

To: Board of Aldermen
From: Alan Mandl, Assistant City Solicitor
Date: August 26, 2015
Re: Department of Public Utilities Oversight of National Grid and
Ongoing Activities of City Departments Regarding Gas Infrastructure
and Gas Leak Issues

INTRODUCTION

On July 15, 2015, the Public Facilities and Programs and Services Committees of the Board of Aldermen held a public meeting to discuss with representatives of the Law, Parks and Recreation and Public Works departments (1) tracking and improving the condition of the gas utility infrastructure in Newton; (2) new state statutes governing infrastructure repairs; (3) coordination of increased repair work with city operations; (4) the status of negotiations with National Grid to compensate for tree deaths resulting from gas leaks; and (5) the possibility of creating a utilities working group to monitor progress on these and related issues. (See Public Facilities Committee Agenda dated July 15, 2015 at p.2). A number of questions were raised about the City's authority to place requirements on National Grid to provide information about its infrastructure and its condition. Each of the department representatives responded to questions and explained their work related to the topics of discussion.

This memo (1) describes the authority of the Department of Public Utilities ("DPU") to deal with gas infrastructure and gas leak-related issues and (2) summarizes the ongoing activities of City departments that have been involved with these issues.

EXECUTIVE SUMMARY

By statute, the Massachusetts Department of Public Utilities ("DPU") has general oversight of gas companies and specific statutory oversight of gas company rates, service quality, infrastructure upgrades, gas leak repairs, location and accessibility of emergency shut off valves (gate boxes) in the public ways, emergency response plans and gas incidents (as defined under federal law).

Because of the comprehensive grant of regulatory authority over gas companies that has been vested in the DPU, municipalities do not have legal authority to impose requirements regarding the gas company infrastructure conditions and improvements, gas leak remediation, gas company rates or gas company service quality.

However, the operations of National Grid are of critical importance to the City. Gas leaks are of concern for several reasons: (1) public safety; (2) adverse effects of methane emissions; (3) damage to public shade trees; and (4) the burden on ratepayers due to excessive levels of lost

and unaccounted for gas. Coordination of street excavation and repair projects and adequate communication with National Grid are needed in order to limit the disruption of recently repaved roads, the paving over of emergency valves and unfinished street repairs by National Grid.

City departments have been actively pursuing a number of goals: (1) gas company remediation of gas leaks of all grades; (2) utility after action reporting on the causes of manhole incidents and Grade 1 leaks; (3) improved coordination of municipal and gas company street excavation and repaving work; (4) timely and proper completion of gas company street repairs; (5) obtaining gas leak information for any planned public shade tree planting locations; (6) vindicating claims for damages caused to public shade trees; (7) adequate communication with utilities before and during emergency conditions; and (8) timely monitoring of DPU and legislative developments affecting department operations and the community as a whole; (9) coordinating the activities of the individual departments; (10) keeping departments, the Executive Office and the Board informed of these activities and developments; (11) maintaining contacts within the DPU's Gas, Pipeline Safety and Legal Divisions; and (12) maintaining regular communications with counterparts at National Grid, with the objective of achieving the City's goals

DPU AUTHORITY REGARDING GAS COMPANY INFRASTRUCTURE AND GAS LEAKS

General Supervisory Authority

The DPU has “general supervision of all gas...companies and shall make all necessary examination and inquiries and keep itself informed as to *the condition of the ...properties* owned by such corporations and the manner in which they are conducted with reference to the safety and convenience of the public, and as to their compliance with the provisions of law and the orders, directions and requirements of the department...” (emphasis added). G.L.c.164, §76.

The DPU also has specific authority under G.L.c.164 over gas utility infrastructure and operations. A few examples are:

1. Section 1I- authority to adopt and enforce service quality standards
2. Sections 1J, 85B- authority to require and enforce emergency response plans
3. Section 76D- administration of utility underground damage prevention system (tied to Dig-Safe)

4. Section 105A- regulation of storage, transportation and distribution of gas and gas pressure¹
5. Section 116B- regulation of utility maintenance and improvement of gate boxes when municipal street or sidewalk repairs are done (to avoid pave-overs and assure accessibility to emergency shut off valves)²
6. Section 144- administration of system of gas leak classification and utility compliance
7. Section 145- regulation of gas system enhancement plans and recovery of costs of “eligible infrastructure replacement” work aimed at the reduction of lost and unaccounted for gas through a reduction in natural gas system leaks
8. Section 145- oversight of “incident” reports

DPU Actions Regarding Gas Infrastructure and Street Repairs

The DPU has used its statutory powers to regulate the quality of gas service, the condition of gas utility infrastructure and remediation of gas leaks.

Gate Box Maintenance, Record-Keeping and Timely Response to Pave-Overs

Following the enactment of G.L.c.164, §116B, the DPU adopted gate box maintenance and improvement requirements applicable to gas companies. *Investigation Into Compliance with the Gate Box Maintenance and Improvement Requirements of G.L.c.164, §116B*, DTE/DPU 06-48-A (October 14, 2008). Since 2008, the DPU has placed requirements on the gas companies regarding gate box practices and performance, including maintenance of accurate and up to date maps and records of gate boxes, adoption of a reasonable timetable to raise gate boxes paved over since April 1, 2003 and implementation of a uniform protocol for gas companies to communicate with cities and towns in order to obtain adequate notification of paving projects.

¹ The DPU has adopted comprehensive regulations regarding gas distribution companies. They include: (1) 220 CMR 100.00-Massachusetts Gas Distribution Code; (2) 220 CMR 107.00-abandonment of gas service lines and leakage survey procedures; and (3)220 CMR113.00-operation, maintenance, replacement and abandonment of cast-iron pipelines. The DPU also has adopted street excavation and repaving standards. DPU 98-22; DPU 98-22-A.

² A “gate box” includes a curb valve or curb shutoff or any other device located in a street, road or sidewalk to permit shut-off of gas in the event of an emergency. The DPU has required gas companies to maintain accurate and up to date maps and records regarding gate boxes and to take action to cure any pave-over within 9 months of discovery.

The DPU recently reported to the Legislature on gate box maintenance issues, as required under the 2014 gas statute, St.2014, c.149. DPU 15-12-A, *Report to the Joint Committee on Telecommunications, Utilities and Energy* dated June 1, 2015. The DPU announced a plan to conduct technical sessions on how to improve communications between gas companies and communities regarding timely and advance notification by communities to gas companies of planned street paving projects.³

Service Quality Standards

Gas companies are required to submit annual reports showing whether they have met DPU service quality standards. Service quality measures include gas odor call response. No service quality standard exists for gas leak repair and reporting requirements; however, the DPU plans to open a separate proceeding to develop SQ metrics related to gas leaks, in light of the 2014 gas legislation. (DPU 12-120-C dated December 22, 2014 at 73,74).

Annual Reports on Gas Leaks by Community

As part of their annual service quality reports, gas companies are now required to submit community-specific information on (1) the location of each Grade 1, Grade 2 and Grade 3 leak existing as of the date of the report, (2) the date each leak was classified and (3) the dates of repairs performed on each Grade 1, Grade 2 and Grade 3 leak.⁴ The gas companies also must specify any reclassification of previously identified leaks in its annual report. Gas leak information shall be made available to any municipal public safety official upon written request to the DPU. The next National Grid service quality report is expected in late February 2016. The first community-specific gas leak report was filed in late February 2015.

³ The 2014 gas statute has added a requirement that “Upon the undertaking of a significant project on a public way exposing confirmed natural gas infrastructure, and with sufficient notice, a municipality...shall submit written notification of the project to a gas company.”

⁴ Under G.L.c.164, §144(b), “A Grade 1 leak shall be a leak that represents an existing or probable hazard to persons and property.” Grade 1 leaks require repair as soon as possible and continuous action until the conditions are no longer hazardous. “A Grade 2 leak shall be a leak that is recognized as non-hazardous to persons or property at the time of detection, but justifies scheduled repair based on probable future hazard.” The gas company must repair Grade 2 leaks or replace the main within 12 months from the date the leak was classified. “A Grade 3 leak shall be a leak that is recognized as non-hazardous to persons or property at the time of detection and can be reasonably expected to remain non-hazardous.” The gas company must reevaluate Grade 3 leak at least every 12 months until the leak is eliminated or the main is replaced.

Gas Incident Reports

The DPU posts incident reports on its website. By statute, each gas company must notify the DPU of each incident at the earliest practicable time following discovery of the incident. An “incident” is defined as in 49 CFR Section 191.3.

“Incident” means any of the following events:

- (1) An event that involves a release of gas from a pipeline, or of liquefied natural gas, liquefied petroleum gas, refrigerant gas, or gas from an LNG facility, and that results in one or more of the following consequences:
 - (i) A death, or personal injury necessitating in-patient hospitalization;
 - (ii) Estimated property damage of \$50,000 or more, including loss to the operator and others, or both, but excluding cost of gas lost;
 - (iii) Unintentional estimated gas loss of three million cubic feet or more.
- (2) An event that results in an emergency shutdown of an LNG facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident.
- (3) An event that is significant in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2) of this definition.

The DPU may open an investigation to determine the cause of an incident. Within 30 days after notice of an incident, it will post a notice on its website whether it will investigate the incident (and if not, a written statement of reasons for its decision).

Gas System Enhancement Plans (“GSEP”)

Under the 2014 gas statute, the DPU reviews gas company plans to replace pipeline in order to improve reliability and reduce lost and unaccounted for gas. If a plan is approved, the gas company will be allowed to pass through projected capital costs subject to a statutory cap. The DPU will monitor National Grid’s compliance with the GSEP main replacement plan approved in DPU 14-132 (2015). The DPU will review what projected work was actually performed and whether costs were prudently incurred. A number of mains within Newton are part of National Grid’s GSEP, especially during 2016-2019.

DPU Rulemaking on Uniform Gas Leak Classification System

The DPU has advised that after September 24, 2015, when it expects to have completed a report on the prevalence of gas leaks in Massachusetts, it will open a rulemaking proceeding regarding uniform gas leak classification and codifying the requirement that each gas company report Grade 1 through Grade 3 leaks in its annual service quality report. Any rulemaking will be subject to requirements contained in Executive Order 562.

Emergency Response Plans of Gas Companies

Gas companies are required to submit Emergency Response Plans (“ERPs”) in accordance with DPU requirements. 220 CMR 19.00.⁵ Under the ERPs the gas companies provide contacts to each community work with public safety officials before and during declared emergencies.

ONGOING ACTIVITIES OF CITY DEPARTMENTS

Because of the comprehensive grant of regulatory authority to the DPU, municipalities do not have the authority to impose requirements that would conflict or interfere with the supervision of gas companies by the DPU. For example, municipalities cannot create requirements for tracking the condition of the gas infrastructure within their respective boundaries. They cannot require the filing of reports on the types and conditions of gas distribution lines or their maintenance history.

The following are descriptions of the ongoing activities of City departments regarding the gas infrastructure and gas leak related issues that were highlighted in the Public Facilities Committee’s July 15, 2015 meeting agenda.

Public Safety-Fire Department

The Fire Department receives email notification of all Grade 1 gas leaks.⁶ The Duty Chief is notified and follows up by checking on conditions at the location. The Fire Department currently is not notified of the completion of repair work, but has requested that National Grid provide repair completion notification.

The Fire Department is not notified of Grade 2 leaks by National Grid. The Fire Department has requested notification of Grade 2 leaks, their location and the date of discovery. National Grid has refused to provide this information directly to the City. Grade 2 leaks for a prior calendar year can be identified through an annual DPU filing made by National Grid. The

⁵ National Grid’s most recent emergency response plan filing is now under review by the DPU.

⁶ The same notice is given to the Police Department.

City may be able to inquire about repairs to these Grade 2 leaks. The City does not have access to real time information about Grade 2 leaks.

Grade 3 leaks for a prior calendar year also can be identified through the annual DPU filing made by National Grid. The City may be able to inquire about repairs to these Grade 3 leaks or whether they have been upgraded to Grade 2 based on a future inspection. The City does not have access to real time information about Grade 3 leaks. Under G.L.c.164, §144(b)(4), a municipal public safety official “may request a reevaluation of a Grade 3 leak prior to the next scheduled survey, or sooner than 12 months of the date last evaluated, if the official reasonably believes that the Grade 3 leak poses a threat to public safety.”⁷

National Grid and Eversource are required to investigate and report back to the Fire Chief on the cause of any manhole event, such as a fire or explosion. This requirement was recently imposed by the Fire Chief due to a number of manhole incidents, several occurring at approximately the same location on Needham Street. During the week of August 17th, a Grade 1 leak was reported on Needham Street, in close proximity to three previous manhole incidents that are not believed to be due to gas leaks.

The Fire Chief has proposed monthly meetings regarding gas leaks and manhole explosions. The Fire Chief and Police Chief receive on a daily basis a National Grid worksheet that includes Grade 2 and Grade 3 leak repairs.

Department of Public Works

Public Works meets with National Grid once per year, usually mid-winter, where we exchange information regarding our upcoming road, water, sewer and drain rehabilitation program, and they give us their proposed capital improvement plan for gas main upgrades. It has been recognized that annual meetings are not adequate. The annual meeting regarding these preliminary project lists is supplemented by additional communications as projects are confirmed (location, time for repair work by the City or its contractor).

Any “new” gas main installations (on roads where no gas mains exist) require a request for a “Grant of “Location”, which goes before the Board of Aldermen for approval. Engineering

⁷ This provision needs to be clarified in a future DPU rulemaking required under G.L.c.164, §144(f). What constitutes a “threat to public safety” needs to be defined by the DPU. The statute does not indicate to whom the request to reclassify must be made (presumably the gas utility) and does not require any action by the gas utility in response to a reclassification request. In order for a leak reclassification request to be made, the public safety official must have knowledge of the location and grade of a leak, when it was last evaluated and the next scheduled survey.

Division reviews and comments on the request. Any maintenance of existing gas mains, or installation of new gas mains in the location of existing gas mains, do not require a grant of location.

The Engineering Division does review their capital improvement plan for conflicts with our road and utilities plans.

On a day to day basis, National Grid is working in the City on a) proposed capital improvements, b) house service connections, and c) emergency gas leaks.

National Grid requests and obtains a street opening and sidewalk crossing permit, for all work performed within the public way. For scheduled work, they request the permit ahead of the work. There is not a lot of technical detail in the permit request, so there is not a lot to review from an engineering point of view. DPW has been reviewing its street permit practices. It will be discussing with National Grid the provision of gas leak grade information as part of the permit process. Through a new permitting system, DPW has been able to delay the processing of a permit request if National Grid has not completed its work at another location. DPW will be discussing with National Grid the provision of grade of leak information as part of the permit process.

For emergency work (a Grade 1 leak), Engineering Division receives an e-mail or a fax for the permit request, usually after the emergency is repaired. They, of course, do not wait for the approved permit before fixing the emergency leak.

Engineering Division NEVER denies National Grid the right to work within the public way, even on roads recently paved, for obvious reasons.

For normal excavations within the right of way, National Grid is responsible for the excavation, backfill, and paving of the road trench. Engineering Division requires them to put the road back the way they found it. Engineering Division requires proper compaction of the backfill material, as National Grid does not use controlled density fill (flowable fill) as their backfill. Engineering Division provides minimal oversight and inspection of the backfill and compaction and trench paving, as explained below.

For roads recently paved, the City has a 5 year moratorium on any excavations within the public way on these roads. However, National Grid is dealing with their complex gas main infrastructure, so permission is usually granted for National Grid to work within the public way on these roads. Their work is usually a gas leak of some kind. In this case, National Grid is required to mill and overlay from the trench a distance of 25 feet in each direction, from curb to curb. From time to time on smaller excavations, Engineering Division has allowed the use of infra-red patching on the newly paved trench, which is a very good method of trench repair.

In previous years, Engineering Division would collect the full permit fee from National Grid, including the \$100 application fee, and the \$150 inspection fee. All contractors working in Newton, including all utility companies, such as electric, telephone, and cable TV, pay the permit fees in full. The fees go into the general fund, which of course supplements the budget for Engineering Division.

In the late 1990's, National Grid took the City to court, claiming that, since they are regulated by the Department of Public Utilities, and not the City of Newton, they did not have to pay the \$150 inspection fee as part of the permit. The court sided with National Grid, and implied that National Grid's work should be inspected by the Department of Public Utilities, not the City of Newton. So now, National Grid only pays the \$100 application fee, and they do not pay a \$150 inspection fee, for any permit. According to the Engineering Division, this is why it provides minimal oversight and inspection of National Grid excavations.

DPW, with assistance from the Law Department, is reviewing its procedures and practices regarding communications with National Grid about planned paving projects in light of the DPU's recent gate box report and the provision in the 2014 gas statute regarding significant municipal projects. It also will review with National Grid the mutual procedures and practices regarding street repaving and excavation, gate box pave-overs and any issues related to specific City contractors. DPW and the Law Department have been discussing steps that DPW might take to assure that DPW and its contractors are affording adequate notice of paving projects to better assure that gate boxes are not paved over. In addition, contacts for the City and National Grid are being confirmed and updated. The incidence of pave overs in Newton has been low and in some cases the City's contractors have raised the gate boxes in order to avoid pave overs. Changes in contracts with City contractors to require adequate advance notification of repaving work are being considered.

The Law Department has discussed with DPW and the Fire Department whether the City should seek community specific reporting in SQ filings for the handful of communities such as Newton that have a high number of reported gas leaks

Parks and Recreation

Parks and Recreation is responsible for the planting and care of public shade trees located in or near public ways within the City. The effect of gas leaks upon public shade trees has led the director of Urban Forestry to contact National Grid regarding proposed planting activity that may be in proximity to underground gas lines. A request is made to notify the City of known gas leaks in the locations where the City wants to plant trees. The City is looking for timely notification sufficiently in advance of any planting activities conducted by the City.

Parks and Recreation has worked together with the Law Department regarding a claim against National Grid for damages to public shade trees caused by gas leaks. It has provided the

Law Department with a list of trees that died or are in need of pruning, as well as with some costs incurred for the removal of trees and the replacement of trees lost. A joint inspection of tree damages was scheduled for August 19, 2015, but has been deferred pending National Grid's response to the City's proposal. The City also is looking to establish a protocol moving forward that will address future tree damage caused by natural gas leaks.

Information Technology

The Information Technology Department is responsible for the City's GIS database. The GIS database is used for the following purposes: planning, public safety, districting, utility infrastructure, engineering, cost estimates and many others. In order to take into account utility infrastructure, IT and Law negotiated an Information Sharing Agreement with National Grid which was executed on November 13, 2014.

The data from National Grid is for engineering staff to know where gas lines are that might factor into any other underground work. They are not distributed or shown to the public either on the front counter computers or on the web page and are only accessible to staff who have advanced GIS software and licensing. IT does not currently have any information in GIS about gas leaks.

GIS information provided by National Grid is considered confidential under the Information Sharing Agreement. Also, some information may be entitled to protection against public disclosure as Critical Energy Infrastructure Information.

Law Department

The Law Department has engaged National Grid regarding a number of issues in an effort to support the roles of other departments, bring resident complaints to the attention of National Grid government affairs and legal staff, and protect City interests in multiple respects. In this regard, the Law Department has worked with Aldermen who have brought to its attention constituent complaints about gas leaks (e.g., Parmenter Road).

The Law Department has helped bring together various city departments to meet with National Grid representatives in order to discuss a range of issues important to each department. In addition, the Department opened and maintained lines of communication with National Grid government affairs and legal representatives.

What became apparent to the Law Department was that individual departments had their own lines of communication with National Grid and that there was a need to share knowledge, expertise and ideas. As a result, there has been greater collaboration between Fire, DPW and Law to exchange information and address gas leak and other gas-related issues.

Assistance to Departments

The Law Department has briefed DPW on the 2014 gas legislation in general and on gate box issues in particular. Pending a DPU rulemaking, it will be necessary to establish an understanding with National Grid on what constitutes a significant project and what prior municipal notice of the project is required. We have reviewed the DPU's Model Protocol for Communicating with Governmental Agencies that National Grid is expected to follow. Through meetings with DPW and the Fire Chief, the departments are developing a strategy to track National Grid repair activity regarding Grade 2 leaks.

During 2014, the Law Department assisted IT with the negotiation of a new GIS information sharing agreement with National Grid.

The departments also have discussed municipal participation in the upcoming DPU rulemaking on implementation of the gas leak classification system. The Law Department has been working on a preliminary list of rulemaking suggestions pending the DPU's release of proposed regulations. There is consensus that the DPU should require the gas companies to provide community specific gas leak data on a community by community basis, in a readable Excel spreadsheet format.

The Law Department has worked with Parks and Recreation in order to advance a City claim against National Grid for damages to public shade trees allegedly caused by gas leaks. The Law Department and National Grid have entered into a standstill agreement pending National Grid's consideration of a settlement proposal. A joint inspection of a long list of damaged shade trees was scheduled for August 19, 2015, but has been deferred to allow for a settlement discussion, which has been scheduled in the August–early September time frame.

Monitoring State Regulatory Activity

The Law Department monitors activity at the Department of Public Utilities as well as changes in law related to National Grid's gas utility operations. During 2014-2015, the Law Department

- Reviewed the enactment of St. 2014, c. 149, which added several provisions regarding gas utility infrastructure upgrades, gas leak reporting and municipal obligations to notify gas companies in advance of significant street excavation projects, and began preparation for a future DPU rulemaking now expected to begin later this year
- Reviewed DPU Report to the Legislature on gas utility compliance with gate box maintenance requirements and provided information to DPW

- Reviewed National Grid annual service quality report's community specific gas leak information, which was passed along to Aldermen who had requested it⁸
- Reviewed National Grid's Gas System Enhancement Plan, which proposed specific main replacements (some in Newton) in order to remediate gas leaks (2015 projects and 2016-2019 projected main replacements); City-specific information was passed along to Aldermen who had requested it
- Monitored DPU docket on the prevalence of gas leaks in the natural gas system. A DPU report is expected by September 24, 2015, according to the DPU and based on a statutory deadline.⁹

In sum, the departments closely involved with the condition of gas infrastructure, street excavation activity and the impacts of gas leaks upon public safety and City property have taken a proactive approach and are interested in keeping the Board informed and up to date.

If you have any questions regarding the subjects covered in this memo or need any additional information, please contact me.

⁸ Service quality reports are voluminous, highly technical and thus far not specific to any communities, thus limiting the usefulness of these reports to the City. The city-specific gas leak information, however, is important to obtain.

⁹ This report will include (i) the total number of Grade 1, Grade 2 and Grade 3 gas leaks as classified under G.L.c.164, §144 and reported in the previous year; (ii) estimates for lost and unaccounted for natural gas and methane emissions as a result of such leaks; and (iii) time and cost estimates for eliminating the backlog of these leaks. These reports will be submitted annually "until the department determines that the backlog has been sufficiently addressed and the natural gas distribution system is in a state of good repair." The final DPU report will estimate the total cost of eliminating the backlog and the annual estimated cost to maintain a state of good repair.