acquired by Calpine in February 2016. The facility, which is 100% owned by Calpine, can generate 745 MW of power utilizing two natural gas-fired combined cycle turbines.² The GREC is connected to the Tennessee Gas Pipeline Concord Lateral (“TGP Concord Lateral”), which would allow Calpine to utilize a natural gas supply service provided by the Company, as the volumes from the proposed Granite Bridge LNG facility would be delivered into the TGP Concord Lateral via the proposed Granite Bridge Pipeline.

II. Calpine MOU Overview

The MOU between the Company and Calpine describes the type of capacity release and gas supply service that the Company will provide to Calpine and the specific attributes of that service. While this section provides a summary of the MOU, please note that the entire MOU is provided as Confidential Attachment PLAN 1-3.2. It is important to note that under the MOU, Calpine will receive a firm winter capacity release and gas supply service from the Company and, therefore, Calpine is not in a position to provide a firm winter peaking service to the Company. Please see the Company’s responses to PLAN 1-3 and PLAN 2-6.

¹ Source: Calpine website, <http://www.calpine.com/>, accessed September 2018.

² Ibid.

As detailed in the MOU, the Company will provide to Calpine a firm winter capacity release and gas supply service that is available to Calpine [REDACTED]. The initial term of the service to Calpine is for [REDACTED] and will commence with the in-service date of the proposed Granite Bridge LNG facility and Granite Bridge Pipeline, which is estimated to be April of 2022. The firm winter capacity release and gas supply service between Calpine and the Company may be extended beyond the initial term by mutual agreement of the parties. The parameters of the firm winter capacity release and gas supply service to be provided to Calpine by the Company include LNG storage capacity (i.e., inventory space) of [REDACTED] and daily vaporization volume of up to [REDACTED], with an hourly maximum volume of [REDACTED].

With respect to the bundled price structure for the firm winter capacity release and gas supply service, the Company and Calpine have agreed to a [REDACTED].³ The [REDACTED] of the rate structure is [REDACTED] payment of [REDACTED], which is paid [REDACTED]. Stated differently, if Calpine [REDACTED], the customers of EnergyNorth will receive [REDACTED] per year. This structure, consisting of a [REDACTED], is similar to other capacity mitigation/portfolio optimization agreements that the Company has entered into where the counterparty to the transaction provides [REDACTED]. In this manner, the customers of EnergyNorth will receive [REDACTED], or [REDACTED] over the initial [REDACTED] term of the contract, [REDACTED] Calpine uses the bundled service.

The [REDACTED] of the rate structure is [REDACTED] used by Calpine, which is equal to [REDACTED].⁴ As such, for each MMBtu used by Calpine, it will [REDACTED], which includes the [REDACTED]. Said differently, the [REDACTED]. Under this [REDACTED] for the bundled service, the customers of EnergyNorth receive the benefit of the [REDACTED].

Lastly, should the Company and Calpine agree to certain interruptible transactions, which would be provided at the sole discretion of the Company, any incremental value for those interruptible transactions would be returned to the Company's customers, which is similar to other interruptible transaction revenue (i.e., another capacity mitigation transaction).

III. Benefits of the MOU with Calpine

The MOU between the Company and Calpine provides significant benefits to the customers of EnergyNorth, including:

- *Capacity mitigation/portfolio optimization value* – Since developing and constructing energy infrastructure is capital intensive with long lead times, utilities typically grow into the capacity

³ As outlined in the MOU with Calpine, there are certain options with respect to price structure, but for ease of presentation, this response focuses on a bundled service option. Should Calpine choose the unbundled service option, the [REDACTED] payment is [REDACTED]; however, the Company would also charge Calpine for [REDACTED] totaling approximately [REDACTED]. Therefore, the annual revenue under the bundled or unbundled price structure is approximately the same.

⁴ Alternatively, Calpine could opt for a bundled service whereby Calpine would [REDACTED] and pay the [REDACTED].

associated with the addition of new facilities, capacity, or supply to a portfolio. This short-term supply reserve in a portfolio is typically mitigated by capacity mitigation/portfolio optimization strategies and transactions. Similar to other portfolio optimization transactions, the [REDACTED] [REDACTED] paid by Calpine to the Company for the bundled service would be 100% credited to the customers of EnergyNorth. Therefore, the MOU with Calpine essentially provides [REDACTED] capacity mitigation structure for certain short-term supply reserve resulting from the inclusion of the proposed Granite Bridge Project to the EnergyNorth gas supply portfolio. The significant, and unique, benefit of this MOU is that the capacity mitigation benefit is [REDACTED] upon the completion of the proposed facilities. It is important to note that not all resource additions to a gas supply portfolio allow for capacity mitigation transactions. By way of example, some service providers specifically stipulate that the service may only be used to meet the needs of EnergyNorth's customers and cannot be remarketed. This type of restriction reduces the optionality of the gas supply portfolio and decreases the opportunities for the Company to mitigate the fixed costs of a portfolio with such a contract, thereby reducing benefits for customers.

- Reduction in the total cost of the Base Case Prime gas supply portfolio – The [REDACTED] [REDACTED] results in a total value over the initial [REDACTED] term of [REDACTED], which lowers the total system costs of the Base Case Prime scenario analyzed by the Company (see Table 2 of Attachment CLF Tech 1-2.1). Although the customers receive the [REDACTED] [REDACTED] associated with the Calpine MOU [REDACTED], the Company, for modeling purposes, made the conservative assumption that Calpine would use the full volume in every year of the MOU. As a result of this assumption, the Company incurs approximately [REDACTED] of gas supply costs, reflecting increased utilization of other higher commodity cost resources in the portfolio. Therefore, under the conservative assumption that Calpine would use the full volume every year of the MOU, the net benefit to customers over the initial term of the MOU is \$24.2 million (i.e., [REDACTED]). The increase in benefit of \$24.2 million increases the spread in total system costs between the Base Case Prime and the Alternative Case Prime scenarios from \$204.8 million to \$229.0 million, or almost 12%. In addition, it is important to note that the Company may be able to extend the benefits of the Calpine MOU beyond the initial [REDACTED] term, which would provide an additional \$17.0 million of value to the customers of EnergyNorth (as discussed in Section IV below).
- Resiliency of the Base Case Prime gas supply portfolio – Similar to the benefits outlined above, the [REDACTED] [REDACTED] associated with the Calpine MOU lowers the total system costs of the Base Case Prime - Low Case scenario and results in a net benefit of \$22.9 million to the customers of EnergyNorth (as discussed in Section IV below).⁵ In addition, in the low demand case, the Calpine MOU increases the spread between the Base Case Prime and Alternative Case Prime scenarios by 20%, to \$135.4 million. Stated differently, in a lower demand growth scenario, and with the inclusion of the Calpine MOU, the SENDOUT® results continue to demonstrate the resiliency of the Base Case Prime portfolio (which includes the 2.0 Bcf Granite Bridge LNG facility) to adjust to various demand scenarios. Similar to the Base Case Prime discussion above, the Company under the Base Case Prime – Low Case scenario could extend the Calpine MOU beyond the initial [REDACTED] term, thus providing additional benefits to the customers of EnergyNorth.

⁵ Similar to the modeling of the Base Case Prime scenario, the Company conservatively assumed that Calpine would use the full volume in every contract year in the Base Case Prime – Low Case scenario so the [REDACTED] [REDACTED] the cost of increased utilization of other resources.

- *Tank flexibility* – The MOU with Calpine allows the Company to achieve the economies of scale associated with a 2.0 Bcf storage tank for the proposed Granite Bridge LNG facility, while providing a flexible tank supply resource for EnergyNorth’s customers. Specifically, given the MOU with Calpine, the Company has developed a gas supply portfolio where the customers receive the benefit of a [REDACTED] storage tank initially, but over the longer term the customers receive the benefit of a 2.0 Bcf storage tank without having to pay the incremental cost to build another tank in the future. To better illustrate this point, the total system costs in the Base Case Prime, which includes the 2.0 Bcf storage tank, are approximately [REDACTED] lower cost than the [REDACTED] storage tank scenario (see Tables 2 and 3 of Attachment CLF Tech 1-2.1). However, a scenario with the 2.0 Bcf storage tank, and the Calpine winter capacity release and gas supply service, results in a total system cost that is [REDACTED] lower than the [REDACTED] Base Case Prime scenario (as discussed in Section IV below). Said differently, under the 2.0 Bcf storage tank scenario, coupled with the Calpine service, customers of EnergyNorth receive all the same long-term benefits of a physical 2.0 Bcf storage tank at a [REDACTED] savings (i.e., [REDACTED]).
- *Portfolio flexibility* – The MOU between Calpine and the Company provides EnergyNorth with another gas supply option to meet its forecasted demand requirements. Specifically, should the actual demand track the Company’s forecast of natural gas demand (see Table 1 of Attachment CLF Tech 1-2.1), then the Company could terminate the Calpine firm winter capacity release and gas supply service after the initial term [REDACTED]. However, should the Company’s demand growth track the “Low Demand Case” or “50% Demand Case” (see the response to Staff 5-17), the Company has the option to extend the Calpine arrangement, subject to mutual agreement, as one approach to manage the lower demand growth. In addition, the Company could consider extending the Calpine arrangement beyond the initial [REDACTED] term but at lower volume parameters, which would allow the Company to sculpt a volume with Calpine within the context of the Company’s actual demand growth.

IV. Updates to the Company’s Quantitative Analysis

In addition to the benefits discussed above, the Company has evaluated the incremental benefits associated with the Calpine MOU on a quantitative basis. Before describing those benefits, it should be noted that, first, the MOU with Calpine does not impact the Company’s demand forecast, so there are no adjustments to any assumptions with respect to forecasted demand. Second, there are no assumption changes associated with the proposed Granite Bridge Pipeline, as the MOU with Calpine does not affect the overall capacity of the Granite Bridge Pipeline. Third, all other assets in the Company’s gas supply portfolio associated with the respective scenarios are unchanged. With respect to the SENDOUT® modeling (i.e., the quantitative analysis), the Company has developed certain scenarios to assess the benefit of the MOU with Calpine by limiting assumption changes to the inventory level and vaporization capacity available to the Company and [REDACTED] (i.e., the bundled service). Specifically, the Company provides the following updates to certain data responses as noted below.

First, the Company has updated its 2.0 Bcf Base Case Prime scenario (as provided in Table 2 of Attachment CLF Tech 1-2.1) to reflect the inclusion of the Calpine MOU bundled service parameters outlined above (“Calpine Base Case Prime”). Specifically, the Calpine Base Case Prime scenario assumes:

- i. The customers of EnergyNorth receive the benefit of a [REDACTED] storage tank and Calpine receives a service for [REDACTED] for the [REDACTED] from [REDACTED], and then the Company has the full 2.0 Bcf storage tank to serve its customers for the remainder of the analysis period;
- ii. The Company provides Calpine with [REDACTED] of daily vaporization capacity for the [REDACTED] time period;

- iii. Calpine utilizes its full volume under the service for the defined time period; and
- iv. The [REDACTED] over the initial term.

In addition, the Company modeled a sensitivity that reflects a [REDACTED] extension of the Calpine MOU (“Calpine Extension Case Prime”), which assumes that after the initial [REDACTED] term:

- i. The customers of EnergyNorth receive the benefit of a [REDACTED] storage tank and Calpine receives a service for [REDACTED] for [REDACTED] from [REDACTED], and then the Company has the full 2.0 Bcf storage tank to serve its customers for the remainder of the analysis period;
- ii. The Company provides Calpine with [REDACTED] of daily vaporization capacity for the [REDACTED] time period;
- iii. Calpine utilizes its full volume under the service for the defined time period; and
- iv. The [REDACTED] over the extension term.

The results of the analysis are presented in Table 1 below. For reference purposes, the Company has also included the results of the 2.0 Bcf Base Case Prime, Alternative Case Prime, 1.2 Bcf Base Case Prime, and 1.5 Bcf Base Case Prime scenarios (as provided in Tables 2 and 3 of Attachment CLF Tech 1-2.1) and uses the format of Table 9 from the Direct Testimony of William R. Killeen and James M. Stephens for ease of comparison.

Table 1: EnergyNorth SENDOUT® Model Runs - “Prime Revised”

Resource Planning Scenario	Reference - Confidential Attachment	Granite Bridge LNG	Propane Facilities	Resource Mix Results			Total System Cost (\$000)	Comparison to Calpine Base Case Prime (\$000)
				Dawn (Dth/day)	Repsol (Dth/day)	ENGIE (Dth/day)		
Calpine Base Case Prime	PLAN 1-3.3	2.0 Bcf	No	5,920	0	0	\$2,621,075	\$ -
Calpine Extension Case Prime	PLAN 1-3.4	2.0 Bcf	No	5,920	0	0	\$2,611,254	\$ (9,821)
Base Case Prime	PLAN 5-4.1	2.0 Bcf	No	7,920	0	0	\$2,645,295	\$ 24,220
Alternative Case Prime	PLAN 5-4.3	No	No	3,080	104,920	360	\$2,850,073	\$ 228,998
Base Case Prime	PLAN 5-4.5	1.2 Bcf	No	7,920	0	470	\$2,651,792	\$ 30,717
Base Case Prime	PLAN 5-4.6	1.5 Bcf	No	7,920	0	0	\$2,653,873	\$ 32,798

As discussed in Attachment CLF Tech 1-2.1, the Company’s Base Case Prime natural gas supply portfolio, which includes the Granite Bridge Pipeline and the 2.0 Bcf Granite Bridge LNG facility, continues to be the best cost option for the customers of EnergyNorth. As shown in Table 1 above, the MOU with Calpine provides additional financial benefits for the customers of EnergyNorth. Specifically, the inclusion of the firm winter capacity release and gas supply service for Calpine for the initial term of [REDACTED] provides \$24.2 million of benefit to the customers of EnergyNorth compared to the Base Case Prime scenario; and a [REDACTED] extension of the Calpine MOU would provide an additional benefit of \$9.8 million to customers (i.e., a total of \$34.0 million of benefit to customers compared to the Base Case Prime scenario). It is also important to note that the Calpine Base Case Prime and Calpine Extension Case Prime scenarios have a lower resource mix result for the Dawn resource (i.e., 5,920 Dth per day) compared to the Base Case Prime scenario (i.e., 7,920 Dth per day). The Calpine arrangement also increases the benefits relative to the Alternative Case Prime scenario by almost 12%. Lastly, the total system costs of the Calpine Base Case Prime scenario, which includes the 2.0 Bcf storage tank, is \$30.7 million lower than the 1.2 Bcf Base Case Prime scenario and \$32.8 million lower than the 1.5 Bcf Base Case Prime scenario.

Second, the Company has assessed the benefit of the Calpine MOU using the low demand case (“Low Case”), which reflects no Sales and Marketing adjustment in the existing service territory. Specifically, the Company has updated the 2.0 Bcf Base Case Prime – Low Case (as provided in Table Staff 5-17.3 of the

revised response to Staff 5-17) to reflect the Calpine MOU parameters (“Calpine Base Case Prime – Low Case”), and the Company has developed a sensitivity that reflects an extension of the Calpine MOU (“Calpine Extension Case Prime – Low Case”). Specifically, the Calpine Base Case Prime – Low Case scenario reflects the low demand case and assumes the bundled service parameters associated with the initial term of the Calpine MOU as outlined above for the Calpine Base Case Prime scenario; and the Calpine Extension Case Prime - Low Case reflects the low demand case and assumes that the firm winter capacity release and gas supply service for Calpine is extended through the end of the analysis period.

The results of the Calpine Base Case Prime – Low Case and the Calpine Extension Case Prime – Low Case are provided in Table 2 below. For reference purposes, the Company has also included the results of the 2.0 Bcf Base Case Prime – Low Case, Alternative Case Prime – Low Case, 1.2 Bcf Base Case Prime – Low Case, and 1.5 Bcf Base Case Prime – Low Case scenarios (as provided in Tables Staff 5-17.3 and 5-17.4 of the revised response to Staff 5-17) and uses the format of Table 9 from the Direct Testimony of William R. Killeen and James M. Stephens for ease of comparison.

Table 2: EnergyNorth SENDOUT® Model Runs - “Prime Low Case”

Resource Planning Scenario	Reference - Confidential Attachment	Granite Bridge LNG	Propane Facilities	Resource Mix Results			Total System Cost (\$000)	Comparison to Calpine Base Case Prime (\$000)
				Dawn (Dth/day)	Repsol (Dth/day)	ENGIE (Dth/day)		
Calpine Base Case Prime	PLAN 1-3.5	2.0 Bcf	No	0	0	0	\$2,375,170	\$ -
Calpine Extension Case Prime	PLAN 1-3.6	2.0 Bcf	No	0	0	0	\$2,331,291	\$ (43,879)
Base Case Prime	Staff 5-17.b.ii.1	2.0 Bcf	No	0	0	0	\$2,398,051	\$ 22,881
Alternative Case Prime	Staff 5-17.b.ii.3	No	No	0	81,710	1,500	\$2,510,605	\$ 135,435
Base Case Prime	Staff 5-17.b.ii.5	1.2 Bcf	No	0	0	0	\$2,393,523	\$ 18,353
Base Case Prime	Staff 5-17.b.ii.6	1.5 Bcf	No	0	0	0	\$2,402,325	\$ 27,155

As shown in Table 2 above, if actual demand growth tracks the low demand case, the inclusion of the firm winter capacity release and gas supply service for Calpine for the initial term of [REDACTED] provides \$22.9 million of benefit to the customers of EnergyNorth,⁶ and a full term extension of the Calpine MOU would provide an additional benefit of \$43.9 million to customers (i.e., a total of \$66.8 million of benefit to customers compared to the Base Case Prime scenario). In addition, the Calpine arrangement increases the benefits relative to the Alternative Case Prime - Low Case scenario by 20% to \$135.4 million. Finally, the Calpine Base Case Prime - Low Case, which includes a 2.0 Bcf storage tank and the inclusion of the firm winter capacity and gas supply service for Calpine, has a benefit of \$18.4 million when compared to the 1.2 Bcf Base Case Prime - Low Case scenario and a benefit of \$27.2 million when compared to the 1.5 Bcf Base Case Prime - Low Case scenario.

Third, the Company has assessed the impact of providing a firm winter capacity release and gas supply service to Calpine using the alternative tank sizes of 1.2 Bcf and 1.5 Bcf for the Granite Bridge LNG facility. Specifically, the Company has updated its 1.2 Bcf Base Case Prime and 1.5 Bcf Base Case Prime scenarios (as provided in Table 4 of Attachment CLF Tech 1-2.1) to reflect the inclusion of the bundled service parameters of the Calpine MOU (“Calpine 1.2 Bcf Base Case Prime” and “Calpine 1.5 Bcf Base Case

⁶ The Company has also assessed the benefits of the Calpine MOU using the “50% Demand Case” developed in response to Staff 5-17.b.i. Specifically, the Company has updated the 2.0 Bcf Base Case Prime – 50% Demand Case (as provided in Table Staff 5-17.1 of the revised response to Staff 5-17) to reflect the Calpine MOU parameters (“Calpine Base Case Prime – 50% Demand Case”) (see SENDOUT® results provided as Confidential Attachment PLAN 1-3.7). Consistent with the results provided in Tables 1 and 2, the Calpine Base Case Prime - 50% Demand Case provides \$24.3 million of benefit to customers compared to the 2.0 Bcf Base Case Prime - 50% Demand Case scenario.

Prime”). As modeled in SENDOUT®, the Calpine 1.2 Bcf Base Case Prime and Calpine 1.5 Bcf Base Case Prime scenarios assume:

- i. The customers of EnergyNorth receive the benefit of a [REDACTED] storage tank and Calpine receives a service for [REDACTED] for the initial [REDACTED] from [REDACTED], and then the Company has the full 1.2 Bcf storage tank to serve its customers for the remainder of the analysis period in the Calpine 1.2 Bcf Base Case Prime scenario; and the customers of EnergyNorth receive the benefit of a [REDACTED] storage tank and Calpine receives a service for [REDACTED] for the initial [REDACTED] from [REDACTED], and then the Company has the full 1.5 Bcf storage tank to serve its customers for the remainder of the analysis period in the Calpine 1.5 Bcf Base Case Prime scenario.
- ii. The Company provides Calpine with [REDACTED] of daily vaporization capacity for the [REDACTED] time period;
- iii. Calpine utilizes its full volume under the service for the defined time period; and
- iv. The [REDACTED].

In addition, the Company has updated its 1.2 Bcf Base Case Prime – Low Case and 1.5 Bcf Base Case Prime – Low Case scenarios (as provided in Table Staff 5-17.4 of the revised response to Staff 5-17) to reflect the parameters of the Calpine MOU (“Calpine 1.2 Bcf Base Case Prime – Low Case” “Calpine 1.5 Bcf Base Case Prime – Low Case”). The results of the Calpine 1.2 Bcf Base Case Prime, Calpine 1.5 Bcf Base Case Prime, Calpine 1.2 Bcf Base Case Prime – Low Case, and Calpine 1.5 Bcf Base Case Prime – Low Case scenarios are presented in Tables 3 and 4 below. For reference purposes, the Company has also included the Calpine 2.0 Bcf Base Case Prime, the 1.2 Bcf and 1.5 Bcf Base Case Prime scenarios (as provided in Table 4 of Attachment CLF Tech 1-2.1), the Calpine 2.0 Bcf Base Case Prime - Low Case, and the 1.2 Bcf and 1.5 Bcf Base Case Prime – Low Case scenarios (as provided in Table Staff 5-17.4 of the revised response to Staff 5-17), and uses the format of Table 9 from the Direct Testimony of William R. Killeen and James M. Stephens for ease of comparison.

Table 3: EnergyNorth SENDOUT® Model Runs - LNG Tank Size Scenarios - “Prime Revised”

Resource Planning Scenario	Reference - Confidential Attachment	Granite Bridge LNG	Propane Facilities	Resource Mix Results			Total System Cost (\$000)	Comparison to Calpine Base Case Prime (\$000)
				Dawn (Dth/day)	Repsol (Dth/day)	ENGIE (Dth/day)		
Calpine Base Case Prime	PLAN 1-3.3	2.0 Bcf	No	5,920	0	0	\$2,621,075	\$ -
Calpine Base Case Prime	PLAN 1-3.8	1.2 Bcf	No	7,920	0	1,770	\$2,646,630	\$ 25,555
Calpine Base Case Prime	PLAN 1-3.9	1.5 Bcf	No	7,920	0	260	\$2,641,209	\$ 20,134
Base Case Prime	PLAN 5-4.5	1.2 Bcf	No	7,920	0	470	\$2,651,792	\$ 30,717
Base Case Prime	PLAN 5-4.6	1.5 Bcf	No	7,920	0	0	\$2,653,873	\$ 32,798

Table 4: EnergyNorth SENDOUT® Model Runs - LNG Tank Size Scenarios - “Prime Low Case”

Resource Planning Scenario	Reference - Confidential Attachment	Granite Bridge LNG	Propane Facilities	Resource Mix Results			Total System Cost (\$000)	Comparison to Calpine Base Case Prime (\$000)
				Dawn (Dth/day)	Repsol (Dth/day)	ENGIE (Dth/day)		
Calpine Base Case Prime	PLAN 1-3.5	2.0 Bcf	No	0	0	0	\$2,375,170	\$ -
Calpine Base Case Prime	PLAN 1-3.10	1.2 Bcf	No	0	0	460	\$2,387,556	\$ 12,386
Calpine Base Case Prime	PLAN 1-3.11	1.5 Bcf	No	0	0	0	\$2,387,497	\$ 12,327
Base Case Prime	Staff 5-17.b.ii.5	1.2 Bcf	No	0	0	0	\$2,393,523	\$ 18,353
Base Case Prime	Staff 5-17.b.ii.6	1.5 Bcf	No	0	0	0	\$2,402,325	\$ 27,155

As shown in Table 3 above, using the Company’s revised demand forecast, the Calpine 2.0 Bcf Base Case Prime scenario is \$25.6 million lower in total system costs when compared to the Calpine 1.2 Bcf Base

Case Prime scenario and \$20.1 million lower when compared to the Calpine 1.5 Bcf Base Case Prime scenario. Similarly, as shown in Table 4, using the low demand forecast, the Calpine 2.0 Bcf Base Case Prime - Low Case is \$12.4 million lower in total system costs than the Calpine 1.2 Bcf Base Case Prime - Low Case and \$12.3 million lower than the Calpine 1.5 Bcf Base Case Prime - Low Case scenario.⁷ In addition, as stated previously, the Calpine 2.0 Bcf Base Case Prime scenarios using the Company's revised demand forecast and low demand forecast, are lower in total system costs than the 1.2 Bcf Base Case Prime scenarios (which exclude the service to Calpine) by \$30.7 million and \$18.4 million, respectively; and lower than the 1.5 Bcf Base Case Prime scenarios (which exclude the service to Calpine) by \$32.8 million and \$27.2 million, respectively.

As illustrated by the various analyses, the Company's Base Case Prime natural gas supply portfolio, which includes the Granite Bridge Pipeline and the Granite Bridge LNG facility (i.e., 2.0 Bcf storage tank), continues to be the optimal and least-cost supply portfolio for the customers of EnergyNorth. The inclusion of the benefits of the Calpine MOU further enhances the value of the Company's Base Case Prime natural gas supply portfolio and provides the Company with more options and another mechanism to balance demand and supply with no loss of portfolio reliability, diversity, flexibility, or resiliency.

Finally, the Company will update this response with the executed contract with Calpine that incorporates the final commercial terms outlined in the MOU with Calpine.

⁷ Using the 50% Demand Case forecast, the Calpine 2.0 Bcf Base Case Prime - 50% Demand Case is \$16.0 million and \$14.9 million lower in total system costs than the Calpine 1.2 Bcf Base Case Prime - 50% Demand Case (see SENDOUT® results provided as Confidential Attachment PLAN 1-3.12) and Calpine 1.5 Bcf Base Case Prime - 50% Demand Case scenarios (see SENDOUT® results provided as Confidential Attachment PLAN 1-3.13), respectively.

THIS PAGE HAS BEEN REDACTED IN ITS ENTIRETY

THIS PAGE HAS BEEN REDACTED IN ITS ENTIRETY

THIS PAGE HAS BEEN REDACTED IN ITS ENTIRETY