



## Committee on Public Works & Utilities and the Northampton City Council

### Committee Members:

*Chair: Councilor Dennis P. Bidwell*

*Vice-Chair: Councilor James Nash*

*Councilor William H. Dwight*

*Councilor David A. Murphy*

### MEETING MINUTES

Date: February 27, 2017 / Time: 4:00 pm

Location: City Council Chambers

212 Main St., Northampton, Massachusetts

1. **Meeting Called to Order and Roll Call:** At 4:00 pm Councilor called the meeting to order. Present were committee members Councilors Bidwell, Nash, Dwight and Murphy. No other City Councilors were present. Councilor Murphy left the meeting at 5:00 pm.

2. **Public Comment:** None

3. **Approve Minutes of the January 30, 2017 Meeting:** Councilor Dwight moved to approve the minutes; Councilor Nash seconded the motion. The motion was approved on a voice vote of 4 yes, 0 No.

#### 4. **Discussion of natural gas leaks in Northampton**

Invited to participate in discussion: Donna LaScaleia, Director of Northampton DPW, Steve Bryant, President, Columbia Gas, and Marty Nathan, Member, [TwoDegrees@GreenNeighbors.Earth](mailto:TwoDegrees@GreenNeighbors.Earth)

Councilor Bidwell explained that each invited guest had been provided with a list of questions prior to the meeting today. He suggested that each guest speak in general about the subject of gas leaks and work into answering the questions that were provided. Afterward the committee members may have specific questions.

*Marty Nathan is a physician who lives on Massasoit Street. She brought with her members of the local Two Degrees group who were instrumental in what the group has done. She notes that the effort the group has undertaken is a tribute to the grassroots effort to get things done when there is a responsive infrastructure.*

Several neighbors got together in 2015, primarily from Massasoit Street, but also those within walking distance. The group was concerned about climate change and had many discussions about what could be done to address this world-wide issue. In 2016 the group participated in Earth Day activities. The group then received a map by HEETMA, a Boston based non-profit organization who has been taking DPW information and putting it on a google map to identify where gas leaks are occurring. This information is collected from non-public utilities. The group had been looking at the information from a climate change perspective, however, when one of the group members noticed that a gas leak was occurring right in front of her house, it gave the group a broader perspective. Dr. Nathan notes that methane, the main component of natural gas, has something in the area of 80 times the potency of carbon dioxide as a green house gas.

The group sent a letter to Steve Bryant asking that the gas leaks be fixed. Much learning has gone on and the group discovered that there are three grades of gas leaks categorized as grade 1 – the most dangerous; grade 2 – these are located near structures and might be dangerous to life or property; and grade 3 – is everything else. The size of the leaks is not known.

Dr. Nathan had also been working with the Springfield Climate Justice Coalition. She learned that while there were 91 leaks in Northampton, there were 500 or more leaks in Springfield. The group expected resistance. President Bryant, however, was willing to meet with the groups and a meeting in Springfield was set up. President Bryant recognized the threat to future generations. The groups began to work together, including the HEETMA group. The group continued to learn more and discovered that only 6% of the numbers of gas leaks were spewing 50% of all of the methane in the Boston area. This was the beginning of Columbia gas working with the DPW and Springfield city government to try to figure out how the gushers could be detected. The technology for gas leak detection had not been well established at this point. President Bryant went on to investigate how super-emitters could be detected in a reproducible way. Columbia gas has since proceeded with replacing old pipes on Massasoit Street. Dr. Nathan notes that this is a historic effort. She is proud of the Two Degrees group, and Columbia Gas and the DPW as well. The City is now working to coordinate pipe replacement projects with city pavement projects in order to avoid paving first, and then replacing pipes later.

*Steve Bryant is president of Columbia Gas.* He brought with him Mr. Dave Nelson who is the Operations Center Manager for the greater Northampton and Springfield area. President Bryant states that it is the Two Degrees group that caused him to think about gas leaks from a whole new perspective. During his entire career, President Bryant has learned that any gas leak can be lethal, and he has seen examples of this over the years. When President Bryant received the letters from Northampton and Springfield's grass root groups, he made the determination that he should provide a comprehensive response, but it was the first time that he started to think about leaks from an environmental point of view. He knows the dangers of methane gas. Grade 3 leaks are relatively small; however, he began to think about the dangers of them. There are some grade 3 leaks that are emitting a fair amount of methane. Boston University did a study of 100 leaks on the natural gas system in Boston, and what was determined was that 7 – 8% of the leaks represented over 50% of the methane being leaked. He thought if that is true, then with the 2,500 leaks across the distribution system, if 250 of the large emitters could be detected and stopped, then over 50% of

the methane could be stopped. Unfortunately the method used to detect leaks in the BU study is not replicable in business. The detection tool that was used is a child's inflatable swimming pool. This tool would not translate into a sound method for Columbia Gas; however, the company is looking for alternative methodology for leak detection. President Bryant has been working with Audrey Shulman, Home Energy Efficiency Team (HEET) co-founder, to identify the best methodology to identify the largest leaks. There is a tool that measures the gas to air ratio; however, it is not a clear indicator as to the size of the leak. The team is working to improve the methodology and on March 16<sup>th</sup> the team will begin using a different methodology that is currently being fostered. This revised method will test above the ground for leaks.

President Bryant feels that Northampton is a nice sized municipality in which to work to refine the methodology. The leak pattern in the city is not unlike the leak pattern across the entire distribution system. In addition to the age of the pipe and what the risk may be, another factor has been added to determine whether to replace a pipe, that is, does it pose an environmental risk. Northampton has 5 grade 3 leaks; four of which are scheduled to be repaired in 2017. Northampton also has Grade 2 leaks that will be repaired; while the law requires that Grade 2 leaks be repaired within 12 months, Columbia Gas has on average been replacing them within four. President Bryant reports while Northampton has been a test case city for its leak study, the company employs the same principles across its entire distribution network. Across 60 cities and towns the company plans to eliminate about 200 Grade 2 leaks in 2017.

The Roundhouse was previously used as a retort to manufacture gas. Coal was used for this process and stored in large above ground tanks and then was distributed around town. There was no pressurization in the distribution network, so the system was used only in the downtown area. Cast iron pipes are used for transport; however, they have a tendency to be affected by frost heaves, making it susceptible to leaking at the joints (bell joints were sealed using jute). The company is working to replace the entire cast iron network placed in the late 1800s and first generation bare steel pipe that was laid 65-70 years ago.

President Bryant explained that it is very difficult to determine lost and unaccounted for methane. He notes that there are 29 points of entry along the distribution system. There are about 315,000 exits. While the meters are read on a regular basis, over a long period of time it has been determined that the lost and unaccounted for is about 1.4%. That means that 1.4% of the gas flowing through the system is lost and unaccounted for. If all of the large leaks were eliminated, President Bryant feels that the lost and unaccounted for would be reduced by half. He notes that there is a certain level of inherent metering error.

President Bryant acknowledged that when replacement is done along the distribution network, a certain amount of gas is lost into the atmosphere. The thinking about using this approach centered around risk to life and property, not the environment. President Bryant notes; however, that when there is gas in the pipe it is not easy to get it out and returned to the distribution system. Several years ago a process known as flaring was used to rid gas left in pipes during a replacement process. This method was abandoned over time, but President Bryant reports that it is worth looking at again for the environmental advantages. While the process results in CO<sub>2</sub> emissions, the dangers to the environment are far less than those posed by methane gas emissions.

Department of Public Works Director Donna LaScaleia has been with the DPW for about one year. She notes that she inherited good systems and states with confidence that the department has a good relationship with Columbia Gas. Each year the department and the utility company share respective infrastructure renovation plans for the upcoming year. The goal is to understand where the plans intercept

in a beneficial way. Director LaScaleia met with Columbia Gas the previous week at the Springfield facility. DPW provided a list of paving projects; Columbia Gas provided a list of pipe replacement projects and then the agencies discussed coordination opportunities. The DPW does not play a role in prioritizing the work of Columbia Gas. Since the DPW is not a part of the Columbia Gas discussions concerning replacement of aging infrastructure, the prioritization of City paving projects proceeds independently. Regarding the history of past projects, both the City and the utility company feel that better coordination will prevent a situation in the future like what had happened on Massasoit Street. Regarding future projects, the City has communicated its intent for infrastructure work on Hinckley Street, Audubon Road, Damon Road, and Pleasant Street. Director LaScaleia acknowledges that it is important that the DPW communicate with its contractors about the needs of Columbia Gas. When a contract is written, it includes language that advance notification to the utility company is required. It is important that Columbia Gas mobilize and do what they need to do prior to the contractor beginning the work for which they were hired. Director LaScaleia also mentioned that the DPW is the issuing department for trench work permits. This also serves as a source communication to the City that work is anticipated and can also trigger discussions about the opportunities for coordinated work to the mutual benefit of both.

Councilor Dwight wondered where MASS DOT came into the pecking order of things. Mr. Nelson explained that MASS DOT is treated similarly to a city. When MASSDOT has upcoming work, they will contact Columbia Gas, such as the case with the roundabout work planned for Route 5.

Councilor Dwight asked about the pipes that came out of the Roundhouse lot. They were not designed to accommodate pressurized gas, but rather the system was basically a gravity feed. He wondered if they are now subject to pressurizing, or something that they have not been scoped for. President Bryant stated no, and now they operate on even lower pressure than previously. Cast iron pipes generally operate using under two pounds of pressure. Pressures vary significantly with the tank. There are much more controlled systems now. Now facilities might be operating at six or nine pounds. The weak part of the system is the joints.

Councilor Dwight asked about the location of the compression station. President Bryant states that the gas is not pressurized by the distribution company. Columbia Gas relies on the pressurizing of the entire interstate pipeline system from Tennessee Gas.

Councilor Nash asked if there were ways to replace pipe without digging up streets, such as the use of a liner. President Bryant states that conceptually there is limited opportunity to line the pipe inside where there is larger diameter cast iron pipe. In the case of Massasoit Street in Northampton, that pipe did not qualify for lining. There is also the opportunity to use the existing pipe as a sleeve and pass pipe through which reduces the amount of excavation required. There has been mixed reviews on using existing pipe as a liner; using this approach makes it difficult to locate a leak.

President Bryant recognizes that Massasoit Street represents a lost opportunity for a coordinate completion of competing infrastructure work. This type of failure can be prevented in the future with better coordination.

Councilor Bidwell notes that the City doesn't know the age of the utility company's infrastructure. He wonders if there would be any advantage for the City to know this information. Director LaScaleia responded that its most important to understand what the priorities are for Columbia Gas. She notes that

the oldest infrastructure is not necessarily a priority for various reasons known only to the utility company. President Bryant agrees. He also notes that it is the gas company's responsibility to take a look at the needs of the gas company once paving projects are known. Separate from this process the gas company may determine that a pipe may need to be replaced. That has at times influenced the order of priority that a city has paved its streets.

Councilor Bidwell asked about the lead time in the planning process. President Bryant indicated that in the beginning, the work was focused on what needed to be replaced immediately. Now, four years later, there is some flexibility to replace infrastructure over a three year period. This allows greater flexibility to coordinate projects with cities and towns. Director LaScaleia reports that the DPW has a list of Columbia Gas projects that the department will take under advisement.

Councilor Dwight is encouraged to hear that the process has moved from reactive to proactive.

Councilor Bidwell wondered how President Bryant's colleagues are faring and whether they have begun to look at the environmental impact of leaks. President Bryant noted that the smaller gas companies do not have the leak concerns, only larger ones like Columbia Gas, Eversource and National Grid. The three companies are working in a collaborative fashion – this is new and only since the group began focusing on infrastructure issues. National Grid has much more cast iron and much bigger diameter pipes. He notes that downtown Boston has a much bigger logistical network than the other companies, for example.

Councilor Bidwell asked if there was anything that the City Council could do at the legislature or DPU level to encourage more incentives to move the process along. President Bryant explained that the gas utility is regulated by Mass Department of Public Utilities. He notes that the legislature has been helpful in providing what the utility companies have needed, including good funding for infrastructure replacement.

Lilly Lombard is a resident at 39 Munroe Street. She is also the Chair of Northampton's Public Shade Tree Commission. The Commission has just completed a tree inventory and is about to plant thousands of trees throughout the City. Trees breathe through the soil and one of the primary causes of sudden tree decline is asphyxiation due to natural gas leaks. This is something that she observed when she lived on North Street. There is an inventory kept in a database called MyTreeKeeper; it might be valuable to overlay leaks onto the tree inventory map. President Bryant considers trees an asset the same way city streets are a municipal asset. The concern raised by Ms. Lombard is automatically addressed by the Grade 3 leak repair program. He notes that methane gas creates a bacterial action that removes nutrients from the soil. This process takes a while, so the very nature of having a proactive infrastructure replacement program will mean methane gas will be a less likely culprit to tree decline. He recognizes the value of an overlay as an additional tool.

President Bryant states that the current practice of leak grading employed by Columbia Gas is stricter than that which is required by law. For those leaks that fall into the Grade 2 category, the company uses a secondary classification for leaks—2 or 2+. If a leak is deemed a risk sooner rather than later then it will be classified as a Grade 2+ and will be addressed within 21 days. He suggests that if there is a Grade 2 leak in close proximity to a tree, then it could be graded a 2+ and addressed within the next 21 days.

Ms. Lombard understands that a tree declines somewhat differently. The Commission's Arborist claims that the process is similar to the way methane displaces oxygen in human lungs. Her concern stems from

the fact that there is a plan to plant upwards of 3,000 trees throughout the city this year. She wants to be sure that the Commission is very strategic about choosing a location for its inventory. President Bryant states that he is happy to provide access to the information needed.

Mr. Jim Levey lives on Forbes Avenue. He notes that Woodlawn Avenue has a lot of drainage issues. Within two months after infrastructure investments were made, houses were sold and the new owners converted the homes to gas. He felt as though this should have been done while the street was torn up. He wonders if there is a way to determine if people plan to convert to natural gas so that the necessary infrastructure can be laid while the street is torn up.

President Bryant states that it is standard procedure to notify all abutters on the street concerning upcoming work. The difficulty is that property ownership could change the day after the street work has been done. One thing that Columbia Gas is doing, however, is they are changing their strategy about social media to alert communities about upcoming work. He notes that even if taps were put in when it was anticipated that a switch to natural gas might occur, the law requires that if the conversion does not happen the taps need to be removed after two years.

Dr. Nathan wondered how much coordination was required for Columbia Gas to fix a leak. President Bryant states that the utility company needs a permit to open the street (unless there is an emergency) and then there is a whole set of standards that are required once the company has excavated to do paving restoration. Director LaScaleia notes that the work done by Columbia Gas has been excellent.

Dr. Nathan wondered if the company reassessed leaks at some intervals in order to determine if any changes are occurring. President Bryant states that leak assessment is done on an annual basis.

Dr. Nathan wondered when Columbia Gas might be done with the “gushers” in Northampton and what might be the timeframe for the rest of the distribution network. President Bryant states that 250 leaks across 60 cities and towns will be addressed sometime between April and November 2017. The work will follow the construction season for elective work. Mr. Nelson reports that the four that have been identified as super emitters will most likely be done by June. Smaller leaks will be monitored every year.

Councilor Bidwell expressed appreciation for the collaborative effort by all parties in addressing this concern.

## **5. Discussion of Columbia Gas moratorium**

Invited to participate in discussion: Steve Bryant, President, Columbia Gas

President Bryant spoke about the moratorium. He explained that Northampton is serviced by a lateral coming off of the interstate pipeline system from the Tennessee Gas Pipeline system. That pipeline brings almost all of the natural gas into Northampton. During peak times, there is also the propane air facility where propane can be injected into the distribution system. For the moment that is the only way to get gas into Northampton. The limit of that infrastructure was reached about three years ago and Columbia Gas has been seeking an alternative since then.

Among the alternatives considered, Columbia Gas has looked into rebuilding the lateral that serves Northampton. President Bryant does not feel that this is a practical solution. In recent months the

company has been discussing the possibility of building a second line of supply into Holyoke Gas and Electric and supplanting their supply to bring it to Northampton. The company has not been able to reach an agreement with Holyoke Gas and Electric to make this happen. An offer has been of providing the service, but it would require Holyoke Gas and Electric to make a capital investment. Since capital is hard to come by for municipal gas companies, this is an issue. President Bryant had hoped to get an update, but unfortunately, until Holyoke is willing to agree, an announcement cannot be made. President Bryant notes that Holyoke will soon be under a moratorium. They are reaching the end of their capacity and what Columbia Gas has offered to do is to construct a feed that would meet the requirements that they currently get from the Tennessee Gas Pipeline system plus an increment that would hold them ten years or longer. As soon as President Bryant has confirmation that Holyoke is willing to do something (or not), President Bryant will contact Mayor Narkewicz.

Councilor Bidwell asked what alternatives exist if this plan won't work. President Bryant explained that the construction of an even longer interconnect direct from Columbia Gas distribution system directly into Northampton, although this is a more daunting option. The Holyoke infrastructure option will cost \$20 million; the alternative will cost about twice that amount. President Bryant notes that under the rules of engagement he cannot consider this option until a definitive answer is known with Holyoke. This will require bringing the plans to the Mass Energy Facilities Siting Board. President Bryant is reasonably comfortable that Columbia Gas will get approval for the Holyoke alternative; he is not certain that much larger alternative project will be approved.

Councilor Bidwell wondered if there was anything from municipality to municipality that could be done to encourage this to move along. President Bryant does not feel that anything could be done at this point. He notes that Holyoke is serious about considering the proposal before them.

Councilor Dwight wondered what the impact was of decommissioning Mt. Tom Power Plant. President Bryant feels that the only thing that would change the calculus would be if they decided to replace some portion of Mt. Tom with a combined cycle gas fired generation unit within the bounds of the City of Holyoke; however, President Bryant is not aware of any such plans at this point.

Councilor Bidwell points out that while the moratorium continues, there is some development that is not happening at all. He is aware that there are 85 new units going up at Village Hill that won't have the option of natural gas. He wonders what can be done for some developments, besides propane. President Bryant explained that once he has reasonable expectation of a solution, then there may be the option to construct an arrangement with propane suppliers to install heating equipment that is initially set up for propane, but then can be converted to natural gas. Generally there has been good cooperation with propane suppliers to do this. If the heating unit is properly installed, the parts necessary to convert a propane furnace to a natural gas furnace is minimal. It is a little more complicated for a water heater. Generally Columbia Gas would cover the cost of conversion in order to secure the customer.

Mr. Levey notes that on Hinckley Street there is a multi-unit development that is the planning stages. He is wondering if there is a way to convince the owner to go propane and have some way of doing follow-up to

convert to natural gas. The project is an approved development that will be restricted to oil. President Bryant states that cannot be considered until there is a reasonable expectation that there is a solution with Holyoke. He notes that there is even an inherent risk if Holyoke does agree, but it is a risk he is willing to take. Signing the deal with Holyoke is only the first step. Then it requires a lengthy approval process. And there is always the possibility that the project would not be approved. If the approval was given and it happened during the construction time period, there is a possibility that the moratorium could be lifted immediately. Councilor Dwight explained that the authority of the Council and its committees does not extend to mandating or overseeing the process. Mr. Levey suggested that the players who are aware of the project could be apprised of the situation and could arrange for underground utilities in place on spec with a tap to allow for natural gas in the future. Councilor Dwight suggested letting Chris Mason and Wayne Feiden know about this potential opportunity. Mr. Levey thinks that information would be interesting to the realtors as well.

Mr. Levey also suggested that to entice Holyoke, perhaps an opportunity to expand their cable services into Northampton might be of value to them. Councilor Dwight stated that regionalization of cable service has gotten a lukewarm reception. The outreach has been on-going.

Councilor Nash asked if there was a way for people to “swap out” and have their capacity shifted to someone else. If a number of people go offline, then could the lumberyard project move forward with a natural gas utility, for example. President Bryant had as a strategy leading up to the moratorium, tackled all of the significant possibilities. Smith College, a significant consumer of natural gas, has agreed to not run their heating plants coincidental to periods of peak demand. At the VA Medical Facility, there is an agreement that they will be asked to step off the utility system during periods of peak demand. Dual fuel opportunities like these are limited.

**6. Plans for Future Meetings: Updates and Discussion:** Councilor Bidwell suggested that the committee plan to meet at its normal meeting date for the month of March to discuss water sewer rates.

**7. New Business--None**

**8. Adjourn:** At 5:50 pm Councilor Dwight moved to adjourn the meeting; Councilor Nash seconded the motion. The motion was approved on a voice vote of 3 Yes, 0 No, 1 Absent (Councilor Murphy).

*Prepared By:*

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