STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

DG 21-008

In the Matter of:
Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Transportation Agreement with Tennessee Gas Pipeline, Inc.

Direct Testimony

of

Stephen P. Frink
Director – Gas & Water Division

June 17, 2021

New Hampshire Public Utilities Commission

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

DG 21-008

Testimony of
Stephen P. Frink, Director, Gas & Water Division

INTRODUCTION & SUMMARY

Q. Please state your name, occupation and business address.

A. My name is Stephen P. Frink and I am employed by the New Hampshire Public Utilities Commission (Commission) as the Director of the Gas & Water Division. My business address is 21 S. Fruit Street, Suite 10, Concord, New Hampshire 03301.

Q. Please summarize your educational and professional experience.

A. I joined the Commission in 1990 as a member of the Audit Team and worked as a Utility Analyst, Senior Utility Analyst, Assistant Finance Director, and Assistant Director of the Gas & Water Division before becoming the Director of the Gas & Water Division in 2018. I have primary responsibility for the administration of the financial aspects of the regulation of gas utilities in New Hampshire.

Prior to joining the Commission, I worked as a Budget/Financial Analyst for the cities of Austin and Dallas, Texas. I have a Bachelor of Arts and a Master's in Business Administration from the University of New Hampshire.

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

A. The purpose of my testimony is to recommend the Commission grant conditional approval of the Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty (Liberty, or the Company) Transportation Agreement (Contract) with Tennessee Gas Pipeline, Inc. (TGP). Staff recommends the Commission find the contract to be reasonable and prudent, conditioned on certain reporting requirements, use of a 30-year average to calculated design day requirements, and Commission approval prior to the retirement of any Company propane or liquid natural gas (LNG) peaking plants.

Q. Please briefly describe the Contract.

A. The Contract is a firm transportation agreement with TGP for 40,000 dekatherms (Dths) per day of capacity on the TGP-owned Concord Lateral from Dracut, Massachusetts to Londonderry, New Hampshire, at TGP tariffed rates, currently set at $0.14 per Dth. The in-service date for the Contract is November 1, 2021 with an initial term of 20 years, and Liberty has the unilateral right to renew.

Q. Does the contract require any capital investment?

A. In negotiating the Contract, several receipt points were considered and the one selected does not require TGP capital spending but does require new facilities on the Liberty system to fully utilize the additional 40,000 Dth of capacity. Liberty identified four distinct projects with a total estimated cost of approximately $50 million for the four projects. The Contract rate would have been significantly higher at alternative receipt points requiring TGP capital investment, and the resulting increase in annual supply costs would have far exceeded the expected annual revenue requirement from the proposed Liberty capital investment related to the Contract.

Q. Is Liberty requesting the Commission to find the capital investments related to the Contract prudent at this time?

A. No. Liberty's petition request is that the Commission determine that the Company's decision to enter into the Contract was prudent and reasonable, and approve the Contract.

Q. Please provide a brief summary of events leading to Liberty's petition.

A. Liberty last approved (DG 13-313) and current (DG 17-152) Least Cost Integrated Resource Plans (LCIRPs) identified a need for additional supply resources based on projected customer growth. Liberty's current LCIRP determined that design day demand would exceed supply resources beginning in split year 2018-2019.[1]

According to Liberty, the Company evaluated resource alternatives and determined that there were only two viable options for incremental capacity - a contract for incremental capacity on the TGP Concord Lateral or a Company-sponsored capacity and supply project. At the time Liberty evaluated resource alternatives, the Concord Lateral was fully subscribed and would have required a significant capital investment by TGP to expand capacity. Liberty elected at that point to pursue a Company-sponsored plan, the proposed Granite Bridge Project (Granite Bridge), and petitioned the Commission to find Granite Bridge prudent in Docket DG 17-198.

In 2019, a customer who had held reserved capacity on the Concord Lateral elected not to renew its expiring contract with TGP and Liberty was able to contract for incremental capacity on the Concord Lateral at a cost well below the estimated cost for Granite Bridge capacity. Liberty subsequently contracted for TGP capacity and abandoned the Granite Bridge Project.

Q. Does Liberty need additional supply resources to meet projected customer design day demand?

1 A split year (November through October) is used for demand and supply planning.

A. Yes. As testified to by Staff's expert witnesses in the Granite Bridge docket:[2]

> "We see a need for additional capacity. We consider the Concord Lateral an alternative to the Granite Bridge Pipeline. However, we do not think that alternative has been seriously explored by the Company. It should be, and promptly. Development of more data and analysis about both the Granite Bridge Pipeline and the Concord Lateral alternatives is necessary to permit a fully-informed decision between them."

Shortly after Staff and intervenor testimony was filed in the Granite Bridge docket, Liberty contacted TGP and contracted for additional capacity on the Concord Lateral.

Q. Did Liberty's filing in this docket update its demand forecast?

A. Yes. Liberty's petition in this docket was accompanied by supporting testimony and attachments, which include an update of the Company's demand forecast provided in the Granite Bridge docket for split test years (November through October) 2021-2022 through 2038-2039. The updated forecast shows Liberty's current supply portfolio will not meet design day demand requirements in 2021-2022 and that the supply deficiency is anticipated to increase in each subsequent year.[3]

Q. Does Staff have any concerns regarding the updated demand forecast?

A. Yes. Staff has four specific concerns.

The forecast includes demand related to Liberty's franchise expansion into Windham. Liberty did not commence service within two years of the Commission order approving that expansion and Liberty's franchise right to the Windham service territory has expired.

The demand forecast also includes demand related to iNATGAS sales. Under the terms of a contract between Liberty and iNATGAS, iNATGAS is required to pay for no less than a specified level of sales each year over the life of the contract. The demand forecast

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2 DG 17-198. Testimony of The Liberty Consulting Group filed September 13, 2019, Bates pages 28-29.
3 DaFonte/Killeen testimony, Table 2, Bates page 18.

includes the sales to iNATGAS at the take-or-pay volumes even though iNATGAS sales have been minimal and there is little reason to expect a change in iNATGAS usage, as explained in Staff testimony filed in Docket DG 20-105.[4]

The demand forecast does not reflect savings from increased natural gas energy efficiency as proposed by Liberty in the Company's 2021-2023 NH Saves Triennial Plan.[5]

The Heating Degree Day (HDD) factor used to calculate design day demand is based on the average heating degree days for 1977 through 2016 (40 calendar years). Natural gas utilities commonly use the most recent 30-year average, which better reflects changes in the climate.

Q. Has Liberty provided an updated demand forecast based on the most recent 30-year weather?

A. Given the significant time needed to estimate and review a new calculation of the Design Day planning standard based on an average of the most recent 30 years of weather data, Liberty provided a reasonable alternative - a range of Design Day demand and associated resource reserve/deficiency based on 1 HDD incremental changes to the existing Design Day planning standard.

Liberty's Updated Base Case Design Day used a Design Day planning standard of 72.4 HDD. Liberty reviewed the most recent 30 years of weather data and the highest observation over the most recent 30 years was 70 HDD, which was experienced on January 15, 2004. That observed value produced a Design Day planning standard between the 69.4 HDD and 70.4 HDD scenarios.

4 DG 20-105, Exhibit 7, Frink testimony, Bates pages 10-16.
5 Filed in Docket DE 20-092, 2021–2023 NH Saves Triennial Plan.

Q. What is the impact on the demand forecast if adjusted to address Staff's concerns?

A. Table 1 compares the Liberty Design Day supply shortfall (without Contract capacity)[6] with the Shortfall using a Design Day planning standard of 69.4 HDD, removing iNATGAS and Windham demand and including incremental design day energy efficiency saving

Table 1					
Liberty & Staff Adjusted Supply Shortfall - w/o Contract					
Split-Year (Nov-Oct)	Liberty Design Day Demand	Staff Design Day Demand	Current Design Day Resources	Liberty Supply Surplus/ (Deficiency)	Staff Supply Surplus / (Deficiency)
2021/22	174,618	170,038	162,033	(12,585)	(8,005)
2022/23	183,409	173,805	155,033	(28,376)	(18,772)
2023/24	187,181	177,266	155,033	(32,148)	(22,233)
2024/25	190,657	180,548	155,033	(35,624)	(25,515)
2025/26	193,952	183,653	155,033	(38,919)	(28,620)
2026/27	196,975	186,493	155,033	(41,942)	(31,460)
2027/28	199,349	188,705	155,033	(44,316)	(33,672)
2028/29	202,008	191,191	155,033	(46,975)	(36,158)
2029/30	204,467	193,483	155,033	(49,434)	(38,450)
2030/31	206,942	195,790	155,033	(51,909)	(40,757)
2031/32	209,168	197,855	155,033	(54,135)	(42,822)
2032/33	211,373	199,900	155,033	(56,340)	(44,867)
2033/34	213,536	201,902	155,033	(58,503)	(46,869)
2034/35	215,447	203,659	155,033	(60,414)	(48,626)
2035/36	216,995	205,064	155,033	(61,962)	(50,031)
2036/37	218,679	206,600	155,033	(63,646)	(51,567)
2037/38	220,381	208,154	155,033	(65,348)	(53,121)
2038/39	222,210	209,833	155,033	(67,177)	(54,800)

Table 2 provides the same comparison with the Contact capacity.

6 DaFonte/Killeen testimony, Table 3, Bates page 31

Table 2					
Liberty & Staff Adjusted Supply Shortfall - w/ Contract					
Split-Year (Nov-Oct)	Liberty Design Day Demand	Staff Design Day Demand	Current Design Day Resources + Contract	Liberty Supply Surplus/ (Deficiency)	Staff Supply Surplus / (Deficiency)
2021/22	174,618	170,038	202,033	27,415	31,995
2022/23	183,409	173,805	195,033	11,624	21,228
2023/24	187,181	177,266	195,033	7,852	17,767
2024/25	190,657	180,548	195,033	4,376	14,485
2025/26	193,952	183,653	195,033	1,081	11,380
2026/27	196,975	186,493	195,033	(1,942)	8,540
2027/28	199,349	188,705	195,033	(4,316)	6,328
2028/29	202,008	191,191	195,033	(6,975)	3,842
2029/30	204,467	193,483	195,033	(9,434)	1,550
2030/31	206,942	195,790	195,033	(11,909)	(757)
2031/32	209,168	197,855	195,033	(14,135)	(2,822)
2032/33	211,373	199,900	195,033	(16,340)	(4,867)
2033/34	213,536	201,902	195,033	(18,503)	(6,869)
2034/35	215,447	203,659	195,033	(20,414)	(8,626)
2035/36	216,995	205,064	195,033	(21,962)	(10,031)
2036/37	218,679	206,600	195,033	(23,646)	(11,567)
2037/38	220,381	208,154	195,033	(25,348)	(13,121)
2038/39	222,210	209,833	195,033	(27,177)	(14,800)

Q. If the actual demand growth is less than projected or there is a decrease in demand, will Liberty have the opportunity to reduce its TGP Concord Lateral capacity during the term of the Contract?

A. Yes. Although the Contract is for twenty years, Liberty has two other contracts for capacity on the Concord Lateral and all three contracts provide Liberty with the option to renew all or a portion of the capacity from TGP for an additional five years. Liberty will have multiple opportunities to reduce capacity on the Concord Lateral over the next twenty years, in 2025, 2029, 2030, 2034, 2035, 2039 and 2040. Table 3 provides the amount of capacity, contract expiration dates, and renewal notice dates to terminate or extend the existing Concord Lateral capacity contracts.

Table 3					
Liberty Concord Lateral Capacity (Dth)					
Capacity	Expiration	Renewal Notice Dates			
Amount	Date	First	Second	Third	Fourth
20,000	13-Oct-25	31-Oct-24	31-Oct-29	31-Oct-34	31-Oct-34
30,000	31-Oct-29	31-Oct-28	31-Oct-33	31-Oct-38	
40,000	31-Oct-41				

See ***Attachment SPF-1 (Company Response to Staff DRs 1-1, 1-2 & TS 1-2).***

Q. Will Liberty have the opportunity to sell excess capacity it holds on the Concord Lateral?

A. Yes, Liberty issues a request for proposals for use of its capacity to asset managers to generate additional revenues that would offset supply costs to be recovered through the cost of gas (COG). The Contract capacity may provide added value to an asset manager and result in higher revenue, which would translate to lower COG rates for Liberty's firm sales customers. Liberty could also pursue a contract with the prior holder of the TGP capacity that was unwilling to renew its TGP capacity contract for another five years but may be interested in purchasing Liberty's excess Concord Lateral capacity on a short-term contract.

Q. Please describe anticipated Liberty capital investments related to the Contract.

A. Liberty testified that four projects will need to be completed in order to use the full additional contracted capacity on the Concord Lateral to be delivered to the Manchester gate station.[7] The first three proposed projects include rebuilding the Manchester gate station, uprating certain mains in Manchester to accommodate higher pressure, and installing a new meter and regulator station on Brown Avenue in Manchester. Liberty expects the total cost for those

7 Gate stations (or 'city gates') are metering and pressure regulating facilities located at the custody transfer points where natural gas is delivered from transmission pipelines into the high-pressure lines of a local distribution company.

three projects to be $10.3 million and that they will enable the Company to use the additional capacity afforded by those projects to meet 2021-2022 design day demand. According to Liberty, the fourth project, the installation of a new 10.5-mile main from Manchester to the Budweiser plant in Nashua is estimated to cost approximately $40.2 million, and may be needed to meet design day demand beyond 2021-2022. Table 2 lists the four projects, estimated costs, and the incremental amount of Contract capacity that will become available upon completion of each project.

Table 4 Liberty Capital Projects for Contract Capacity (Dth)			
Project Description	Estimated Cost	Incremental Capacity *	Cummulative Capacity *
Rebuild Manchester Gate Station	4,500,000	0	0
Uprate Manchester main for higher pressure	1,000,000	2,880	2,880
New Meter & Regulator Station in Manchester	4,800,000	5,640	8,520
New 10.5 Mile Main to Budweiser in Nashua	40,200,000	26,400	34,920
Total	50,500,000	34,920	34,920
* Capacity estimates based on existing customers, ability to use Contract capacity increases with growth.			

See ***Attachment SPF-2 (Company Response to Staff DRs 1-5 & TS 1-4).***

Q. How soon will Liberty need to complete the fourth anticipated project to meet future demand?

A. That will depend on demand growth and Liberty's ability to acquire additional peaking supplies.

Efforts to reduce peak day demand could be accomplished through increased spending on energy efficiency and/or cost effective tariff offerings that would incent customers with dual-fuel capability to curtail gas usage on peak days.

Peak day supply resources could be increased by continuing to contract with a third party provider that holds capacity on the Concord Lateral and is able to deliver supplies to

Liberty's city gates and/or adding on-system peaking capability.

Q. Did Liberty's analysis of the cost of the capital investments factor into the Company's determination that the Contract was the least cost option?

A. According to the Company, yes. In negotiating the Contract, Liberty and TGP discussed multiple delivery points, volumes to deliver to each, and the rate TGP would charge under each scenario. The annual Contract cost was significantly lower than what the contract cost would have been under alternative scenarios.[8]

Liberty calculated the levelized cost[9] of the Company's capital investments, and the combined annual levelized cost and annual cost of the Contract was far less than the annual cost of the next lowest cost scenario.

Q. Has Staff performed a similar financial analysis?

A. Yes, Staff performed a discounted cash flow (DCF) analysis to determine the net present value (NPV) of the Liberty investment relative to the savings from the anticipated investments over 10 and 20 years. Staff considered two scenarios, one in which the projects are retired in year 20 and one in which there is no early retirement. Staff's analysis assumes that the projects go into service in year one, a conservative assumption as the largest project is not expected to be in service for several years.

Q. What were the results of Staff's analysis?

A. Under both scenarios the investment results in NPVs well in excess of $3 million, over both 10 and 20 year projections. If the projects are not retired early or are retired early but after 20 years of service, the NPV would be higher than those that were calculated assuming

8 DaFonte/Killeen testimony, Bates page 24, line 4, provides TGP indicative rate for the second lowest priced scenario option.

9 Levelized cost is a measure of the average net present cost of a project over its lifetime.

retirement in 20 years. The DCF analysis if provided ***Attachment SPF-3***.

Q. Do the cost savings justify the risk associated with cost recovery of a project with a 50 to 60 year average life compared to a 20 year contract?

A. Based on currently available information, the projected savings are significant enough to justify the risk. It is also worth noting that the Contract costs will be reflected in 2021 COG rates and Liberty will not commence recovery of the majority of the project costs until the projects begin service, Liberty seeks recovery, and the Commission determines the costs were prudent and approves recovery.

Q. What conditions do you recommend the Commission set in approving the contract?

A. The Commission should set the following conditions:

- Liberty supply surplus/(deficiency) analysis shall use a Design Day standard based on the most recent 30 year weather data;
- No less than six months prior to a Company decision on whether to exercise its right to extend any of the three Tennessee Gas Pipeline contracts that originate from Dracut, Massachusetts, Liberty shall file with Staff an updated supply deficiency analysis;
- Company shall request Commission approval no later than 12 months prior to retiring any of the Company's propane or LNG facilities;
- Liberty shall file with Staff annual reports of customer complaints received during the preceding winter related to the Company's use of propane;
- Not less than 90 days prior to commencing construction of the Budweiser Line, Liberty shall provide Staff with detailed engineering and construction plans, most recent cost estimates, construction schedules, and the expected increase in the Company's ability to use the Contract capacity expect upon completion.

Q. Please explain why the Commission should impose the recommended conditions.

A. The Using a Design Day planning standard based on the most recent 30 years of weather data will better reflect the impact of climate changes, which is likely to result in lower demand forecasts that more accurately reflect weather risks.

Requiring Liberty to file updated demand forecasts in advance of any renewals of the TGP Concord Lateral contract will give Staff and other parties the opportunity to discuss with the Company Liberty's renewal options in advance of a Commitment by Liberty to renew, reduce or terminate capacity on the Concord Lateral, and alert the Commission of any concerns.

Requiring Liberty to seek Commission approval for the retirement of any of its propane and LNG peaking facilities will allow the Commission to determination whether such retirements would be cost effective in meeting demand needs.

Requiring reporting on customer complaints of damage to energy efficient equipment will help in determining if propane use was a contributing factor and, if so, how to remedy the situation.

Requiring Liberty to provide Staff with detailed engineering and construction plans and the Company's most recent cost estimates prior to commencing construction of the Budweiser Line will enable Staff to review the plans for cost and safety elements prior to construction. The requirement will also assist Staff and other parties to evaluate the merits of going forward with the project at that time as opposed to alternative solutions to address a perceived supply deficiency.

Q. Do you have any other recommendations?

A. Yes. The Commission's decision should make clear that on–system enhancements are not part of the conditional approval of the Contract and, therefore, that the decision does not impute pre-approval any of the system enhancements related to the Contract.

Liberty is permitted to request recovery of the investments in a future rate case, and conditional approval will not preclude Staff of any other parties from taking an opposing position with regard to such a request.

Q. Does that conclude your testimony?

A. Yes.

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

DG 21-008
Petition for Approval of a Firm Transportation Agreement with
Tennessee Gas Pipeline Company, LLC

Staff Data Requests - Set 1

Date Request Received: 3/29/21 Date of Response: 4/16/21
Request No. Staff 1-1 Respondent: William R. Killeen

REQUEST:

Ref. Bates p. 12, Description of the TGP Contract. Please provide a description of the major components of Liberty/TGP contract no. 42076 and a copy of the contract.

RESPONSE:

Liberty/TGP Contract no. 42076 is provided at Attachment Staff 1-1. This contract has the following major components:

- Contract Total Quantity ("TQ"): 20,000 Dth per day
- Receipt Point: Dracut, Massachusetts
- Delivery Point(s): Nashua and Manchester, New Hampshire (8,000/12,000, respectively). The Company amended the contract on October 1, 2012, after its acquisition of EnergyNorth from National Grid. The Company does not have any insight as to why the delivery points on the contract originally included Tewksbury, MA, and Dracut, MA, which were delivery points to the former Colonial Gas Company.
- Rate: Currently effective TGP tariff for FT-A service defined as Zone 6 to Zone 6 (the monthly reservation charge is currently $4.1405/Dth); plus all additional charges and surcharges as per TGP's then-current FT-A Tariff.
- In-Service Date: January 1, 2003. As stated above, the Company does not have any insight as to why National Grid (KeySpan at the time) amended the delivery points on this contract commencing January 1, 2003, or when/if the contract was restructured previously.
- Term: Primary Term expiration was to October 31, 2010, with renewal rights per Article III, Section 10.4 of the General Terms and Conditions of TGP's FERC Gas Tariff; extended to October 31, 2015, October 31, 2020, and currently through October 31, 2025.

The TGP Contract is a standard gas transportation agreement for use under TGP's FT-A rate schedule, therefore all of the industry standard terms and conditions that are contained in TGP's FERC-approved tariff are incorporated into the TGP Contract.

REDACTED

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

DG 21-008
Petition for Approval of a Firm Transportation Agreement with
Tennessee Gas Pipeline Company, LLC

Staff Data Requests - Set 1

Date Request Received: 3/29/21 Date of Response: 4/16/21
Request No. Staff 1-2 Respondent: William R. Killeen

REQUEST:

Ref. Bates p. 12, Description of the TGP Contract. Please provide a description of the major components of Liberty/TGP contract no. 52694 and a copy of the contract.

RESPONSE:

Liberty does not have a contract with TGP with that referenced number. Liberty assumes Staff is referring to Liberty/TGP Contract No. 72694, a copy of which is provided as Confidential Attachment Staff 1-2. This contract has the following major components:

- Contract Total Quantity ("TQ"): 30,000 Dth per day
- Receipt Point: Dracut, Massachusetts
- Delivery Point: Laconia, New Hampshire
- Rate: As this contract required expansion facilities to be built on the Concord Lateral and FERC approval, a Negotiated Rate Agreement was required. The Negotiated Rate Agreement includes a monthly reservation rate of $[redacted]/Dth, plus the maximum applicable commodity rates currently effective in the TGP tariff for FT-A service defined as Zone 6 to Zone 6; plus all additional charges and surcharges as per TGP's then-current Tariff for FT-A service.
- In-Service Date: November 1, 2009
- Term: The primary term is 20 years through October 31, 2029, with renewal rights per Article III, Section 10.4 of the General Terms and Conditions of TGP's FERC Gas Tariff.

Other than the expansion terms and Negotiated Rate Agreement noted above, TGP Contract No. 72694 is a standard gas transportation agreement for use under TGP's FT-A rate schedule, therefore all of the industry standard terms and conditions apply as contained in TGP's FERC-approved tariff.

The marked information above and in Confidential Attachment Staff 1-2 is confidential pricing information that is third party pricing information that is "confidential, commercial, or financial information" protected from disclosure by RSA 91-A:5, IV. Therefore, pursuant to Puc 203.08(d), the Company has a good faith basis to seek confidential treatment of this information and will submit a motion confirming confidential treatment prior to the final hearing in this docket.

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

DG 21-008
Petition for Approval of a Firm Transportation Agreement with
Tennessee Gas Pipeline Company, LLC

Staff Technical Session Data Requests - Set 1

Date Request Received: 5/5/21 | Date of Response: 5/20/21
Request No. Staff TS 1-2 | Respondent: William Killeen

REQUEST:

Reference DR Staff TS1-4.

a) Please confirm that Liberty has the option to terminate or renew (at the recourse rate) all or a portion of 20,000 Dth of TGP capacity on the Concord Lateral in 2025, and if renewed, Liberty has the same option at the end of each five year extension.

b) Please confirm that Liberty has the option to terminate or renew (at the recourse rate) all or a portion of 30,000 Dth of TGP capacity on the Concord Lateral in 2029, and if renewed, Liberty has the same option at the end of each five year term.

RESPONSE:

a) The Company confirms that it has the option to terminate or renew (at the recourse rate) the entire contract volume of 20,000 Dth of TGP capacity on the Concord Lateral after its current expiration date of October 31, 2025. In addition, if renewed, the Company would retain the same option at the end of each five year extension. It has a notice date one year prior, or no later than October 31, 2024. Should no termination notice be sent, the contract is extended for five years, to October 31, 2030, at the then-existing recourse rate. However, should the Company opt to renew for only a portion of the 20,000 Dth, TGP would have the option to put that portion out to bid as generally available capacity.

b) The 30,000 Dth/day contract on TGP currently has an expiration date of October 31, 2029, with a notice date one year prior, or no later than October 31, 2028. Should no termination notice be sent, the contract is extended for five years, to October 31, 2034, at the then-existing recourse rate. However, should the Company opt to renew for only a portion of the 30,000 Dth, TGP would have the option to put that portion out to bid as generally available capacity.

REDACTED

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

DG 21-008
Petition for Approval of a Firm Transportation Agreement with
Tennessee Gas Pipeline Company, LLC

Staff Data Requests - Set 1

Date Request Received: 3/29/21	Date of Response: 4/16/21
Request No. Staff 1-2	Respondent: William R. Killeen

REQUEST:

Ref. Bates p. 12, Description of the TGP Contract. Please provide a description of the major components of Liberty/TGP contract no. 52694 and a copy of the contract.

RESPONSE:

Liberty does not have a contract with TGP with that referenced number. Liberty assumes Staff is referring to Liberty/TGP Contract No. 72694, a copy of which is provided as Confidential Attachment Staff 1-2. This contract has the following major components:

- Contract Total Quantity ("TQ"): 30,000 Dth per day
- Receipt Point: Dracut, Massachusetts
- Delivery Point: Laconia, New Hampshire
- Rate: As this contract required expansion facilities to be built on the Concord Lateral and FERC approval, a Negotiated Rate Agreement was required. The Negotiated Rate Agreement includes a monthly reservation rate of $[redacted]/Dth, plus the maximum applicable commodity rates currently effective in the TGP tariff for FT-A service defined as Zone 6 to Zone 6; plus all additional charges and surcharges as per TGP's then-current Tariff for FT-A service.
- In-Service Date: November 1, 2009
- Term: The primary term is 20 years through October 31, 2029, with renewal rights per Article III, Section 10.4 of the General Terms and Conditions of TGP's FERC Gas Tariff.

Other than the expansion terms and Negotiated Rate Agreement noted above, TGP Contract No. 72694 is a standard gas transportation agreement for use under TGP's FT-A rate schedule, therefore all of the industry standard terms and conditions apply as contained in TGP's FERC-approved tariff.

The marked information above and in Confidential Attachment Staff 1-2 is confidential pricing information that is third party pricing information that is "confidential, commercial, or financial information" protected from disclosure by RSA 91-A:5, IV. Therefore, pursuant to Puc 203.08(d), the Company has a good faith basis to seek confidential treatment of this information and will submit a motion confirming confidential treatment prior to the final hearing in this docket.

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

DG 21-008
Petition for Approval of a Firm Transportation Agreement with
Tennessee Gas Pipeline Company, LLC

Staff Data Requests - Set 1

Date Request Received: 3/29/21 Date of Response: 4/16/21
Request No. Staff 1-5 Respondent: Francisco C. DaFonte

REQUEST:

Ref. Bates p. 18. Absent the TGP Contract, the Company's calculation of Design Day resource deficiency is 12,585 Dth in 2021/22. What is the minimum on-system capital investment needed to address the 2021/22 deficiency? Please describe the components of the required capital investments, estimated costs and construction time line included in the calculation of the minimum investment calculation.

RESPONSE:

The Company did not conduct the requested analysis (i.e., the minimum on-system capital investment needed to address the 2021/22 deficiency). The primary goal of the Company's resource planning process is to provide reliable service in a cost-effective manner to customers that depend on that service during extreme weather events. The provision of that service is based on a capital-intensive infrastructure that is not evaluated on a year-to-year basis, but rather over a planning horizon.

As detailed below, the Company's resource planning process and analysis of the 20-year contract for capacity on Tennessee Gas Pipeline ("TGP") and the associated on-system capital investment is based on: (i) existing and long-term customer demand; (ii) existing gas supply portfolio; and (iii) an evaluation of the two TGP capacity options.

Specifically, the decision by the Company to contract for 40,000 Dth/day of TGP capacity is based on the following:

- Growing demand for natural gas service
    - Over the 2012 to 2019 time period, the Company has added over 10,000 customers, an increase of 11% (see Bates 008).
    - During the 2021/22 to 2039/40 period, the Company forecasts its Design Day demand to increase by a compound annual growth rate of 1.4% (see Bates 015).
    - There are certain parts of the Company's service territory that are high growth areas, such as Nashua, Manchester, Londonderry, and surrounding towns (see Bates 023).

- Existing gas supply portfolio
    - The Company's current resource portfolio is not adequate to meet existing and forecasted demand. Specifically, as shown on Table 2 on Bates 018, the Company has an immediate (i.e., 2021/22) deficiency of over 12,000 Dth on Design Day, and by 2038/39 that deficiency increases to over 67,000 Dth.
    - The Company recognizes there is uncertainty with any forecast. Therefore, it concluded that adding a 40,000 Dth/day contract with TGP to the existing resource portfolio meets part of the forecasted deficiency, and the resulting overall resource portfolio provides Liberty with the flexibility to address changes in demand. For example, the Company has capacity contracts with staggered termination dates should demand not materialize as forecasted, and the Company could develop on-system resources should demand meet or exceed projections. See also, Bates 033 and the responses to Staff 1-4 and PLAN 1-1.
- TGP capacity options
    - The Company evaluated two contracting alternatives with TGP:
        - Under the first alternative, TGP would deliver 20,000 Dth/day to Nashua and 20,000 Dth/day to Manchester (the "TGP Nashua/Manchester Alternative").
        - Under the second alternative, TGP would deliver 40,000 Dth/day to Londonderry (the "TGP Londonderry Alternative").
    - Under either of the TGP alternatives, the Company would need to execute a 20-year contract for pipeline capacity, which is similar to contracts signed by other New England local distribution companies for capacity on TGP.
    - In addition, either of the TGP alternatives would require TGP and/or the Company to construct facilities to optimize the resource portfolio.
        - The TGP Nashua/Manchester Alternative requires TGP to "loop" the existing Nashua/Hudson Lateral, which traverses densely populated neighborhoods. In addition, the Company would need to complete certain on-system facilities.
        - The TGP Londonderry Alternative would not require any facilities on TGP, but the Company would need to construct certain on-system facilities.
    - Based on the Company's evaluation of the TGP alternatives over a longer term planning horizon, the Company concluded that the TGP Londonderry Alternative provided customers with a lower cost and more qualitative benefits as discussed on Bates 023 through 030.

The Company provided an outline of the phased-in approach regarding the on-system investments and associated timing of those investments associated with the TGP Londonderry Alternative in footnote 32 on Bates 035. In Table Staff 1-5 below, the Company provides more detail regarding the on-system project components and timing of the design and construction phases associated with the TGP Londonderry Alternative.

Docket No. DG 21-008 Request No. Staff 1-5

Table Staff 1-5

Project Components	Design	Construction	Investment
Rebuild Candia Road, Manchester M&R Station	2021: $300k	2022: $4.2M	$4.5M
Uprate Manchester Feeder to 185 psig	2022: $300k	2023: $700k	$1M
New Londonderry M&R Station, Merrimack Station	2021: $300k	2022: $4.5M	$4.8M
10.5 miles of New Feeder Londonderry to Nashua	2021/22: $850k	2022/24: $39.35M	$40.2M

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

DG 21-008
Petition for Approval of a Firm Transportation Agreement with
Tennessee Gas Pipeline Company, LLC

Staff Technical Session Data Requests - Set 1

Date Request Received: 5/5/21 Date of Response: 5/20/21
Request No. Staff TS 1-4 Respondent: Francisco C. DaFonte

REQUEST:

Reference Staff TS1-5, OCA 1-13 & Testimony Bates page 26.

For each of the following phases of the on-system enhancements, please provide engineering plans with updated cost estimates, timeline, and the incremental increase in capacity that will realized:

a) Granite Ridge Station
b) Brown Avenue pipeline and regulator
c) Daniel Webster Highway Merrimack Station in Manchester
d) Budweiser line in Nashua

RESPONSE:

The Company has not created any updated engineering plans, cost estimates, or timelines beyond what has been provided in the Company's response to OCA 1-13.

a) The Granite Ridge Station is the beginning of the proposed on-system enhancement facilities. Therefore its capacity is the sum of items "b" through "d."
b) Upon its completion, the Brown Ave pipeline and regulator will immediately provide 120 dekatherms per hour of capacity.
c) Upon its completion, the Daniel Webster Highway Merrimack Station will immediately provide 235 dekatherms per hour of capacity.
d) Upon its completion, the Budweiser line will immediately provide 1,100 dekatherms per hour of capacity.

Note that all capacity calculations above are based on current customer count and geographic usage locations. By nature of the on-system enhancement location in the gas network, these facilities will be able to support additional future customer growth at the edges of the current distribution system.

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

DG 21-008
Petition for Approval of a Firm Transportation Agreement with
Tennessee Gas Pipeline Company, LLC

Staff Data Requests - Set 1

Date Request Received: 3/29/21
Request No. Staff 1-5

Date of Response: 4/16/21
Respondent: Francisco C. DaFonte

REQUEST:

Ref. Bates p. 18. Absent the TGP Contract, the Company's calculation of Design Day resource deficiency is 12,585 Dth in 2021/22. What is the minimum on-system capital investment needed to address the 2021/22 deficiency? Please describe the components of the required capital investments, estimated costs and construction time line included in the calculation of the minimum investment calculation.

RESPONSE:

The Company did not conduct the requested analysis (i.e., the minimum on-system capital investment needed to address the 2021/22 deficiency). The primary goal of the Company's resource planning process is to provide reliable service in a cost-effective manner to customers that depend on that service during extreme weather events. The provision of that service is based on a capital-intensive infrastructure that is not evaluated on a year-to-year basis, but rather over a planning horizon.

As detailed below, the Company's resource planning process and analysis of the 20-year contract for capacity on Tennessee Gas Pipeline ("TGP") and the associated on-system capital investment is based on: (i) existing and long-term customer demand; (ii) existing gas supply portfolio; and (iii) an evaluation of the two TGP capacity options.

Specifically, the decision by the Company to contract for 40,000 Dth/day of TGP capacity is based on the following:

- Growing demand for natural gas service
  - Over the 2012 to 2019 time period, the Company has added over 10,000 customers, an increase of 11% (see Bates 008).
  - During the 2021/22 to 2039/40 period, the Company forecasts its Design Day demand to increase by a compound annual growth rate of 1.4% (see Bates 015).
  - There are certain parts of the Company's service territory that are high growth areas, such as Nashua, Manchester, Londonderry, and surrounding towns (see Bates 023).

- Existing gas supply portfolio
  - The Company's current resource portfolio is not adequate to meet existing and forecasted demand. Specifically, as shown on Table 2 on Bates 018, the Company has an immediate (i.e., 2021/22) deficiency of over 12,000 Dth on Design Day, and by 2038/39 that deficiency increases to over 67,000 Dth.
  - The Company recognizes there is uncertainty with any forecast. Therefore, it concluded that adding a 40,000 Dth/day contract with TGP to the existing resource portfolio meets part of the forecasted deficiency, and the resulting overall resource portfolio provides Liberty with the flexibility to address changes in demand. For example, the Company has capacity contracts with staggered termination dates should demand not materialize as forecasted, and the Company could develop on-system resources should demand meet or exceed projections. See also, Bates 033 and the responses to Staff 1-4 and PLAN 1-1.
- TGP capacity options
  - The Company evaluated two contracting alternatives with TGP:
    - Under the first alternative, TGP would deliver 20,000 Dth/day to Nashua and 20,000 Dth/day to Manchester (the "TGP Nashua/Manchester Alternative").
    - Under the second alternative, TGP would deliver 40,000 Dth/day to Londonderry (the "TGP Londonderry Alternative").
  - Under either of the TGP alternatives, the Company would need to execute a 20-year contract for pipeline capacity, which is similar to contracts signed by other New England local distribution companies for capacity on TGP.
  - In addition, either of the TGP alternatives would require TGP and/or the Company to construct facilities to optimize the resource portfolio.
    - The TGP Nashua/Manchester Alternative requires TGP to "loop" the existing Nashua/Hudson Lateral, which traverses densely populated neighborhoods. In addition, the Company would need to complete certain on-system facilities.
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  - Based on the Company's evaluation of the TGP alternatives over a longer term planning horizon, the Company concluded that the TGP Londonderry Alternative provided customers with a lower cost and more qualitative benefits as discussed on Bates 023 through 030.

The Company provided an outline of the phased-in approach regarding the on-system investments and associated timing of those investments associated with the TGP Londonderry Alternative in footnote 32 on Bates 035. In Table Staff 1-5 below, the Company provides more detail regarding the on-system project components and timing of the design and construction phases associated with the TGP Londonderry Alternative.

Docket No. DG 21-008 Request No. Staff 1-5

Table Staff 1-5

Project Components	Design	Construction	Investment
Rebuild Candia Road, Manchester M&R Station	2021: $300k	2022: $4.2M	$4.5M
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New Londonderry M&R Station, Merrimack Station	2021: $300k	2022: $4.5M	$4.8M
10.5 miles of New Feeder Londonderry to Nashua	2021/22: $850k	2022/24: $39.35M	$40.2M

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

DG 21-008
Petition for Approval of a Firm Transportation Agreement with
Tennessee Gas Pipeline Company, LLC

Staff Technical Session Data Requests - Set 1

Date Request Received: 5/5/21	Date of Response: 5/20/21
Request No. Staff TS 1-4	Respondent: Francisco C. DaFonte

REQUEST:

Reference Staff TS1-5, OCA 1-13 & Testimony Bates page 26.

For each of the following phases of the on-system enhancements, please provide engineering plans with updated cost estimates, timeline, and the incremental increase in capacity that will realized:

a) Granite Ridge Station
b) Brown Avenue pipeline and regulator
c) Daniel Webster Highway Merrimack Station in Manchester
d) Budweiser line in Nashua

RESPONSE:

The Company has not created any updated engineering plans, cost estimates, or timelines beyond what has been provided in the Company's response to OCA 1-13.

a) The Granite Ridge Station is the beginning of the proposed on-system enhancement facilities. Therefore its capacity is the sum of items "b" through "d."
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Note that all capacity calculations above are based on current customer count and geographic usage locations. By nature of the on-system enhancement location in the gas network, these facilities will be able to support additional future customer growth at the edges of the current distribution system.

Discount Cash Flow Annalysis for TGP Contract

Capital Cost Direct (12/31/19 Rate Base)	$50,500,000
Required Return (pre tax)	8.76%
Depreciation	1,262,500
Property tax rate	1.94%
Insurance rate	0.10%
NPV (Delta yrs 1-10, discount rate 10.15%)	[redacted]
NPV (Delta yrs 1-20, discount rate 10.15%)	

Assumptions:
Annual Savings the difference between Contract rate and indicative rate for lowest cost altenative
Liberty Contract related projects in service year 1
Required return - DG 20-105 Settlement Agreement

Year	IRS MACRS Rates	IRS MACRS Table	Book Depr	Delta Book less Tax	Tax Rate	Deferred Inc Tax	Accumulated Deferred Inc Tax	Rate Base	Required Return	Property Tax	Insurance	Revenue Requirement	Annual Savings	Delta Rev Req less Revenue
			(40 yrs/2.5%)							1.94%	0.10%			
								50,500,000						
1	5.00%	2,525,000	1,262,500	(1,262,500)	27%	(341,885)	(341,885)	48,895,615	$4,352,241	$978,185	$50,500	$6,643,426	[redacted]	[redacted]
2	9.50%	4,797,500	1,262,500	(3,535,000)	27%	(957,278)	(1,299,163)	46,675,837	$4,184,792	$947,108	$50,500	$6,444,900	[redacted]	[redacted]
3	8.55%	4,317,750	1,262,500	(3,055,250)	27%	(827,362)	(2,126,525)	44,585,975	$3,996,086	$904,111	$50,500	$6,213,197	[redacted]	[redacted]
4	7.70%	3,888,500	1,262,500	(2,626,000)	27%	(711,121)	(2,837,646)	42,612,355	$3,818,158	$863,630	$50,500	$5,994,788	[redacted]	[redacted]
5	6.93%	3,499,650	1,262,500	(2,237,150)	27%	(605,820)	(3,443,466)	40,744,034	$3,649,931	$825,401	$50,500	$5,788,332	[redacted]	[redacted]
6	6.23%	3,146,150	1,262,500	(1,883,650)	27%	(510,092)	(3,953,558)	38,971,442	$3,490,506	$789,212	$50,500	$5,592,718	[redacted]	[redacted]
7	5.90%	2,979,500	1,262,500	(1,717,000)	27%	(464,964)	(4,418,522)	37,243,978	$3,337,249	$754,877	$50,500	$5,405,126	[redacted]	[redacted]
8	5.90%	2,979,500	1,262,500	(1,717,000)	27%	(464,964)	(4,883,485)	35,516,515	$3,185,968	$721,416	$50,500	$5,220,384	[redacted]	[redacted]
9	5.91%	2,984,550	1,262,500	(1,722,050)	27%	(466,331)	(5,349,816)	33,787,684	$3,034,627	$687,955	$50,500	$5,035,582	[redacted]	[redacted]
10	5.90%	2,979,500	1,262,500	(1,717,000)	27%	(464,964)	(5,814,780)	32,060,220	$2,883,286	$654,467	$50,500	$4,850,753	[redacted]	[redacted]
11	5.91%	2,984,550	1,262,500	(1,722,050)	27%	(466,331)	(6,281,111)	30,331,389	$2,731,945	$621,006	$50,500	$4,665,951	[redacted]	[redacted]
12	5.90%	2,979,500	1,262,500	(1,717,000)	27%	(464,964)	(6,746,075)	28,603,925	$2,580,604	$587,519	$50,500	$4,481,123	[redacted]	[redacted]
13	5.91%	2,984,550	1,262,500	(1,722,050)	27%	(466,331)	(7,212,406)	26,875,094	$2,429,263	$554,058	$50,500	$4,296,321	[redacted]	[redacted]
14	5.90%	2,979,500	1,262,500	(1,717,000)	27%	(464,964)	(7,677,370)	25,147,630	$2,277,922	$520,571	$50,500	$4,111,492	[redacted]	[redacted]
15	5.91%	2,984,550	1,262,500	(1,722,050)	27%	(466,331)	(8,143,701)	23,418,799	$2,126,581	$487,110	$50,500	$3,926,690	[redacted]	[redacted]
16	2.95%	1,489,750	1,262,500	(227,250)	27%	(61,539)	(8,205,240)	22,094,760	$1,992,905	$453,622	$50,500	$3,759,527	[redacted]	[redacted]
17			1,262,500	1,262,500	27%	341,885	(7,863,355)	21,174,145	$1,894,618	$427,976	$50,500	$3,635,593	[redacted]	[redacted]
18			1,262,500	1,262,500	27%	341,885	(7,521,470)	20,253,530	$1,813,996	$410,143	$50,500	$3,537,139	[redacted]	[redacted]
19			1,262,500	1,262,500	27%	341,885	(7,179,585)	19,332,915	$1,733,374	$392,311	$50,500	$3,438,685	[redacted]	[redacted]
20			1,262,500	1,262,500	27%	341,885	(6,837,700)	18,412,300	$1,652,752	$374,479	$50,500	$3,340,230	[redacted]	[redacted]

Required Return (Settlement)

	Capital Structure	Cost of Capital	Weighted Cost of Capital	Tax Rate	Pre-Tax
Equity	52.00%	9.30%	4.84%	27.08%	6.64%
Debt	48.00%	4.420%	2.12%		2.12%
	100.00%		6.96%		8.76%

Discount Cash Flow Annalysis for TGP Contract

Capital Cost Direct (12/31/19 Rate Base)	$50,500,000
Required Return (pre tax)	8.76%
Depreciation	1,262,500
Property tax rate	1.94%
Insurance rate	0.10%

Assumptions:
Annual Savings the difference between Contract rate and indicative rate for lowest cost altenative
Liberty Contract related projects in service year 1
Liberty Retires projects in year 20
Required return - DG 20-105 Settlement Agreement

NPV (Delta yrs 1-10, discount rate 10.15%)	[redacted]
NPV (Delta yrs 1-20, discount rate 10.15%)	

Year	IRS MACRS Rates	IRS MACRS Table	Book Depr	Delta Book less Tax	Tax Rate	Deferred Inc Tax	Accumulated Deferred Inc Tax	Rate Base	Required Return	Property Tax	Insurance	Revenue Requirement	Annual Savings	Delta Rev Req less Revenue
			(40 yrs/2.5%)							1.94%	0.10%			
								50,500,000						
1	5.00%	2,525,000	1,262,500	(1,262,500)	27%	(341,885)	(341,885)	48,895,615	$4,352,241	$978,185	$50,500	$6,643,426	[redacted]	
2	9.50%	4,797,500	1,262,500	(3,535,000)	27%	(957,278)	(1,299,163)	46,675,837	$4,184,792	$947,108	$50,500	$6,444,900		
3	8.55%	4,317,750	1,262,500	(3,055,250)	27%	(827,362)	(2,126,525)	44,585,975	$3,996,086	$904,111	$50,500	$6,213,197		
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5	6.93%	3,499,650	1,262,500	(2,237,150)	27%	(605,820)	(3,443,466)	40,744,034	$3,649,931	$825,401	$50,500	$5,788,332		
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19			1,262,500	1,262,500	27%	341,885	(7,179,585)	19,332,915	$1,733,374	$392,311	$50,500	$3,438,685		
20			26,512,500	26,512,500	27%	7,179,585	0	0	$846,531	$374,479	$50,500	$27,784,010		

Required Return (Settlement)

	Capital Structure	Cost of Capital	Weighted Cost of Capital	Tax Rate	Pre-Tax
Equity	52.00%	9.30%	4.84%	27.08%	6.64%
Debt	48.00%	4.420%	2.12%		2.12%
	100.00%		6.96%		8.76%