



Ralph Snow, P.E.
DPW Commissioner
Christine Clancy, P.E.
City Engineer

TO: Eileen Donoghue, City Manager *EMD*
FROM: Christine Clancy, P.E., City Engineer
DATE: June 21, 2019
RE: C. Mercier – Request City Manager have proper department consult with the gas utility company to see if possible to install gas pressure relief valve safety whistle to alert customers if gas line is over pressurized

Mayor Samaras – Request City Manager work with National Grid to develop a presentation to the City Council on the steps and procedures that are taken by National Grid and the City to ensure safety for Lowell residents

National Grid presented an overview of its gas infrastructure system to City officials on April 17, 2019. City officials included representatives from the Mayor's office, City Manager's office, DPW/Engineering, Police and Fire. National Grid provided detailed information on how their system operates and what safety measures exist internal to their gas distribution system to protect the system and its customers. Due to the sensitive nature of the Homeland Security and CEI protected documents, the audience of this detailed information was limited to City officials. National Grid explained how the gas industry has changed since the Columbia Gas incident that occurred in 2018 in the Lawrence and Andover area. The Columbia Gas incident was caused when a contractor over pressurized a gas main and a parallel sensor line, which measures the pressure of the system, was not properly transferred to the replaced section of main. National Grid explained that their sensor lines are connected in series, or along a single path, along the main, which prevents the main from being pressurized without having the appropriate sensor lines and safety measures in place. National Grid provided additional overviews of their regulator stations located throughout the City, which measure and monitors pressure and act as a safeguard on the overall distribution system. Any pressure differentials that are not within normal operating pressures are monitored on a centralized system and the appropriate National Grid personnel are notified through alarms.

A gas pressure relief safety valve whistle product was presented to the City Council on February 12, 2019 as an idea to alert customers if any gas services are over pressurized. This product was discussed at the meeting with National Grid on April 17, 2019. National Grid indicated that they were aware of this product within the industry. They do not use this product since there are other safety relief valves and alarms throughout their system. All new services connected to intermediate pressure lines have an external regulator that acts as a final fail safe and protects over pressurization from continuing into a property. Portions of the Lowell gas network operate



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on a low pressure system (put in place by the Lowell manufactured gas company) while other main lines in the network operate at 60psi.

Much of the aged gas infrastructure is uncoated bare steel or cast iron material. There is an estimated 55 miles of aged steel and cast iron gas mains that exist throughout the City. This accounts for approximately 25% of the overall gas network within the City. Within the last several years, National Grid has replaced approximately between 4 and 6 miles of aged main and services each year within the City of Lowell. There are currently about 9 miles of gas main and service replacement proposed for this year. This is in an effort to expedite the replacement of aged gas infrastructure.

Towards the end of the meeting held with City officials on April 17, 2019, general construction safety and emergency response protocols were discussed at the meeting with National Grid. While over pressurization of the distribution system similar to what occurred during the Columbia Gas incident could not occur in the City of Lowell's distribution system, there are still cases where leaks may occur as a result of aging gas infrastructure. These leaks are often located within the public right-of-way and are detected with the report of an odor in the air. National Grid responds to these reports and either monitors or repairs the leak depending on the severity of the leak. Repairs of leaks are coordinated with City officials. In the event of smelling gas, the following number can be called to report a leak: 1-800-233-5325 or 911. A reminder to anyone in the community is that should odor be detected within a building or a structure, immediately exit the building/structure and call 911.

Thank you

CC: Ralph Snow, DPW Commissioner
Susan Griffin, National Grid