



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

DG 16-812  
Winter 2016-2017 Cost of Gas

Staff Data Requests - Set 3

Date Request Received: 11/22/16  
Request No. Staff 3-4

Date of Response: 12/8/16  
Respondent: Christian Brouillard

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**REQUEST:**

Please describe the two incidents where the blower system failed since the December 19, 2015 incident, including how the Company was alerted to the failure, the response and the consequences.

**RESPONSE:**

**Incident Number 1: February 21, 2016**

**Description:** Please refer to Attachment Staff 3-4, the Company’s internal “Incident Report,” which describes the event and details the notification previously made by the Company to the New Hampshire PUC shortly following the blower trip incident that occurred on February 21, 2016.

**How the Company was alerted:** Personnel assigned to the plant under the Company’s 24/7 policy immediately detected an abnormal condition (blower system trip) and Liberty’s Londonderry control room detected a drop in output pressure levels on the high pressure (3.5lb) system. The immediate response included two Liberty, Keene-based employees in addition to the shift staff of one assigned to the plant. The immediate response and restoration was made by the workers who brought the plant back on line by 8:05 AM, approximately 20 minutes after the blowers tripped off line.

**Company Response to the Incident:** Please refer to Attachment Staff 3-4, under section “Liberty Crews Responding to the Incident.”

**Consequences:** Please refer to Attachment Staff 3-4, under section “Customers Affected.”

**Incident Number 2: October 3, 2016**

A blower system trip occurred on October 3, 2016. The New Hampshire PUC was notified verbally on October 4, 2016, by Leo Cody. Further details were provided on October 19, 2016.

The Keene propane/air plant returned from atmospheric air supply mode to normal blower mode operation on September 9, 2016, in anticipation of colder temperatures. Operations were normal. On Monday, October 3, a technician performed the standard monthly lead/lag swap of the blower operation. As the lead blower was ramping up production and the other blower was ramping down, the adjustable speed drive controller for the new lead blower failed. It was reported by the technician that he heard a “bang,” saw sparks, and that the power went out. The backup generator assumed power supply but neither blower would operate as it appeared both drives had suffered major damage. At this point the Company made the decision to switch back to atmospheric operations. The Company sent operations personnel to several select customer locations to investigate the results of the failed blower operations. Slightly higher than normal gas percentages were observed but had no adverse effects on any appliance or equipment operations at the visited customer locations. The highest BTU output observed on SCADA, for system output just outside the plant, was 769 BTU, which is slightly in excess of the normal operating level of 740 BTU but would not have been noticed by customers. During this period, the Company kept the Keene Fire Department advised of the status of the Company’s operations and response activities and there were no reported calls to Mutual Aid Dispatch and no calls to the Liberty office concerning issues related to the blower failure. During the same day, an electrical contractor was brought in to inspect the power supply and wiring feeding the blower room and those conditions were reported to be normal. Also, a local independent representative for the manufacturer of the drives, Baldor, was called in to inspect the drives and it was determined that both drives had experienced critical failures. Later, Eversource, the electric utility, was asked if there had been any abnormalities with its power supply and distribution system and Eversource reported there were no problems with the utility power.

Due to the age of the drives, the lack of parts availability and limited manufacturer support for these drives, the Company determined that new replacement drives should be obtained. The replacement drives were subsequently quoted and ordered on October 3. The drives were installed and programmed on October 14. Normal blower operations resumed on Monday, October 17. Twenty-four hour/seven-day-a-week staffing of the plant resumed when the blowers were placed back online on October 17.

**How the Company was alerted:** The plant technician performing the standard monthly lead/lag swap of the blower operation witnessed the failure of the Adjustable Speed Drive controller for the new lead blower. Also, Liberty’s Londonderry control room detected a drop in output pressure levels on the high pressure (3.5lb) system.

**Company Response to the Incident:** The Company sent operations personnel to several select customer locations to investigate the results of the failed blower operations. The fuel system air supply was returned to atmospheric mode. Pressure checks were made at the Price Chopper location subsequent to the system being placed in atmospheric mode. Damage to plant equipment and repair/replacement options were discussed. It was subsequently determined that drive replacement was the best approach. Replacement equipment was ordered immediately and provisions were made to install the replacement equipment. System operational risks and potential enhancements to system safety and reliability were also discussed, including the installation of an emergency air compressor/regulator and the conversion of the high pressure system to CNG.

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**Consequences:** The Company went to several select customer locations to investigate the results of the failed blower operations. Slightly higher than normal gas percentages were observed but were determined to have had no adverse effects on any appliance or equipment operations at customer locations. System pressures were found to be within the normal operating range.