

**STATE OF NEW HAMPSHIRE**  
**Inter-Department Communication**

DATE: October 18, 2019

AT (OFFICE): NHPUC

**FROM:**Randy Knepper  
Director, Safety Division**SUBJECT:**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities  
DG 19-138 Petition for Waiver of Puc 506.03 On-Site Storage Requirements  
**STAFF RECOMMENDATION****TO:**Debra Howland, Executive Director  
Stephen Frink, Director, Gas and Water Division  
Lynn Fabrizio, Hearings Examiner, Legal Division  
Al-Azad Iqbal, Utility Analyst, Gas and Water Division**Summary**

On June 6, 2019, Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities (Liberty, or the Company) gave a preliminary presentation to Staff and the OCA regarding its concern for the Company's ability to either barely meet or potentially fall just short of the 7-day on-site storage requirements under Puc 506.03. The primary reasons given by Liberty were that the most recent coldest 7-day period that occurred from December 27, 2017, to January 2, 2018, lowered historical weekly temperatures by 6%,<sup>1</sup> which translated to an increased demand of 5.5%.<sup>2</sup> Under the rule, the amount of required on-site storage is determined to be what is needed after pipeline supply options are exercised. On August 8, 2019, Liberty submitted to Staff and the OCA via electronic mail a number of scenarios and proposed modifications to Puc 506.03. On August 23, 2019, Liberty filed a Petition for Waiver of Puc 506.03, On-Site Storage Requirements.

**Analysis**

Staff has completed its review of Liberty's petition, as filed on August 23, 2019.

In its review, Staff performed a detailed analysis of the petition and issued several questions to the Company related to the waiver request in September 2019. In a phone call on October 15, 2019, Staff discussed the petition with Liberty, and Liberty provided some additional clarifications of its responses to Staff's questions related to the petition.

---

<sup>1</sup> 420 HDD/ 396 HDD = 1.06

<sup>2</sup> 931,230/901,430 = 1.055

The Company seeks a waiver to change how the on-site storage volumes are calculated (using 100%, rather than 70%, of guaranteed trucking volumes over 7 days of trucking, rather than 5 days), and to change the percentage of the storage quantities that must be on hand at certain times during the winter period. The Company expects that, if granted, the requested waiver will yield increased operational flexibility and more economic storage refill options during the winter period while maintaining sufficient inventory levels required to serve customers during a 7-day cold snap.

Specifically, Liberty seeks changes to four sections of the current rule:

- 1) a. Modify 506.03 (b) by deleting “between” and replacing with “as of”;  
b. Modify 506.03 (b) by deleting “and February 14”; and  
c. Modify 506.03 (b) by deleting “equivalent to the volume” and replacing with “equivalent to 90% of the volume”;
- 2) a. Modify 506.03 (d) by deleting “70%” and replacing with “100%”; and  
b. Modify 506.03 (d) by deleting “5 day” and replacing with “7 day”;
- 3) a. Modify 506.03 (e) by inserting the following new sentence at the beginning: “As of January 1 of each year, the above minimum on-site storage inventory volume may be reduced to 80% of the volume of on-site storage inventory deemed necessary to satisfy the 7-day design demand as determined in (a) above.”;  
b. Modify 506.03 (e) by deleting “February 1” and replacing with “February 15”; and  
c. Modify 506.03 (e) by deleting “75% of December 1 requirement above” and replacing with “70% of the volume of on-site storage inventory deemed necessary to satisfy the 7-day design demand as determined in (a) above.”; and
- 4) a. Modify 506.03 (f) by inserting after March 1 “and April 1”; and  
b. Modify 506.03 (f) by deleting “50%” of December 1 requirement above” and replacing with “40% of the volume of on-site storage inventory deemed necessary to satisfy the 7-day design demand as determined in (a) above.”

In total, Liberty proposes 10 modifications to the current rule.

### **Recommendation**

Staff recommends approval of the Motion for Waiver of Puc 506.03, with conditions, based on the following facts:

1. The granted waiver does not apply to the Keene Division, but does apply for all other Liberty gas divisions as presently configured as of October 1, 2019.
2. The Company is initially required to maintain on-site storage inventory for the winter period of 2019/2020 at or above the required minimum 147,399 MMBtu, in accordance with Puc 506.03.
3. The required minimum volume was provided by the Company to the Safety Division in accordance with Puc 509.16 on October 1, 2019, and is consistent with Company Responses to Staff Discovery 1-9 (see attached).
4. The amount of on-site storage that Liberty has available currently is 151,969 MMBtu.

5. Waivers of Puc 509.03 have been requested by Liberty and its corporate predecessors in the past<sup>3</sup> for the purposes of avoiding extremely costly, high-priced pipeline supplies that need to be acquired on the spot market. Such high spot market prices occur during times of high demand and usually correlate with the coldest regional temperature periods. Waivers granted in the past have been for short durations and ultimately provided end customers with lower costs than would have been available without a waiver. The avoidance of the higher spot market prices was accomplished by dipping below the required storage levels for short periods of time and then refilling to stay in compliance.
6. The waiver of Puc 509.03 granted in DG 17-200 contributed to Liberty achieving nearly \$814,000 in avoided costs from January 5, 2018 to January 31, 2018. This indicates that prior waiver approvals have contributed to lower costs of gas delivered than had otherwise been achieved through the volatile spot market.
7. The availability of firm pipeline resources to meet the Company's system demand has typically not been restricted, although Operational Flow Orders (OFOs) are routinely issued by the Tennessee Gas Pipeline during cold periods. Liberty manages its supplies during the constrained OFO periods by using on-site supplemental storage to help maintain the daily balancing requirements which are typically constrained to within 2% tolerance of balancing requirements for orders and receipts variances. On-site storage helps Liberty to avoid penalties during OFO periods. Rapid weather changes can be accommodated by use of Liberty's on-site storage and production plants to keep up with demand by ramping up the facilities during nights, weekends, and any off-hours. Increased flexibility associated with the amount of storage required allows for less likelihood of interstate pipeline gas supply penalties being applied.
8. Granting the waiver will reduce the storage requirement by approximately 13.33% between November 1 and April 30, which is the time period Liberty is seeking.
9. The Company has an LNG (liquids) refill contract with ENGIE Gas & LNG, LLC and will continue utilization of its LNG facilities to meet its pipeline balancing and system supply requirements. The Company also has LPG contracts with various LP transporters.
10. These modest changes in on-site inventory will have a modest impact on the reliability or operation of the Company's system but will still require sufficient amounts of on-site storage. This allows the Company to mitigate some of its exposure to the higher prices of natural gas pipeline supplies during cold periods such as the recently recorded 7-day historical temperatures in New Hampshire. The changes are anticipated to give increased flexibility to the Company and produce a storage curve that smooths out the abrupt changes in storage levels required under Puc 506.03
11. The new 7-day temperature standard will exceed previous weather data associated with 2004 by approximately 6%. Staff research also indicated that the period of January 14 to January 20, 1994, may have resulted in an even colder 7-day period for New Hampshire.
12. The resulting curve based on the 10 modifications more closely follows the withdrawal curves (patterns) Liberty uses for other underground gas storage. All of Liberty's on-site storage currently consists of above-ground storage containers or mounded storage containers.

---

<sup>3</sup> In DG 17-200 Liberty requested a temporary waiver of Puc 509.03. In DG 07-023 Liberty's predecessor (KeySpan Energy Delivery) requested a temporary waiver of Puc 509.03.

Staff recommends that the Commission impose the following three conditions if it grants the requested waiver:

- First, Liberty should affirm that the period of January 14 to 20, 1994, did, indeed, result in the coldest historic period.<sup>4</sup> If confirmed, Liberty should use that period for its October 1, 2020, required filing and future filings until a different historic temperature benchmark is recorded over a 7-day period.
- Second, Liberty should keep an accounting of: each day these resources are used to displace higher priced pipeline supplies; the quantities that are used; whether OFOs were in place at the time; and the resulting cost savings determined using the closing day spot market price for delivered pipeline supplies for the volumes of the liquids used, compared to alternative supplemental liquids delivered price of equivalent amounts into Liberty's system. The accounting should demonstrate that the materialized savings would not have occurred if not for the waiver granted. The accounting should be for the following winter periods: 2019/2020, 2020/2021, and 2021/2022. The Company should make available to the Staff, upon request, the spreadsheets that show the ultimate cost savings achieved and the derivation of those savings. Staff ultimately will take into account the resulting data for consideration of potential future Puc 506.03 permanent rule changes
- Third, the waiver period should be granted for this winter period and the winters of 2020/2021 and 2021/2022, even though Liberty is seeking a waiver for the 2019/2020 winter period only. Staff has researched, analyzed, and concluded that Liberty's 10 proposed modifications to the current rule are reasonable. Staff believes that a permanent modification to Puc 506.03 may be required within the next 3 years when the applicable rules are updated pursuant to RSA 541-A:17.

---

<sup>4</sup> The Staff used Concord Airport data for research while Liberty relied on Manchester Airport data

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

DG 19-138

Petition for Waiver of Puc 506.03 On-Site Storage Requirement

Staff Data Requests - Set 1

Date Request Received: 9/18/19  
Request No. Staff 1-9

Date of Response: 9/27/19  
Respondent: Deborah M. Gilbertson

**REQUEST:**

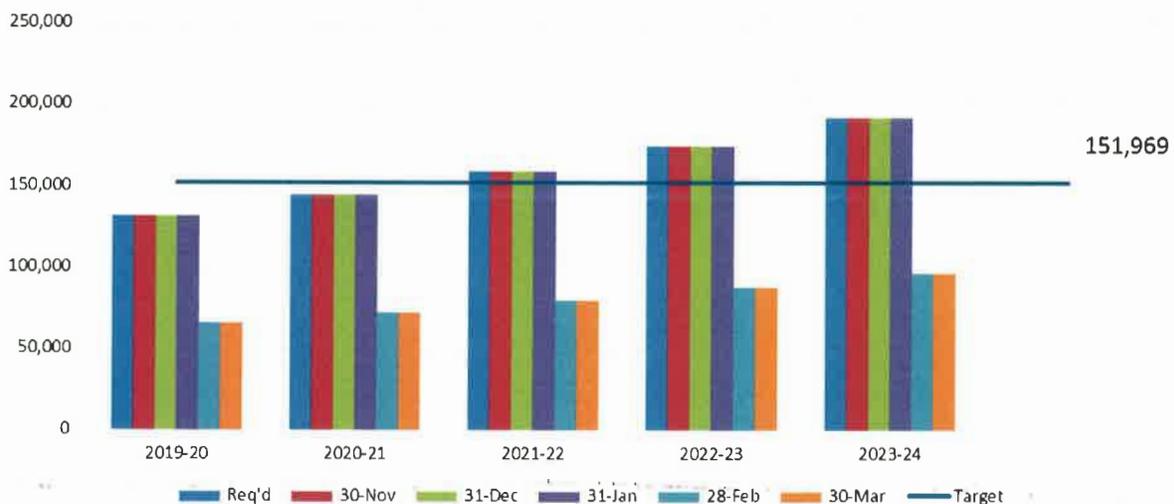
Please provides in a table that compares the dates, daily temperatures and equivalent demand for the previous coldest historical 7-day period used by EnergyNorth in prior years and those that are used in the graph referenced in Petition p. 3, item 2.

**RESPONSE:**

The Company interprets Staff's request as asking the Company to use the prior historical coldest consecutive 7-day temperatures to recreate the data in the graph referenced in Petition p. 3, item 2 to allow for a comparison of both scenarios with all else being equal.

If the Company were to use the prior historical coldest consecutive 7-day period which occurred from January 9, 2004–January 15, 2004, with all else equal, the graph results are as follows:

7 Day Requirement with 5 Day Trucking  
MMBtu's - 2004 Weather Pattern



Please see the following tables, which compare the dates and the resulting requirements:

2004 Weather Pattern

Date	HDD	Baseload	Heat Load	Total Load	Heat Index	Pipeline	On-Site Required
Friday, January 9, 2004	66	11,390	135,913	147,303	2,075	114,833	32,470
Saturday, January 10, 2004	62	11,390	127,613	139,003	2,075	114,833	24,170
Sunday, January 11, 2004	45	11,390	93,375	104,765	2,075	114,833	0
Monday, January 12, 2004	39	11,390	79,888	91,278	2,075	114,833	0
Tuesday, January 13, 2004	51	11,390	104,788	116,178	2,075	114,833	1,345
Wednesday, January 14, 2004	67	11,390	137,988	149,378	2,075	114,833	34,545
Thursday, January 15, 2004	69	11,390	142,138	153,528	2,075	114,833	38,695
	396						
		79,730	821,700	901,430		803,831	131,223

2017–2018 Weather Pattern

Date	HDD	Baseload	Heat Load	Total Load	Heat Index	Pipeline	On-Site Required
Wednesday, December 27, 2017	57	11,390	118,275	129,665	2,075	114,833	14,832
Thursday, December 28, 2017	63	11,390	130,725	142,115	2,075	114,833	27,282
Friday, December 29, 2017	61	11,390	126,575	137,965	2,075	114,833	23,132
Saturday, December 30, 2017	59	11,390	122,425	133,815	2,075	114,833	18,982
Sunday, December 31, 2017	63	11,390	130,725	142,115	2,075	114,833	27,282
Monday, January 1, 2018	65	11,390	134,875	146,265	2,075	114,833	31,432
Tuesday, January 2, 2018	52	11,390	107,900	119,290	2,075	114,833	4,457
	420						
		79,730	871,500	951,230		803,831	147,399

Executive.Director@puc.nh.gov  
al-azad.iqbal@puc.nh.gov  
amanda.noonan@puc.nh.gov  
bill.killeen@libertyutilities.com  
deborah.gilbertson@libertyutilities.com  
donald.kreis@oca.nh.gov  
jayson.laflamme@puc.nh.gov  
karen.sinville@libertyutilities.com  
lynn.fabrizio@puc.nh.gov  
maureen.karpf@libertyutilities.com  
michael.sheehan@libertyutilities.com  
ocalitigation@oca.nh.gov  
pradip.chattopadhyay@oca.nh.gov  
randy.knepper@puc.nh.gov  
steve.frink@puc.nh.gov  
steven.mullen@libertyutilities.com