



The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

PIPELINE ENGINEERING AND SAFETY DIVISION

INCIDENT REPORT

627 Pleasant Street, Winthrop, Massachusetts

February 23, 2012

PIPELINE ENGINEERING AND SAFETY DIVISION

627 Pleasant Street, Wintrop, Massachusetts

February 23, 2012

Boston Gas Company and Colonial Gas Company d/b/a National Grid

*Estimated Property Damage: \$500,000

Injuries: None

Report Issued: May 23, 2014

* Estimated by Boston Gas Company and Colonial Gas Company d/b/a National Grid

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I. INTRODUCTION

A. Scope of the Report

The Massachusetts Department of Public Utilities (“Department”), Pipeline Engineering and Safety Division (“Division”), pursuant to G.L. c. 164, § 105A and a Federal Certification Agreement as provided for in 49 U.S.C. § 60105, has investigated a natural gas (“gas”) release at 627 Pleasant Street, Winthrop, on February 23, 2012 (“Incident”).¹ Boston Gas Company and Colonial Gas Company, d/b/a National Grid (“Operator” or “Company”) operates gas facilities in Winthrop, MA. The release of gas contributed to an explosion, fire, and over \$500,000.00 in property damage (Exh. 1). The Winthrop Fire Department reported that an ambulance transported one person to the hospital (Exh. 2).

As part of the Department’s annual certification process by the United States Department of Transportation (“U.S. DOT”), the Department must report to the U.S. DOT each accident or incident . . . involving a fatality, personal injury requiring hospitalization, or property damage or loss of more than an amount the Secretary establishes... and any other accident the [Department] considers

¹ 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.

significant, and a summary of the investigation by the [Department] of the cause and circumstances surrounding the accident or incident. 49 U.S.C. § 60105(c).

The purpose of this report is to inform the U.S. DOT as to the cause and circumstances surrounding the Incident. The Department has established procedures for determining the nature and extent of violations of codes and regulations pertaining to the safety of pipeline facilities and the transportation of gas, including but not limited to, 220 C.M.R. §§ 101.00 through 113.00. See 220 C.M.R. § 69.00 et seq. The Division also enforces the U.S. DOT safety standards for gas pipeline systems as set forth in 49 C.F.R. Part 192 ("Part 192") and 49 C.F.R. Part 199. G.L. c. 164, § 105A.

B. Incident Overview

On February 23, 2012, at 7:54 a.m., the Operator received a call from the resident at 627 Pleasant Street, Winthrop, reporting an odor of gas in the basement and through the house (Exh. 3). At 7:58 a.m., the Company received a call from the Winthrop Fire Department stating that there was a "disturbance" at this location (Exh. 3). The Operator technician arrived onsite at 8:23 a.m. (Exh. 3). At approximately 8:45 a.m. on February 23, 2012, the Company notified the Department of the Incident (Exh. 3).

The Department dispatched two investigators to the scene. At approximately 11:30 a.m., Division investigators arrived at the scene of the Incident. Representatives from the Company, Winthrop Fire Department, State Police, and the State Fire Marshal's Office were at the scene.

II. THE DEPARTMENT'S INVESTIGATION

A. Description of Site and Gas Facilities

Pleasant Street, Winthrop is located in a residential area comprised of single family homes (Exh. 4(a)). The structure at 627 Pleasant Street was a two-story wood frame house with a basement. The house was constructed in 1850. The Division investigator observed that the natural gas service line entered through the right front basement wall. The gas furnace, hot water heater and dryer were located in the basement (Exh. 4(b)). A gas stove was located on the first floor of the house (Exh. 4(c)).

A six (6) inch low pressure cast iron main, underlies Pleasant Street (Exh. 5). The cast iron main was installed in 1947 and 1948 (Exh. 5). The Division investigators measured the main to be at a depth of three (3) feet, six (6) inches. In 1986, the Operator inserted a one inch plastic gas service into the existing steel gas service to 627 Pleasant Street (Exh. 6). The Division investigator observed that the steel pipe that encased the plastic pipe extended from the house to the curb line. The service line had a service valve located in the street (Exh. 6). The Division investigator measured it to be at a depth of four (4) feet, six (6) inches. The Company reported that the operating pressure of the gas main and service line at the time of the Incident was approximately [REDACTED] pounds per square inch gauge (Exh. 1).

B. Description of the Scene

The building had been severely damaged by an apparent explosion and subsequent fire (Exhs. 4(d), 4(e)). Debris was blown onto the lawn of 627 Pleasant Street, and adjacent properties (Exh. 4(e)). In addition, the windows and walls were displaced.

In the basement, the inspectors observed: (1) the gas service entrance and meter on the inside right front foundation wall; (2) a water heater and furnace located in close proximity to the service entrance; (3) a washer and dryer in the back of the basement; and (4) a sewer trap and sump pump in the basement floor near the center of the inside front foundation wall of the house. On the first floor, the inspectors observed a gas stove in the kitchen area (Exh. 4(c)).

C. Post-Incident Leak Investigation

1. Leak Survey

After the incident, the Company conducted a leak survey of the surrounding area (Exhs. 7(a), 7(b)). The Company reported the following gas readings:

- Fifty five (55%) percent gas reading in the sidewalk area over the service line, which bled down to twenty (20%) percent gas reading;
- Twenty (20%) percent gas reading over the cast iron main in the street;
- A half (0.5%) percent gas reading in the sewer manhole adjacent to the service line to 627 Pleasant Street; and
- One (1%) percent gas reading in the sewer trap located in the basement of 630 Pleasant Street.

The Operator also conducted a leak investigation of Nos. 62 and 72 Main Street; 623, 626, 631, 632, and 640 Pleasant Street, and reported no gas readings (Exhs. 7(a), 7(b)).

2. Leaks on Plastic Service Line to 627 Pleasant Street, Winthrop

The Operator excavated at the gas main, and found a leak at the one (1) inch plastic service line transition fitting downstream of a saddle fitting attached to the six (6) inch cast iron main (Exh. 8(a)). The Division inspectors observed that soil in the area of the leak was a

dense clay material. The Operator removed, and the Department secured, the service saddle, transition fitting, and approximately one foot of pipe that included the leak location (Exh. 8(b)).

The Operator excavated in the front lawn of 627 Pleasant Street, and uncovered the plastic service line inside a steel sleeve. The line extended from inside the house foundation wall to the area in the sidewalk where the Operator detected a fifty five (55%) percent gas reading (Exhs. 7(a), 7(c)). When the Operator exposed the gas service inside the house they found a half (1/2) inch hole in the plastic pipe at the transition point of the internal stiffener located inside the foundation wall (Exhs. 8(c), 8(d), 8(e)).

3. Leaks on Customer Piping Inside 627 Pleasant Street, Winthrop

The Operator concluded that the most probable source of the release of gas was on a faulty valve on the customer owned piping, and not from the migration of gas outside of the building (Exhs. 1, 9). After the Incident, the Operator's insurance investigator reported a gas valve located in the basement on the customer side of the gas meter was found to be leaking, as indicated by bubbles from a soap test (Exh. 9). The Company did not include documentation on: (1) the test pressure; (2) test duration; (3) pressure drop on the customer piping; or (4) who performed the test (Exh. 9).

4. Other Underground Utilities

The Division inspector ascertained that an eight (8) inch cast iron water main and a fifteen (15) inch sewer main underlie Pleasant Street. The sewer manhole in front of 627 Pleasant Street, has a twenty four (24) inch diameter manhole cover (Exh. 7(d)). A portion of the manhole is brick, with concrete flooring (Exh. 7(e)). The Division inspector determined

that the sewer manhole has the following dimensions: one (1) foot, seven (7) inches from the top of the manhole to the bottom of the bricked area; and fifteen (15) feet, ten (10) inches from the top of the manhole to the bottom of the manhole. The bottom of the manhole contained running water. This sewer manhole is located five (5) feet, four (4) inches from the six (6) inch cast iron gas main on Pleasant Street (Exh. 7(d)).

The Division inspector observed the Operator conduct an internal inspection of the sewer line, from the sump pump area inside of 627 Pleasant Street, to the main sewer line located in the street. The sump pump was located at the center of the inside front foundation wall of the house in a covered box in the basement floor; the box also contained the water line (Exhs. 4(f), 4(g)). During the inspection, the Division inspector noted the following:

1. The clay sewer drain line had been repaired with plastic (PVC) sometime prior to the incident.
2. The plastic portion of the sewer drain was a repair thirty eight (38) feet from the foundation wall, there the plastic sewer drain line continued another fifty (50) feet to the end of the pipe.
3. A leak in the drain line was detected twenty five (25) feet from the foundation wall, and water was pouring into the sewer pipe.
4. The chimney on the end of the sewer pipe is fifty (50) feet from the foundation wall and it takes a ninety degree bend downward. The length of that section of pipe from the bend to the main line sewer is seven (7) feet.
5. A tree root was visible inside the drain pipe, nine (9) feet from the foundation wall.

D. Pre-Incident Activities

1. Maintenance

Maintenance records provided by the Company for the six (6) inch cast iron gas main, and one (1) inch plastic service indicate that the Operator performed no maintenance work on the service to 627 Pleasant Street since its installation in 1986 (Exh. 6). In addition, the Operator had no record of any maintenance work performed on the cast iron main or customer owned piping between January 1, 2002, and February 22, 2012, (Exh. 5).

2. Dig Safe Notifications

The Operator did not report any Dig Safe notification reports for excavation activity in the vicinity of 627 Pleasant Street, Winthrop (Exh. 5).

3. Operator Qualification

The Company technicians that arrived onsite after the incident to perform leak investigation are all qualified in the following tasks: NGA-020 Investigating Leak/Odor Complaints, and NGA-070 Abnormal Conditions (Exh. 10).

4. Odorization

There were reports of an odor of gas prior to the Incident (Exh. 3). The state regulation, 220 C.M.R. § 101.06(20), requires operators to odorize gas in their distribution systems. Gas must be “readily perceptible to the normal or average olfactory senses of a person coming from fresh uncontaminated air into a closed room containing [0.15 percent gas in air].” 220 C.M.R. § 101.06(20)(a). Operators are also required to conduct periodic sampling of odorant concentrations throughout their system. 220 C.M.R. § 101.06(20)(f). The Operator conducts odorant sampling on a monthly basis.

The Operator conducted odorant level tests prior to and after the incident. On February 23, 2012, qualified National Grid employees conducted an odor level test in Winthrop (Exh. 11). The results of the tests on February 23, 2012 are as follows:

1. Pleasant@ Pauline Regulator Station, Winthrop @ 10 a.m. - Odor level range: 0.11 - 0.12 percent gas in air.
2. 623 Pleasant Street, Winthrop @ 10:40 a.m. - Odor level range: 0.10 - 0.12 (Exh. 11)

The odor detectability level of gas in air is within the prescribed state regulation. See 220 C.M.R. § 101.06(20)(a).

5. Leak Surveys Prior to the Incident

Leakage surveys of gas main and services are required by federal and state regulations. See 49 C.F.R. § 192.723(a) and 220 C.M.R. § 101.06(21). Consistent with Federal and State regulations, the Operator's Operating and Maintenance procedures requires services, outside business districts, to be inspected for atmospheric corrosion and leak surveyed every three years (SSUR-5040 Inside Service Leak Survey and Atmospheric Corrosion Inspection). The Operator conducted an atmospheric corrosion inspection and leakage survey on March 17, 2011. The Company reported no leaks or visible atmospheric corrosion. (Exh. 12).

The Department reviewed the leak history of the six (6) inch cast iron main on Pleasant Street. On August 1, 2011, the Operator performed a walking survey of the main and service (Exh. 12). On February 1, 2011, the Operator conducted a winter patrol survey of the six (6) inch cast iron main (Exh. 12). The Company conducted a mobile survey of the main on September 15, 2010 (Exh. 12). The Operator detected no leaks. Previously, the Operator

conducted surveys of the main and services on Pleasant Street, every year from 2002 thru 2011. There were no leaks detected.

III. FAILURE ANALYSIS OF PIPE SAMPLE

Massachusetts Materials Research, Inc. ("MMR") conducted a failure analysis of the Pleasant Street pipe samples. The purpose of the testing was to determine the probable cause of the failure of the Operator's gas facilities. MMR's analysis included visual inspection, leak/flow test, fracture analysis, mechanical testing, and radiographic inspection that includes two distinct facilities: the transition fitting connected to the saddle fitting that was mounted to the main in front of 627 Pleasant Street (Exh. 8(b)), Winthrop; and the plastic pipe in the transition fitting at the foundation wall to 627 Pleasant Street (Exhs. 8(c), 8(d), 8(e)).²

With respect to the saddle transition fitting mounted on the gas main. MMR noted that[t]he saddle fitting stiffener was askew in the joint (Exh. 8(f)). MMR concluded that:

Putting enough bending force on a plastic service line to angle a stiffener in a transition fitting creates a severe situation for the plastic component. This is a condition created at assembly of this transition fitting during the 1986 steel service replacement (MMR Project No. 92941, at 4).

A crack was present in the plastic service pipe at the edge of the saddle transition fitting stiffener. The saddle fitting stiffener was askew in its joint and the pipe was angled exiting the transition fitting. The crack was caused by the bending and other forces on the plastic pipe combined with internal impingement on the end of the stiffener. This arrangement appears to have been the result of installation. The measured leak rate in the laboratory was 17.5 ml/min. This leak rate may be lower than the in-service rate as cutting the plastic pipe to remove the saddle would relax service stresses and could have closed up the breach a bit (MMR Project No. 92941, at 7).

² Copies of the MMR Report can be obtained by contacting: Massachusetts Materials Research Inc., P.O. Box 810, 1500 Century Drive, West Boylston, MA 01583.

Applying enough force on a plastic pipe to skew the transition fitting internals and then installing the pipe to leave that force intact places undue loading on plastic piping in general. When the resulting configuration causes that plastic pipe to press against the edge of a metal component, a crack like that present in the incident pipe is the logical outcome (MMR Project No. 92941, at 7) (Exhs. 8(g), 8(h), 8(i)).

MMR's comments on its analysis of the transition fitting in the foundation wall to 627 Pleasant Street are as follows:

The service line hole possessed the thinning and general morphology of a blow-out type hole. This is consistent with heat exposure and is a result of the incident. The service line within the transition fitting also exhibited obvious heat damage. The service line 180-degrees to the blow hole was unremarkable, (MMR Project No. 92941 - Page 3 See Exh. 8(d)).

IV. FINDINGS AND CONCLUSIONS

A. Findings

1. The house at 627 Pleasant Street is located in a residential district in Winthrop.
2. At 7:54 a.m. the Operator received a call from the resident at 627 Pleasant Street, Winthrop, reporting an odor of gas in the basement and through the house.
3. At 7:58 a.m. on February 23, 2012, the Operator received a call from the Winthrop Fire Department stating that there was a "disturbance" at 627 Pleasant Street, Winthrop.
4. The Operator's technician arrived onsite at 8:23 a.m.
5. The natural gas service line entered through the right side of the front basement wall.
6. There is a sump pump in the basement floor, near the center of the inside front foundation wall of 627 Pleasant Street.
7. The Operator installed a six (6) inch cast iron gas main under Pleasant Street in 1947 and 1948.

8. There is an eight (8) inch cast iron water main on Pleasant Street.
9. There is a fifteen (15) inch sewer main on Pleasant Street.
10. The sewer manhole is located five (5) feet, four (4) inches from the six (6) inch cast iron gas main on Pleasant Street.
11. The six (6) inch cast iron gas main and gas service line to 627 Pleasant Street were operating at [REDACTED] pounds per square inch gauge.
12. In 1986, the Operator inserted a one inch plastic gas service line into a steel pipe to service 627 Pleasant Street.
13. The plastic gas service line was connected to the six (6) inch cast iron gas main underlying Pleasant Street through a saddle transition fitting.
14. The odorant levels reported by the Operator are consistent with state regulations.
15. Following the Incident, the Operator reported:
 - Fifty five (55%) percent gas reading in the sidewalk area over the service line, which bled down to twenty (20%) percent gas reading;
 - Twenty (20%) percent gas reading over the cast iron main in the street;
 - A half (0.5%) percent gas reading in the sewer manhole adjacent to the service line to 627 Pleasant Street; and
 - One (1%) percent gas reading in the sewer trap located in the basement of 630 Pleasant Street.
16. The Operator detected two leaks on the gas service line: one downstream of a saddle transition fitting attached to the main underlying Pleasant Street, and another at a transition fitting in the foundation wall at 627 Pleasant Street.
17. The MMR conclusions, that the saddle transition fitting stiffener near the gas main was askew in its joint, and that the plastic service line was angled exiting the transition fitting are reasonable, and supported by substantial evidence.
18. The MMR conclusion that, the plastic service pipe cracked at the edge of the saddle transition fitting attached to the main is reasonable, and supported by substantial evidence.
19. The MMR conclusion that, the cause of the crack was bending and other forces on the plastic pipe, combined with the internal impingement on the end of the

stiffener on the saddle transition fitting, is reasonable, and supported by substantial evidence.

20. The MMR conclusion that, when the gas service line transition fitting assembly was leak tested and that "the leak rate may be lower than the in-service rate as cutting the plastic pipe to remove the saddle would relax service stresses and could have closed up the breach a bit," is reasonable and supported by substantial evidence.

21. The MMR conclusion that the leak in the service line at the transition fitting in the foundation wall of 627 Pleasant Street is consistent with heat exposure, and a result of the Incident, is reasonable and supported by substantial evidence.

22. The Operator did not provide substantial and specific evidence to support a finding that the most probable source of the release of gas was on a faulty valve on the customer's owned piping.

B. Conclusions

The explosion at 627 Pleasant Street was caused by the accumulation and ignition of natural gas. The facts that, after the Incident, the Operator detected gas in the area of (1) the cast iron gas main in the street; (2) the sewer manhole adjacent to the gas service line supplying 627 Pleasant Street; (3) at the sewer trap in the basement floor of 630 Pleasant Street (across the street from 627 Pleasant Street); and (4) the Operator received a call from the resident at 627 Pleasant Street, Winthrop, reporting an odor of gas in the basement and through the house gives the Department reason to conclude that natural gas may have migrated from the gas leak at the saddle transition fitting near the gas main under Pleasant Street, and into the basement of 627 Pleasant Street through the sump pump area located in the floor of the basement. Gas accumulated inside the house to an explosive level and several possible sources of ignition were present within the house.

V. OPERATOR POST-INCIDENT ACTIONS

On March 26, 2014, the Department concluded an enforcement action with the Operator. National Grid, D.P.U. 12-PL-16. The Division concluded that the plastic service line may not have been installed so as to minimize anticipated piping strain and external loading. This was inconsistent with the Operator's Operating Manual and federal regulations.

The Respondent did not follow its Leak Investigation procedures, did not perform a complete leak investigation and may not have eliminated a potential hazard to persons or property.

The response at the National Grid Call Center ("Call Center") when it received the gas odor report was not effective, the Respondent's training of its Call Center employee may not have been effective, National Grid employees may not have effectively followed the Respondent's emergency procedures.

EXHIBIT 1

U.S. Department of Transportation Incident Report

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$1,000,000 as provided in 49 USC 60122.

OMB NO: 2137-0522
EXPIRATION DATE: 02/28/2014



U.S Department of Transportation
Pipeline and Hazardous Materials Safety Administration

Original Report Date:
No.

09/08/2013
20130099- 15722
(DOT Use Only)

INCIDENT REPORT - GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 10 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

INSTRUCTIONS

Important: Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at <http://www.phmsa.dot.gov/pipeline>.

PART A - KEY REPORT INFORMATION

Report Type: (select all that apply)	Original:	Supplemental:	Final:
	Yes		Yes
Last Revision Date			
1. Operator's OPS-issued Operator Identification Number (OPID):	1640		
2. Name of Operator	BOSTON GAS CO		
3. Address of Operator:			
3a. Street Address	40 SYLVAN ROAD		
3b. City	WALTHAM		
3c. State	Massachusetts		
3d. Zip Code	02451		
4. Local time (24-hr clock) and date of the Incident:	02/23/2012 07:58		
5. Location of Incident:			
5a. Street Address or location description	627 Pleasant St		
5b. City	Winthrop		
5c. County or Parish	Suffolk		
5d. State:	Massachusetts		
5e. Zip Code:	02152		
5f. Latitude:	42.3832652		
Longitude:	-70.9914725		
6. National Response Center Report Number:	1003862		
7. Local time (24-hr clock) and date of initial telephonic report to the National Response Center:	02/24/2012 12:40		
8. Incident resulted from:	Unintentional release of gas		
9. Gas released:	Natural Gas		
- Other Gas Released Name:			
10. Estimated volume of gas released - Thousand Cubic Feet (MCF):			
11. Were there fatalities?	No		
- If Yes, specify the number in each category:			
11a. Operator employees			
11b. Contractor employees working for the Operator			
11c. Non-Operator emergency responders			
11d. Workers working on the right-of-way, but NOT associated with this Operator			
11e. General public			
11f. Total fatalities (sum of above)			
12. Were there injuries requiring inpatient hospitalization?	No		
- If Yes, specify the number in each category:			
12a. Operator employees			
12b. Contractor employees working for the Operator			
12c. Non-Operator emergency responders			
12d. Workers working on the right-of-way, but NOT associated with this Operator			
12e. General public			
12f. Total injuries (sum of above)			
13. Was the pipeline/facility shut down due to the incident?	No		
- If No, Explain:	Company secured gate box at this location.		

- If Yes, complete Questions 13a and 13b: (use local time, 24-hr clock)	
13a. Local time and date of shutdown:	
13b. Local time pipeline/facility restarted:	
- Still shut down? (* Supplemental Report Required)	
14. Did the gas ignite?	Yes
15. Did the gas explode?	Yes
16. Number of general public evacuated:	3
17. Time sequence (use local time, 24-hour clock):	
17a. Local time operator identified Incident:	02/23/2012 07:58
17b. Local time operator resources arrived on site:	02/23/2012 08:23

PART B - ADDITIONAL LOCATION INFORMATION

1. Was the Incident on Federal land?	No
2. Location of Incident	Private property
3. Area of Incident:	Specify: Aboveground Inside a building
If Other, Describe: Depth of Cover:	
4. Did Incident occur in a crossing?	No
- If Yes, specify type below:	
- If Bridge crossing –	
Cased/ Uncased:	
- If Railroad crossing –	
Cased/ Uncased/ Bored/drilled	
- If Road crossing –	
Cased/ Uncased/ Bored/drilled	
- If Water crossing –	
Cased/ Uncased	
Name of body of water (If commonly known):	
Approx. water depth (ft):	

PART C - ADDITIONAL FACILITY INFORMATION

1. Indicate the type of pipeline system:	Natural Gas Distribution, privately owned	
- If Other, specify:		
2. Part of system involved in Incident:	Other	
- If Other, specify:		Customer owned piping
2a. Year "Part of system involved in Incident" was installed:	Unknown?	
Unknown?		Yes
3. When "Main" or "Service" is selected as the "Part of system involved in Incident" (from PART C, Question 2), provide the following:		
3a. Nominal diameter of pipe (in):		
3b. Pipe specification (e.g., API 5L, ASTM D2513):		
Unknown?		
3c. Pipe manufacturer:	Unknown?	
Unknown?		
3d. Year of manufacture:	Unknown?	
Unknown?		
4. Material involved in Incident:	Steel	
- If Other, specify:		
4a. If Steel, Specify seam type:	None/Unknown?	
None/Unknown?		Unknown
4b. If Steel, Specify wall thickness (inches):	Unknown?	
Unknown?		Yes
4c. If Plastic, Specify type:	- If Other, describe:	
4d. If Plastic, Specify Standard Dimension Ratio (SDR):	Or wall thickness:	
Or wall thickness:		Unknown?
4e. If Polyethylene (PE) is selected as the type of plastic in Part C, Question 4.c:		
- Specify PE Pipe Material Designation Code (i.e. 2406, 3408, etc.)		
Unknown?		
5. Type of release involved :	Leak	
- If Mechanical Puncture - Specify Approx size:		
Approx. size: in. (axial):		
in. (circumferential):		
- If Leak - Select Type:		Other
- If Other, Describe:		Leak on customer owned piping

- If Rupture - Select Orientation: - If Other, Describe: Approx. size: (widest opening): (length circumferentially or axially):	
- If Other - Describe:	
PART D - ADDITIONAL CONSEQUENCE INFORMATION	
1. Class Location of Incident :	Class 3 Location
2. Estimated Property Damage :	
2a. Estimated cost of public and non-Operator private property damage	\$ 500,000
2b. Estimated cost of Operator's property damage & repairs	\$ 0
2c. Estimated cost of Operator's emergency response	\$ 0
2d. Estimated other costs	\$ 0
- Describe:	
2e. Total estimated property damage (sum of above)	\$ 500,000
Cost of Gas Released	
2f. Estimated cost of gas released	\$ 500
3. Estimated number of customers out of service:	
3a. Commercial entities	0
3b. Industrial entities	0
3c. Residences	1
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the incident (psig):	
2. Normal operating pressure at the point and time of the incident (psig):	
3. Maximum Allowable Operating Pressure (MAOP) at the point and time of the incident (psig):	
4. Describe the pressure on the system relating to the incident:	Pressure did not exceed MAOP
5. Was a Supervisory Control and Data Acquisition (SCADA) based system in place on the pipeline or facility involved in the incident?	Yes
- If Yes:	
5a. Was it operating at the time of the incident?	Yes
5b. Was it fully functional at the time of the incident?	Yes
5c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume or pack calculations) assist with the detection of the incident?	No
5d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the incident?	No
6. How was the incident initially identified for the operator?	Notification from Emergency Responder
6a. If "Controller", "Local Operating Personnel, including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 6, specify the following:	
- If Other, Specify:	
7. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the incident?	No, the operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the operator did not investigate)
- If No, the operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the operator did not investigate)	
- If Yes, Specify investigation result(s) (select all that apply):	
- Investigation reviewed work schedule rotations, continuous hours of service (while working for the operator), and other factors associated with fatigue	
- Investigation did NOT review work schedule rotations, continuous hours of service (while working for the operator), and other factors associated with fatigue	
- Provide an explanation for why not:	
- Investigation identified no control room issues	
- Investigation identified no controller issues	
- Investigation identified incorrect controller action or controller error	
- Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response	

<ul style="list-style-type: none"> - Investigation identified incorrect procedures - Investigation identified incorrect control room equipment operation - Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response - Investigation identified areas other than those above 	
	Describe:

PART F - DRUG & ALCOHOL TESTING INFORMATION

1. As a result of this Incident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?

- If Yes:

1a. Specify how many were tested:

1b. Specify how many failed:

2. As a result of this Incident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?

- If Yes:

2a. Specify how many were tested:

2b. Specify how many failed:

No

No

PART G - CAUSE INFORMATION

Select only one box from PART G in shaded column on left representing the Apparent Cause of the Incident, and answer the questions on the right. Describe secondary, contributing, or root causes of the Incident in the narrative (PART H).

Apparent Cause:	G8 - Other Incident Cause
-----------------	---------------------------

G1 - Corrosion Failure – only one sub-cause can be picked from shaded left-hand column

Corrosion Failure Sub-Cause:

- If External Corrosion:

1. Results of visual examination:

- If Other, Specify:

2. Type of corrosion:

- Galvanic
- Atmospheric
- Stray Current
- Microbiological
- Selective Seam
- Other

- If Other, Describe:

3. The type(s) of corrosion selected in Question 2 is based on the following:

- Field examination
- Determined by metallurgical analysis
- Other

- If Other, Describe:

4. Was the failed item buried under the ground?

- If Yes:

4a. Was failed item considered to be under cathodic protection at the time of the incident?

- If Yes, Year protection started:

4b. Was shielding, tenting, or disbonding of coating evident at the point of the incident?

4c. Has one or more Cathodic Protection Survey been conducted at the point of the incident?

If "Yes, CP Annual Survey" – Most recent year conducted:

If "Yes, Close Interval Survey" – Most recent year conducted:

If "Yes, Other CP Survey" – Most recent year conducted:

- If No:

4d. Was the failed item externally coated or painted?

5. Was there observable damage to the coating or paint in the vicinity of the corrosion?

6. Pipeline coating type, if steel pipe is involved:

- If Other, Describe:

- If Internal Corrosion:

7. Results of visual examination:

- If Other, Describe:

8. Cause of corrosion (select all that apply):	
<ul style="list-style-type: none"> - Corrosive Commodity - Water drop-out/Acid - Microbiological - Erosion - Other 	
- If Other, Specify:	
9. The cause(s) of corrosion selected in Question 8 is based on the following: (select all that apply):	
<ul style="list-style-type: none"> - Field examination - Determined by metallurgical analysis - Other 	
- If Other, Describe:	
10. Location of corrosion (select all that apply):	
<ul style="list-style-type: none"> - Low point in pipe - Elbow - Drop-out - Other 	
- If Other, Describe:	
11. Was the gas/fluid treated with corrosion inhibitor or biocides?	
12. Were any liquids found in the distribution system where the Incident occurred?	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Part of system involved in incident" (from PART C, Question 2) is Main, Service, or Service Riser.	
13. Date of the most recent Leak Survey conducted	
14. Has one or more pressure test been conducted since original construction at the point of the Incident?	
<ul style="list-style-type: none"> - If Yes: 	
Most recent year tested:	
Test pressure:	
G2 - Natural Force Damage - only one sub-cause can be picked from shaded left-hand column	
Natural Force Damage – Sub-Cause:	
<ul style="list-style-type: none"> - If Earth Movement, NOT due to Heavy Rains/Floods: 	
<ul style="list-style-type: none"> 1. Specify: 	
- If Other, Specify:	
<ul style="list-style-type: none"> - If Heavy Rains/Floods: 	
<ul style="list-style-type: none"> 2. Specify: 	
- If Other, Specify:	
<ul style="list-style-type: none"> - If Lightning: 	
<ul style="list-style-type: none"> 3. Specify: 	
<ul style="list-style-type: none"> - If Temperature: 	
<ul style="list-style-type: none"> 4. Specify: 	
- If Other, Specify:	
<ul style="list-style-type: none"> - If High Winds: 	
<ul style="list-style-type: none"> - Other Natural Force Damage: 	
<ul style="list-style-type: none"> 5. Describe: 	
Complete the following if any Natural Force Damage sub-cause is selected.	
6. Were the natural forces causing the Incident generated in conjunction with an extreme weather event?	
<ul style="list-style-type: none"> 6.a If Yes, specify (select all that apply): 	
<ul style="list-style-type: none"> - Hurricane - Tropical Storm - Tornado - Other 	
- If Other, Specify:	
G3 - Excavation Damage - only one sub-cause can be picked from shaded left-hand column	
Excavation Damage – Sub-Cause:	
<ul style="list-style-type: none"> - If Excavation Damage by Operator (First Party): 	
<ul style="list-style-type: none"> - If Excavation Damage by Operator's Contractor (Second Party): 	
<ul style="list-style-type: none"> - If Excavation Damage by Third Party: 	

- If Previous Damage due to Excavation Activity:	
Complete the following ONLY IF the "Part of system involved in Incident" (from Part C, Question 2) is Main, Service, or Service Riser.	
1. Date of the most recent Leak Survey conducted	
2. Has one or more pressure test been conducted since original construction at the point of the incident?	
- If Yes:	
Most recent year tested:	
Test pressure:	
Complete the following if Excavation Damage by Third Party is selected.	
3. Did the operator get prior notification of the excavation activity?	
3a. If Yes, Notification received from: (select all that apply):	
- One-Cell System	
- Excavator	
- Contractor	
- Landowner	
Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.	
4. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?	
5. Right-of-Way where event occurred (select all that apply):	
- Public	
- If Public, Specify:	
- Private	
- If Private, Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Data not collected	
- Unknown/Other	
6. Type of excavator :	
7. Type of excavation equipment :	
8. Type of work performed :	
9. Was the One-Call Center notified?	
9a. If Yes, specify ticket number:	
9b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
10. Type of Locator:	
11. Were facility locate marks visible in the area of excavation?	
12. Were facilities marked correctly?	
13. Did the damage cause an interruption in service?	
13a. If Yes, specify duration of the interruption:	
14. Description of the CGA-DIRT Root Cause (select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well):	
- Root Cause Description:	
- If One-Call Notification Practices Not Sufficient, specify:	
- If Locating Practices Not Sufficient, specify:	
- If Excavation Practices Not Sufficient, specify:	
- If Other/None of the Above (explain), specify:	
G4 - Other Outside Force Damage - only one sub-cause can be selected from the shaded left-hand column	
Other Outside Force Damage – Sub-Cause:	
- If Nearby Industrial, Man-made, or Other Fire/Explosion as Primary Cause of Incident:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:	
1. Vehicle/Equipment operated by:	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost Their Mooring:	
2. Select one or more of the following IF an extreme weather event was a factor:	
- Hurricane	
- Tropical Storm	

<ul style="list-style-type: none"> - Tornado - Heavy Rains/Flood - Other 	- If Other, Specify:
- If Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation:	
- If Electrical Arcing from Other Equipment or Facility:	
- If Previous Mechanical Damage NOT Related to Excavation: <i>Complete the following ONLY IF the "Part of system involved in Incident" (from Part C, Question 2) is Main, Service, or Service Riser.</i>	
3. Date of the most recent Leak Survey conducted:	
4. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes: Most recent year tested: Test pressure (psig):	
- If Intentional Damage:	
5. Specify: - If Other, Specify:	
- If Other Outside Force Damage:	
6. Describe:	
G5. Pipe, Weld, or Joint Failure (only one sub-cause can be selected from the shaded left-hand column)	
Pipe, Weld or Joint Failure – Sub-Cause:	
- If Body of Pipe:	
1. Specify: - If Other, Describe:	
- If Butt Weld:	
2. Specify: - If Other, Describe:	
- If Fillet Weld:	
3. Specify: - If Other, Describe:	
- If Pipe Seam:	
4. Specify: - If Other, Describe:	
- If Threaded Metallic Pipe:	
- If Mechanical Fitting:	
5. Specify the mechanical fitting involved: - If Other, Describe:	
6. Specify the type of mechanical fitting: - If Other, Describe:	
7. Manufacturer:	
8. Year manufactured:	
9. Year Installed:	
10. Other attributes:	
11. Specify the two materials being joined:	
11a. First material being jointed: - Steel - Cast/Wrought Iron - Ductile Iron - Copper - Plastic - Unknown - Other - If Other, Specify:	
11b. If Plastic, specify: - If Other Plastic, specify:	
11c. Second material being joined: - Steel - Cast/Wrought Iron - Ductile Iron	

- Copper	
- Plastic	
- Unknown	
- Other	
- If Other, Specify:	
11d. If Plastic, specify:	
- If Other Plastic, Specify:	
12. If used on plastic pipe, did the fitting – as designed by the manufacturer – include restraint?	
12a. If Yes, specify:	
- If Compression Fitting:	
13. Fitting type:	
14. Manufacturer:	
15. Year manufactured:	
16. Year installed:	
17. Other attributes:	
18. Specify the two materials being joined:	
18a. First material being joined:	
- Steel	
- Cast/Wrought Iron	
- Ductile Iron	
- Copper	
- Plastic	
- Unknown	
- Other	
- If Other, specify:	
18b. If Plastic, specify:	
- If Other Plastic, specify:	
18c. Second material being joined:	
- Steel	
- Cast/Wrought Iron	
- Ductile Iron	
- Copper	
- Plastic	
- Unknown	
- Other	
If Other, specify:	
18d. If Plastic, specify:	
- Other Plastic, specify:	
- If Fusion Joint:	
19. Specify:	
- If Other, Specify:	
20. Year installed:	
21. Other attributes:	
22. Specify the two materials being joined:	
22a. First material being joined:	
- If Other, Specify:	
22b. Second material being joined:	
- If Other, Specify:	
- If Other Pipe, Weld, or Joint Failure:	
23. Describe:	
Complete the following if any Pipe, Weld, or Joint Failure sub-cause is selected.	
24. Additional Factors (select all that apply):	
- Dent	
- Gouge	
- Pipe Bend	
- Arc Burn	
- Crack	
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other	
25. Was the incident a result of:	
- Construction defect	

	Specify:
- Material defect	Specify:
	- If Other, Specify:
- Design defect	
- Previous damage	
26. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
	Most recent year tested:
	Test pressure:

G6 - Equipment Failure - only one sub-cause can be selected from the shaded left-hand column

Equipment Failure - Sub-Cause:	
- If Malfunction of Control/Relief Equipment:	
1. Specify:	
- Control Valve	
- Instrumentation	
- SCADA	
- Communications	
- Block Valve	
- Check Valve	
- Relief Valve	
- Power Failure	
- Stopple/Control Fitting	
- Pressure Regulator	
- Other	
	- If Other, Specify:
- If Threaded Connection Failure:	
2. Specify:	
	- If Other, Specify:
- If Non-threaded Connection Failure:	
3. Specify:	
	- If Other, Specify:
- If Valve:	
4. Specify:	
	- If Other, Specify:
4a. Valve type:	
4b. Manufactured by:	
4c. Year manufactured:	
- If Other Equipment Failure:	
5. Describe:	

G7 - Incorrect Operation - only one sub-cause can be selected from the shaded left-hand column

Incorrect Operation Sub-Cause:	
- If Damage by Operator or Operator's Contractor NOT Related to Excavation and NOT due to Motorized Vehicle/Equipment Damage:	
- If Valve Left or Placed in Wrong Position, but NOT Resulting in an Overpressure:	
- If Pipeline or Equipment Overpressured:	
- If Equipment Not Installed Properly:	
- If Wrong Equipment Specified or Installed:	
- If "Other Incorrect Operation:	
1. Describe:	
Complete the following if any Incorrect Operation sub-cause is selected.	
2. Was this Incident related to: (select all that apply)	
- Inadequate procedure	
- No procedure established	
- Failure to follow procedure	
- Other	
	- If Other, Describe:

3. What category type was the activity that caused the incident:	
4. Was the task(s) that led to the incident identified as a covered task in your Operator Qualification Program?	
4a. If Yes, were the individuals performing the task(s) qualified for the task(s)?	

G8 - Other Incident Cause - only one sub-cause can be selected from the shaded left-hand column

Other Incident Cause – Sub-Cause:	Miscellaneous
- If Miscellaneous:	
1. Describe:	Leak on customer piping is unknown.
- If Unknown:	
2. Specify:	

PART H - NARRATIVE DESCRIPTION OF THE INCIDENT

Leak on customer owned piping.

File Full Name	Note: The users have to sign in to view the attachment if there is no current user session.

PART I - PREPARER AND AUTHORIZED SIGNATURE

Preparer's Name	Kathleen McNamara
Preparer's Title	Manager NE Dispatch and Scheduling
Preparer's Telephone Number	508-421-7450
Preparer's E-mail Address	kathleen.mcnamara@nationalgrid.com
Preparer's Facsimile Number	
Authorized Signature	
Authorize Signature's Name	Gary Bennett
Authorized Signature's Title	Director US Dispatch and Scheduling
Authorized Signature Telephone Number	617-839-7208
Authorized Signature's Email Address	gary.bennett@nationalgrid.com
Date	08/07/2013

EXHIBIT 2

Winthrop Fire Department Report



Winthrop Fire Department
Incident Report

Page: 1
12/12/2012

Incident #: 12-343-IN Exp. 0

Call #: 12-114

Location: 627 PLEASANT STREET / 1 FAMILY
627 PLEASANT ST
WINTHROP, MA 02152

Census Tract: 1805-00
District: District 2

Officer In Charge: SWARTZ, RICHARD M. on 02/23/2012
Report By: SWARTZ, RICHARD M. on 02/23/2012
Approved By: FLANAGAN, PAUL E. on 02/27/2012

Basic Incident Information

Incident Type: Building fire
Property Use: 1 or 2 family dwelling
Actions Taken: Extinguishment by fire service personnel

Owner: 627 PLEASANT STREET / 1 FAMILY

627 PLEASANT ST
WINTHROP, MA 02152

Property Loss: \$350000
Contents Loss: \$350000

Pre-Incident Value: Undetermined
Pre-Incident Value: Undetermined

Resources Used Summary

Alarm: 02/23/2012 @ 0815
Cleared: 02/23/2012 @ 1408

Arrived: 02/23/2012 @ 0825

Alarms: 1

Aid: None

Apparatus

Suppression: 7
EMS: 0
Other: 1

Personnel

Suppression: 19
EMS: 0
Other: 1

Casualties Summary

Deaths

Fire Service: 0
Civilian: 0

Injuries

Fire Service: 0
Civilian: 0

People and Entities Involved

Type Sex Age Handicapped Notes

Winthrop Fire Department
Incident Report

Page: 2
12/12/2012

Incident #: 12-343-IN Exp. 0

Fire

Buildings involved: 0
Residential living units: 1
Acres Burned:

Area of origin: Heating room or area, water heat
Cause of ignition: Cause undetermined after investigation
Heat source: Undetermined
Item first ignited: Flammable liquid/gas - uncontained
Type of material: Natural gas

1st Contributing Ignition Factor:

2nd Contributing Ignition Factor:

Mobile Property Involved: None

Pre-fire plan available: No

Structure

Structure type: Enclosed building
Building status: In Normal Use
Main floor size: 30' x 35'

Stories above grade: 2
Stories below grade: 1

Story of fire origin: -1
Fire spread: Confined to room of origin
Stories with minor damage:
Stories with significant damage:
Stories with heavy damage:
Stories with extreme damage:

Detector presence: Undetermined
Type: Undetermined
Power: Undetermined

Automatic extinguishment system: None Present

Critical incident: No

Incident #: 12-343-IN Exp. 0

NARRATIVE FOR CAPTAIN RICHARD M SWARZ

Ref: 12-343-IN

Entered: 02/23/2012 @ 1438 Entry ID: P121
Modified: 02/23/2012 @ 1438 Modified ID: P121

Call for explosion at 627 Pleasant Street. Found fire showing from a house that had an explosion. All victims out of house on arrival. Signal 199.

Chief on scene ordered second alarm.

To scene: National Grid gas, National Grid electric, State Fire Marshal Investigators, Department of Public Utility Inspectors

Action Ambulance transported one victim to MGH.

To Fire: Massport Engine 5, Chelsea Engine 3 Ladder 2, Revere Engine 1

Cover: Everett Engine 3 to E1, Boston Engine 10 Ladder 21 Cover Hqtrs.

EXHIBIT 3

Sequence of Events and Odor Call Transcript

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-2

Respondent: Kathleen McNamara

Request: Provide a sequence of events and a description of the Incident. Include all records that demonstrate: (1) the time National Grid was notified of the Incident; and (2) when Dispatch notified the leak responder, crew and supervisor(s) to report to the Incident. Include in your response documentation on their arrival times; and when National Grid initiated an Emergency Notification to staff.

Response: On February 23, 2012, National Grid received an odor call from the customer at 7:54 am and immediately dispatched a technician to the address. The technician arrived at 8:23 am. In the interim, National Grid received a call from the Winthrop Fire Department at 7:58 notifying us of a disturbance at the property. National Grid notified the Massachusetts Department of Public Utilities at 8:45 am.

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-3

Respondent: Nancy Concem

Request: Provide the time National Grid received the odor complaint call from the owner of 627 Pleasant Street, Winthrop and transcripts of all conversations between the National Grid representative and the homeowner.

Response: National Grid received odor call from the customer at approximately 7:54 am on February 23, 2012. Attached please find a copy of the recorded call marked as Exhibit PL 1-3.

Customer Representative: Thank for calling National Grid gas service and this is Vernon. How may I assist you?

Customer: I have a smelling of gas in my house

Customer Representative: Okay, what address is that, please?

Customer: What

Customer Representative: Yes, what address is that?

Customer: Hello, 627 Pleasant Street, Winthrop Mass

Customer Representative: Your accent sir, I'm sorry I am losing you. I heard Winthrop and I heard 27 which street

Customer: 6-2-7 Pleasant Street

Customer Representative: Pleasant Street

Customer: Winthrop Mass

Customer Representative: Pleasant Street, thank you and the name it is under [REDACTED]

Customer: [REDACTED]

Customer Representative: Ok, so where did you smell the odor this morning

Customer: Some downstairs

Customer Representative: From downstairs

Customer: And it is through the house right now

Customer Representative: Are you at home right now and or anybody over the age of 18 right now

Customer: I'm at home

Customer Representative: I'm sorry you are at home or are not at home

Customer: I'm at home

Customer Representative: You are at home, what's your phone number you're calling from right now

Customer: Well um [REDACTED]

Customer Representative: Okay 4407. The number on file

Customer Representative: So in the meantime do not light any matches, some people want to get rid of the odor, don't light any matches, don't plug anything in or unplug anything because that could cause a spark, whatever on leave on whatever off leave off and we'll get someone out there within the hours and more than likely a lot less than that to be honest but within the house to 627 Pleasant Street in Winthrop. Alright sir,

Customer: Alright

Customer Representative: Alright sir

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
January 4, 2013

Information Request PL 1-15

Respondent: Chris Manning

Request: Provide all records documenting leak history and maintenance work performed on customer owned piping or appliances to the gas customer from January 1, 2002 to February 22, 2012.

Response: None

EXHIBIT 4

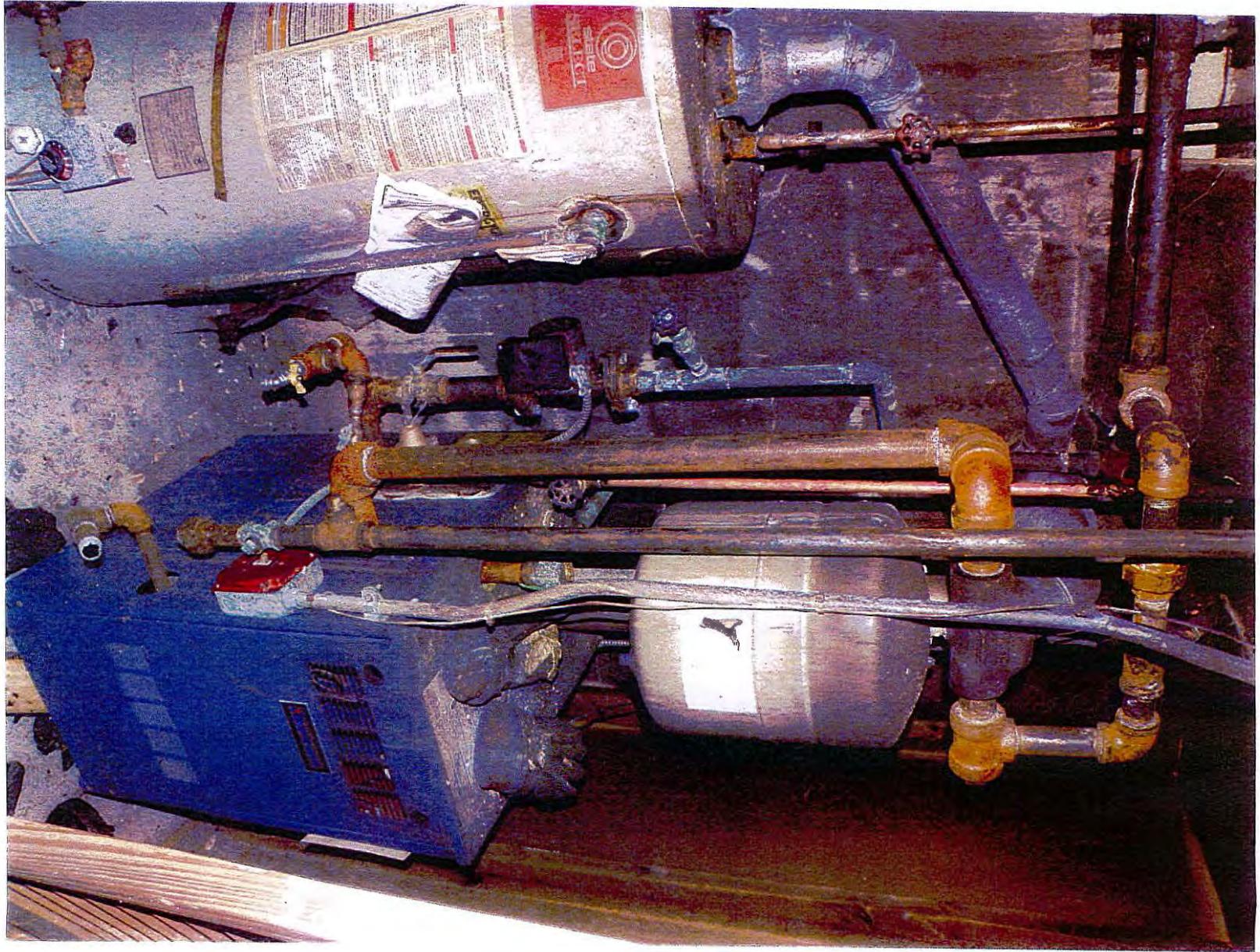
Photographs:

- 4(a) - 627 Pleasant Street, Winthrop - Residential Area**
- 4(b) - 627 Pleasant Street, Winthrop - Furnace and water heater in basement**
- 4(c) - 627 Pleasant Street, Winthrop - First floor gas stove**
- 4(d) - 627 Pleasant Street, Winthrop - Fire Damage**
- 4(e) - 627 Pleasant Street, Winthrop - Debris on right side of structure**
- 4(f) - 627 Pleasant Street, Winthrop - Sump pump in basement floor**
- 4(g) - 627 Pleasant Street, Winthrop - Water service**



4(a) - 627 Pleasant Street, Winthrop – Residential Area

4(b) - 627 Pleasant Street, Winthrop - Furnace and water heater in basement





4(c) - 627 Pleasant Street, Winthrop - First floor gas stove



4(d) - 627 Pleasant Street, Winthrop - Fire Damage

4(e) - 627 Pleasant Street, Winthrop - Debris on right side of structure





4(f) - 627 Pleasant Street, Winthrop - Sump pump in basement floor



4(g) - 627 Pleasant Street, Winthrop - Water service

EXHIBIT 5

Gas Main Records, Map of Pleasant Street, Winthrop

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-12

Respondent: James Hughes

Request: Provide records of the main servicing 627 Pleasant, Winthrop including but not limited to, installation date, MAOP, operating pressure and leak history from January 1, 2002 to February 22, 2012.

Response: The main that services 627 Pleasant Street, Winthrop is a six inch low pressure cast iron with various installation dates including, 1947, 1948, and 1955 depending on the section of Pleasant Street. The operating pressure is between 8 to 12 inches Water Column (w.c.) with an MAOP of 14 inches w.c. National Grid has no record of any main leaks between January 1, 2002 to February 22, 2012. Please see map of the main that was provided in response to IR PL 1-6.

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-18

Respondent: Jeffrey O'Brien

Request: Provide a copy of any Dig Safe notices received for sewer, water and drain work on Pleasant Street? Provide Dig Safe notices and completion forms.

Response: Attached as Exhibit PL-18, please find Dig Safe notices and completion forms from January 1, 2011 up until the date of the incident.

Exhibit PL 1-18

MARKOUT DETAILS

Request No	20120401094	Ref. Request No		Company	FDC		
Received Date	24-JAN-2012	08:08:AM	Reference No	NO	Type	EMERGENCY	
Transmission Date	24-JAN-2012	08:09:AM	Premarked	Y	Town	WINTHROP	
Target Date	24-JAN-2012	18:08:AM	Locator	23439	Status	0	
Address	PLEASANT ST EDGEHILL RD					Mains	
To Address						WRT	MA
Nearest Cross St 1							
Nearest Cross St 2							
Location	21 INTER						
Nature of Work	EMERG WATER VALVE REPLACE					Latitude	42.3778000
Extent of Work	WRO					Longitude	-70.8920600
Start Date	01-24-2012	Start Time	08:00:AM				
Caller	STEVE CALLA	Title	OPERATION MNGR				
Phone#	617-646-1249 617-812-8193	Fax#	617-839-1545				
Return Call	7-330	Email Id					
Contractor	WINTHROP WATER DEPT						
Contractor Address	100 KENNEDY DR, WINTHROP, MA 02152						
Excavator	SAME						
Completion Details	Locators	<input type="button" value="<<"/> <input type="button" value="<"/> <input type="button" value=">"/> <input type="button" value=">>"/> <input type="button" value="Query"/>					
FDC Completion Details	Reference Tickets						

CB. DIGSAFE SYSTEM

COMPLETION MARKOUT'S DETAIL - PAGE 1

Locator: 33430 Locator Name: GIERARDI Date: 17-JAN-2012

Digsafe #: 20120401084 BGID: 500 Reported Loc: PLEASANT ST/EDGEHILL RD WNT

Markout Date: 24-JAN-2012 08:53 Actual Loc: [redacted]

Visited site Contractor premarked location No Gas Involved

Method(s) of Locating

Measure:	How Located:	
<input checked="" type="checkbox"/> SPIPE	<input type="checkbox"/> Microfiche	<input type="checkbox"/> Direct
<input type="checkbox"/> AMMS	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Indirect

mains marked: 2 # of services marked: 0

For each main marked

Size: 6	Material: PLASTIC	Footage: 1	First roll #: 1/1
Size: 6	Material: CAST IRON	Footage: 2	Frame from 1 to 2
Size: 6	Material: [redacted]	Footage: 3	Second roll #: [redacted]
Size: 6	Material: [redacted]	Footage: 4	Frame from [redacted] to [redacted]
Size: 6	Material: [redacted]	Footage: 5	

Photo Taken?

Next Page Follow Up << < > >> Query Exit

COMPLETION MARKOUTS DETAIL - PAGE 2

 Ongoing job

Final Completion Date

21-JAN-2012 09:53

Follow up work

 Encroachment

Other follow up

1)

 Blasting

2)

 Contractor on adverse listIf other follow up, notified supervisor:

How contacted contractor

of pipes exposed:

Comments

[Prev. Page](#)[Follow Up](#)[Query](#)

MARKOUT DETAILS - HISTORY		DISPLAY	Date: 17-DEC-2012			
Request No	20113201364	Ref. Request No	0			
Received Date	01-AUG-2011 11:14:00	Reference	NO			
Transmission Date	01-AUG-2011 11:13:AM	Premarked	Y			
Target Date	01-AUG-2011 11:13:AM	Locator	10654			
Address	401 PLEASANT ST	Status	IN			
To Address		Mains	FAA			
Nearest Cross St 1	BROOKFIELD RD					
Nearest Cross St 2	COURT RD					
Location						
Nature of Work	CHST DRAIJAGE	Latitude				
Extent of Work	PRI PROP/ENTIRE	Longitude				
Start Date	08-04-2011	Start Time	11:16:AM			
Caller	MIKE FARNEY	Title	PRES			
Phone#	617-312-0118, 617-345-7290	Fax#	617-846-7233			
Return Call	10:5PM	Email Id	MIKE.FARNEY/4@VERIZON.NET			
Contractor	SEACOAST CONTR INC					
Contractor Address	16 REVERE ST, WINTHROP, MA 02182					
Excavator	SAME					
Completion Details	Locators	<<	<	>	>>	Query
FDC Completion Details	Reference Tickets					

PIGSAFE SYSTEM

COMPLETION MARKOUTS(HISTORY) DETAIL - PAGE 2

Ongoing job

Final Completion Date
34-AUG-2011 00:00

Follow up work

Encroachment

Blasting

Contractor on adverse list

Other follow up

1)
2)
If other follow up, notified supervisor:

How contacted contractor: # of pipes exposed:

Comments

MARKED SERVICE

Prev. Page Query

MARKOUT DETAILS - HISTORY

DISPLAY

Date: 17-DEC-2012

Request No	20113205074	Ref. Request No	0	Company	EG					
Received Date	03-AUG-2011	06:01:AM	Reference	NO	Type	EMERGENCY				
Transmission Date	03-AUG-2011	06:02:AM	Premarked	*	Town	WINTHROP				
Target Date	03-AUG-2011	10:00:AM	Locator	22893	Status	0	Mains	WHT	MA	
Address	362 PLEASANT ST									
To Address										
Nearest Cross St 1	MAIN ST									
Nearest Cross St 2	PAULINE ST									
Location										
Nature of Work	EMERG WATER REPAIR			Latitude						
Extent of Work	WORKING ST & SIDEWALK			Longitude						
Start Date	08-03-2011	Start Time	06:30:AM							
Caller	STEVE CALLA	Title	OPERATION MNGR							
Phone#	517-845-1248, 617-212-5193	Fax#	617-639-1646							
Return Call	7-330	Email Id								
Contractor	WINTHROP WATER DEPT									
Contractor Address	400 KENILROY DR, WINTHROP, MA 02182									
Excavator	SAME									

Completion Details

Locators

<<

<

>

>>

Query

FDC Completion Details

Reference Tickets

COMPLETION MARKOUTS(HISTORY) DETAIL - PAGE 1

Locator: 22883

Locator Name: P-DEFINITE JR

Date: 17-DEC-2012

Digsafe #: P011320507-A

BG:

Reported Loc: 352 PLEASANT ST. WNT

Markout Date: 03 AUG 2011 08:47

Actual Loc:

 Visited site Contractor premarked location No Gas Involved

Method(s) of Locating

Measure:

How Located:

 SPIPE Microfiche Direct AMMS Other Indirect

mains marked: 5

of services marked: 0

For each main marked

Size: 6

Material: CAST IRON

Footage: 17

Size:

Material:

Footage:

Photo Taken?

First roll #

N/A

Frame from

0

to

Second roll #

Frame from

0

to

Next Page

Follow Up

<< < > >> Query Edit

COMPLETION MARKOUTS(HISTORY) DETAIL - PAGE 2

 Doing job

Final Completion Date

03-AUG-2011 06:57

Follow up work

 Encroachment

Other follow up

1) Blazing2) REF_F01 Contractor on adverse listIf other follow up, notified supervisor:

How contacted contractor

of pipes exposed:

Comments

MARK 1 MAIN

[Prev. Page](#)[Follow Up](#)[Query](#)

DISPLAY

Date: 17-DEC-2012

Request No	20113906451	Ref. Request No		Company	BBC
Received Date	21-SEP-2011	Time	11:20:AM	Reference	10
Transmission Date	21-SEP-2011	11:21:AM		Type	NORMAL
Target Date	26-SEP-2011	11:21:AM		Premarked	
Address	PLEASANT ST			Town	WINTHROP
To Address				Locator	17684
Nearest Cross St 1	BELLEVUE AVE				
Nearest Cross St 2	SOMERSET AVE				
Location	W/H'S ON PLEASANT ST FROM BELLEVUE AVE TO SOMERSET AVE, INCLUDING INTERSECTIONS				
Nature of Work	WATER MAIN CONNECT		Latitude		
Extent of Work	WVG IN ST ONLY		Longitude		
Start Date	09-26-2011	Start Time	11:00:AM		
Caller	JOHN GREEN	Title	FOREMAN		
Phone#	478-462-6967	Fax#	978-462-6900		
Return Call	ANYTIME	Email Id	JOHNG@BELLFCORP.COM		
Contractor	BELLFCORP CORP				
Contractor Address	28 SIVA AVE, CRAGUT, MA 01526				
Excavator	SAME				
Completion Details	Locators	<input type="button" value="<<"/> <input type="button" value="<"/> <input type="button" value=">"/> <input type="button" value=">>"/> <input type="button" value="Query"/>			
FDC Completion Details	Referenced File No:				

COMPLETION MARKOUTS(HISTORY) DETAIL - PAGE 1

Locator	00000000000000000000000000000000	Locator Name	0.DELIBOLA	Date:	17-DEC-2012		
Digsafe #:	20113906451	EGC	Reported Loc:	PLEASANT ST. WNT			
Markout Date:	26-SEP-2011 13:06		Actual Loc:				
<input checked="" type="checkbox"/> Visited site		Method(s) of Locating					
<input checked="" type="checkbox"/> Contractor premarked location		Measure:	How Located:				
<input type="checkbox"/> No Gas Involved		<input checked="" type="checkbox"/> SPIPE	<input type="checkbox"/> Microfiche	<input type="checkbox"/> Direct	<input checked="" type="checkbox"/> Indirect		
# mains marked:		# of services marked:					
For each main marked							
Size:	6	Material:	CAST IRON	Footage:	600		
Size:		Material:		Footage:			
Size:		Material:		Footage:			
Size:		Material:		Footage:			
Size:		Material:		Footage:			
Photo Taken?							
First roll #:		CD100					
Frame from		370	to	371			
Second roll #:							
Frame from		371	to	372			
Next Page	Follow Up	<<	<	>	>>	Query	Exit

COMPLETION MARKOUTS(HISTORY) DETAIL - PAGE 2

 Ongoing job

Final Completion Date

28-SEP-2011 13:06

Follow up work

 Encroachment

Other follow up

1)

2)

 Blasting Contractor on adverse list

If other follow up, notified supervisor:

How contacted contractor

of pipes exposed:

Comments

281233 LEFT CARE

MARKED MAIN AND SERVICE TO 217

Prev. Page

Follow Up

Query

COMPLETION MARKOUTS(HISTORY) DETAIL - PAGE 1

Locator	12634	Locator Name	PELISOLA	Date:	17-DEC-2012		
Digsafe #:	20113908-61	BOC	Reported Loc:	PLEASANT ST NW			
Markout Date:	28-SEP-2011 14:24		Actual Loc:				
<input checked="" type="checkbox"/> Visited site			Method(s) of Locating				
<input checked="" type="checkbox"/> Contractor premarked location			Measure:	How Located:			
<input checked="" type="checkbox"/> No Gas Involved			<input checked="" type="checkbox"/> SPIPE	<input type="checkbox"/> Microfiche	<input type="checkbox"/> Direct		
			<input type="checkbox"/> AMMS	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Indirect		
# mains marked:			# of services marked: 5				
For each main marked							
Size:	6	Material:	CAS1 IRDN	Footage:	998		
Size:		Material:		Footage:	0		
Size:		Material:		Footage:	0		
Size:		Material:		Footage:	0		
Size:		Material:		Footage:	0		
Photo Taken?							
First roll #:	CC100						
Frame from:	00	to	00				
Second roll #:							
Frame from:	00	to	00				
Next Page	Follow Up	<<	<	>	>>	Query	Exit

COMPLETION MARKOUTS(HISTORY) DETAIL - PAGE 2

 Ongoing job

Final Completion Date

How contacted contractor

OTHER

of pipes exposed:

Comments

CGI 235 LEFT CARD

Prev Page

Follow Up

Query

DRAFT/OUT DETAILS		DISPLAY		Date: 23-DEC-2011	
Request No	20110206460	Ref. Request No	0	Company	DGC
Received Date	23-DEC-2011 11:18AM	Reference No	0	Type	EMERGENCY
Transmission Date	23-DEC-2011 11:18AM	Premarked	0	Town	WINTHROP
Target Date	23-DEC-2011 03:18PM	Locator	12004	Status	
Address	WALDEMAR AVE/PLEASANT ST			Mains	WWT MA
To Address					
Nearest Cross St 1					
Nearest Cross St 2					
Location	CORNER PROP WALDEMAR AVE/PLEASANT ST ADDRESS IS 82 WALDEMAR AVE/WRKG ON PLEASANT ST SIDE				
Nature of Work	EMERGENCY WATER SERVICE REPAIR		Latitude	42.3751600	
Extent of Work	SILLYHALK AREA		Longitude	-70.8916700	
Start Date	12-23-2011	Start Time	12:00 PM		
Caller	STEVE CALLA	Title	OPERATION MNGR		
Phone#	817-846-1248/617-212-5193	Fax#	617-639-1541		
Return Call	0	Email Id			
Contractor	WINTHROP WATER DEPT				
Contractor Address	100 KENNEDY CR, WINTHROP, MA 02152				
Excavator	SAME				
Completion Details	Locators	<input type="button" value="<<"/> <input type="button" value="<"/> <input type="button" value=">"/> <input type="button" value=">>"/> <input type="button" value="Query"/>			
FDC Completion Details	Reference Tickets				

COMPLETION MARKOUTS DETAIL - PAGE 1

LocatorID: 12684	Locator Name: C/CELL/SCA	Date: 17-DEC-2012															
Digsafe #: 20116205-ED	BGC	Reported Loc: 1A-CEMAR AVE/PLEASANT ST/HN															
Markout Date: 20-DEC-2011 10:48	Actual Loc:																
<input checked="" type="checkbox"/> Visited site <input checked="" type="checkbox"/> Contractor premarked location <input checked="" type="checkbox"/> No Gas Involved																	
Method(s) of Locating Measure: <input checked="" type="checkbox"/> SPIPE <input type="checkbox"/> Microfiche <input type="checkbox"/> Direct <input type="checkbox"/> AMMS <input type="checkbox"/> Other <input checked="" type="checkbox"/> Indirect																	
# mains marked: 0	# of services marked: 0																
For each main marked <table border="1"> <tr> <td>Size: <input type="text"/></td> <td>Material: <input type="text"/></td> <td>Footage: <input type="text"/></td> </tr> <tr> <td>Size: <input type="text"/></td> <td>Material: <input type="text"/></td> <td>Footage: <input type="text"/></td> </tr> <tr> <td>Size: <input type="text"/></td> <td>Material: <input type="text"/></td> <td>Footage: <input type="text"/></td> </tr> <tr> <td>Size: <input type="text"/></td> <td>Material: <input type="text"/></td> <td>Footage: <input type="text"/></td> </tr> <tr> <td>Size: <input type="text"/></td> <td>Material: <input type="text"/></td> <td>Footage: <input type="text"/></td> </tr> </table>			Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>	Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>	Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>	Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>	Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>
Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>															
Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>															
Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>															
Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>															
Size: <input type="text"/>	Material: <input type="text"/>	Footage: <input type="text"/>															
Photo Taken? First roll #: <input type="text"/> Frame from <input type="text"/> to <input type="text"/> Second roll #: <input type="text"/> Frame from <input type="text"/> to <input type="text"/>																	
Next Page	Follow Up	<< < > >> Query Exit															

COMPLETION MARKOUTS DETAIL - PAGE 2

 Ongoing job**Final Completion Date**

23-DEC-2011 13:48

Follow up work **Encroachment****Other follow up**

1)

2)

 Blasting **Contractor on adverse list**

If other follow up, notified supervisor:

How contacted contractor**IN PERSON****# of pipes exposed:****Comments:**

NO GAS

Prev Page**Follow Up****Query**

EXHIBIT 6

Gas service records - 627 Pleasant Street, Winthrop

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-13

Respondent: James Hughes

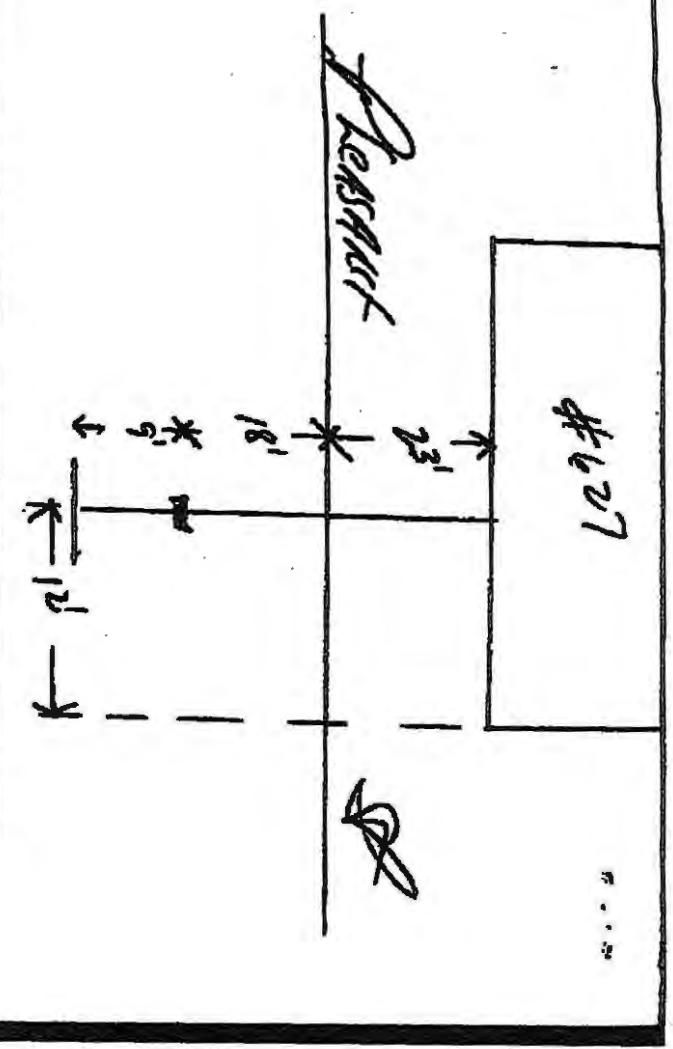
Request: Provide records of the gas service at 627 Pleasant, Winthrop including but not limited to, installation date, MAOP, operating pressure and leak history from January 1, 2002 to February 22, 2012.

Response: The service to #627 Pleasant St was 1 inch plastic, installed on 04/24/1986. The pressure test listed on the attached service card indicates a psig test for 15 minutes. The operating pressure and MAOP is the same as the main as answered in IR PL-12. There is no leak history on the service between January 1, 2002 and February 22, 2012. The service card for this address is attached as Exhibit PL 1-13.

6-27 Pleasant St. Service Card

No. 6100 W. Village

SERVICE FROM		SIZE		SALES		PERMIT		ST.	
SIZE	DATE	SIZE	DATE	NON-SALES	NO.	MAIN	TO L.L.		
NEW									
RELOCATE									
ABAND.									
MAIN	SIZE	DEPTH	DEPTH	TAP SIZE	PRESSURE	LOW	HIGH	CONDITION OF MAIN	
DATA	1"	3'	1"	1"				Good	
CROWLEY								SIDEWALK	
CROWLEY LEADER		AINTREE		AREA		FUNCTION		JOB NUMBER	
NO. 1 ORDER NO.		115	120	612-4	715-3	FC	1	1	1
INSTALLED PIPE		INCHES	PRESSURE	ABANDONED PIPE		INSERT			
SIZE	TYPE	SIZE	TYPE	FOOTAGE	FOOTAGE	INSERT	TYPE	DIRECT BURIAL	
1"	1"	1"	1"	5.0	5.0		FC		
REMARKS									
W.A.S. REC.		EXPOSURE		DEPTH		PLASTIC INSERT		FORM NO. 645 REV. 6/68	



National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-14

Respondent: James Hughes

Request: Provide records for any maintenance or replacement work performed on the gas services at 627 Pleasant, Winthrop from January 1, 2002 to February 22, 2012.

Response: Other than installing the service in April, 1986, National Grid has no other records of maintenance or replacement activity at this address.

EXHIBIT 7

Leak Investigation and Leak Survey Reports, Post-Incident Photographs

- 7(a) - National Grid response PL 2-9**
- 7(b) - National Grid responses PL 1-10 and PL 2-8**
- 7(c) - Gas reading at curb**
- 7(d) - Street typography**
- 7(e) - Sewer Manhole**

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
April 4, 2013

Information Request PL 2-9

Respondent: Michael Verrell

Request: Department investigator notes taken the day of the Incident state that National Grid's supervisor, Mike Verrell, provided the investigators with the details of a leakage survey the Company performed after the Incident, but before the Department investigators arrived. Please provide complete and detailed documentation to confirm (or correct), the following facts:

- (a) National Grid reported that it detected a 55 percent gas reading in the sidewalk area of 627 Pleasant Street, near a tree;
- (b) National Grid reported that the reading bled down to 20 percent gas;
- (c) National Grid reported that it detected no other readings in the front lawn area of the house at 627 Pleasant Street;
- (d) National Grid reported that it detected a 20 percent gas reading in the street over the cast iron main;
- (e) National Grid reported that the Company detected no gas readings inside nos. 631 and 623 Pleasant Street;
- (f) National Grid reported that the Company detected a half percent gas reading in the sewer manhole adjacent to the service line to no : 627 Pleasant Street;
- (g) National Grid reported that the Company detected one percent gas in the sewer trap located in the basement of 630 Pleasant Street;

Response: Michael Verrell has confirmed the accuracy of the above-referenced information. Please see National Grid's responses to IR PL 1-23, IR PL 1-5, IR PL 1-10, IR PL 2-8.

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
January 4, 2013

Information Request PL 1-10

Respondent: Chris Manning

Request: Provide the results of the leak investigation performed on February 23, 2012 including but not limited to FDC completion records, Work Orders and all applicable premise condition reports.

Response: No leaks were found in the surrounding area checks. To date, we have not been able to locate the premise condition reports and will supplement this response if they are located. Attached as Exhibit PL1-10, please find CAD orders and FDC completion reports.

Order Detail

BOSTON

MASTER ORDER DETAIL

Customer Name: [REDACTED]

Account #: [REDACTED]

Address: 627 PLEASANT ST N/A

Town/Zip: WNT / 02152

Host Ord Create Dt: 2/23/2012 7:56:14 AM

Service Rep: 12390

CICS Term ID: %624

Taken By: 15219

Group: S

Dispatcher: 93599

Disp Time: 2/23/2012 8:04:24 AM

Tran Code: L*1

Class: E

Reported By: [REDACTED]

Reissue: 001

Appointment Dt: 2/23/2012

WTD From: 2/23/2012

WTD To: 2/23/2012

Meter Num: 00P926216

Size: 2148

Lken: 06

Inst: 20100218

ERT Num: 063451952

ERT Batt: -

Telephone 1: [REDACTED]

Telephone 2: [REDACTED]

Special Instructions

Call: ODOR IN BASEMENT**

Sys: Pend Ord: N * Verify Mtr: N * Chg Mtr: N * Theft: N * Contract: * Spc

* [REDACTED]

Disp:

GENERAL COMPLETION DETAIL (10573)

Job Codes: LK ST RT

Job Mins: 130

CRIS Codes: 038 018 00

Job Mlns: 130

EnRoute: 2/23/2012 8:04:43 AM EnRoute Override:

Flu Check: N

OnSite: 2/23/2012 8:23:49 AM OnSite Override:

Comp Date: 2/23/2012 10:33:59 AM

Warning:

Gas On:

Mtr Lck:

Appl Lck:

Tag Posted:

Tag Location:

Aff Appl:

Problem Found:

Referd To:

Prev-Rem Meter#: 00P926216 Correct Meter #:

On-Off Rem Read:

Set Meter #:

Set Read:

Set Dials:

Set Locn:

Set Size:

Set ERT#:

RG:01

WH:01

DR:01

HH:01

SH:00

AC:00

OTH:00

Comments: area chk ok mobile fi ok

New Customer Name:

Safety Gas Reading			
	Check?	Reading	Loc
Service	N	000	
Water		000	
Sewer		000	
Electric		000	
Wall		000	
Barhole Svc		000	
Perimeter		000	
CO Test (PPM)		0000	
Check Flue	N		

ORDER NUMBER INFORMATION

CAD Order

Num: 10573

CSS Order

Num:

05405000048

CAD Date/Time: 2/23/2012 7:56:14

AM

Top

Order Detail

BOSTON

MASTER ORDER DETAIL

Customer Name: [REDACTED]

Account #: [REDACTED]

Address: 632 PLEASANT ST N/A

Town/Zip: WNT / 02152

Host Ord Create Dt: 2/23/2012 6:01:05 PM

Service Rep: 23175

CICS Term ID: %449

Taken By: 17361

Group: S

Dispatcher: 92583

Disp Time: 2/23/2012 6:03:20 PM

Tran Code: L*3

Class: E

Reported By: [REDACTED]

Reissue: 001

Appointment Dt: 2/23/2012

WTD From: 2/23/2012

WTD To: 2/23/2012

Meter Num: 00X152584

Size: 2176

Lken: 23

Inst: 20100317

ERT Num: 007010878

ERT Batt: -

Telephone 1: [REDACTED]

Telephone 2: [REDACTED]

Special Instructions

Call: PER DISPTACH/CK FOR SAFETY**

Sys: Pend Ord: N * Verify Mtr: N * Chg Mtr: N * Theft: N * Contract: * Spc

*

Disp:

GENERAL COMPLETION DETAIL (11598)

Job Codes: LK

Job Mins: 29

CRIS Codes: 039 020 00

Job Mins: 29

EnRoute: 2/23/2012 6:03:39 PM EnRoute Override: Flu Check: Y

OnSite: 2/23/2012 6:20:28 PM OnSite Override: 2/23/2012 6:23:00 PM

Comp Date: 2/23/2012 6:51:55 PM

Warning:

Gas On:

Mtr Lck:

Appl Lck:

Tag Posted:

Tag Location:

Aff Appl:

Problem Found:

Refer To:

Prev-Rem Meter#: 00X152584 Correct Meter #:

On-Off Rem Read:

Set Meter #:

Set Read:

Set Dials:

Set Locn:

Set Size:

Set ERT#:

RG:01

WH:01

DR:00

HH:01

SH:01

AC:00

OTH:00

Comments: vt INSD WALLS APPLS CK OK

New Customer Name:

Safety Gas Reading			
	Check?	Reading	Loc
Service	Y	000	
Water		000	
Sewer		000	
Electric		000	
Wall		000	
Barhole Svc		000	
Perimeter		000	
CO Test (PPM)		0000	
Check Flue	Y		

ORDER NUMBER INFORMATION**CAD Order**
Num: 11598**CAD Date/Time:** 2/23/2012 6:01:05
PM**CSS Order**
Num: 05405000595[Top](#)

Work Order # 817491	Region/Company NEGBGC	Work Type ER	Status CASBUILT
Location 931702	627 PLEASANT ST,WNT		Status Due Date
Direction From	Int. Street 1 PLEASANT CT		Date Received 2012-02-23-0.00.0
	Int. Street 2 MAIN ST		Town WNT
Belongs To		Location Priority	
Reimbursable?	Pre Payment	WO Priority	

Contact Information		Violation/Delay	Notifications	CUE	Damages	Diary
		Location Detail				
Requestor BENTIVEGNA, JULIE A		Parking Reg			SPIPE No 587882	
Customer	Role P1-PUBLIC	Svc Seq # 0	Circuit #		Map/Grid	
Phone		Billing Unit	Subsystem ID		Tax District	WNT

Problem	Classification	Responsibility
Failure Class LEAK	Job Plan	Own. Org. MSFMAL
Problem Code 1	Program LK EMER	Perf. Org. MSFMAL
Leak Reading% 100	Safety Plan	Proj. Mgr.
Upgraded Date	PM	Designer

Associated Project/ Work Order Detail		Scheduling Information		Follow-up Work	
Funding Project # MAL129		Start	Completion	Originating WO	
FWMS Project #		Target		Has Follow-up Work?	N
LMS # 828846		Scheduled		Modified	
Ext Ref #		Actual 2012-02-23-8.33.00	2012-02-23-0.00.00	By	SMARTTIME
Status 1703		Customer Need/Appt. Date		Date	2012-02-28-0.23.0
	Est. Dur. 0:00	Rem. Dur.	Plng./Sched?		

Work Order 617491
Location 931702

WorkType ER

627 PLEASANT ST,WNT

Status CASBUILT

Town WNT

Operation 20
Loc 931702

Standard Unit

Count 1

627 PLEASANT ST,WNT

Completion Date 2012-02-23 0:01

Repairs

Work Action LEAK Paving Code 1 # Main FT Inspected 1 Repair sent to LMS?
Joint Seal Replaced? Reason for Failure
Facility Type SERVICE Size 01 Material PL Pressure
Where Leak LKPIPE Leak Cause OUTFORCE Contributing Factor
Comments C/O AT MAIN Construction Type AB Depth 3FT IN

Relights

RGO Performed? House Heaters Water Heaters
Standby? Ranges Other
Reconnect? Comments

Pressure Test

Pressure Medium
Duration 0 Chart?

Valve Inspections

Primary Valve? Location Verified? Valve Greased
Valve Box Cleaned Valve Operability? CGI Reading (% Gas)
Comments

Location 931702

627 PLEASANT ST, WNT

Size	Material	Length	Date/Year	Vintage Year
Installed				
Retired	PL	50	2012-02-23-00:00:00	1984
Other Data C/O AT MAIN				

Service Tap From Street	Same	Construction Type	AB
Tap Size	01	Main Size (in.)	06
(in.)		Main Mat'l	CI
		Cutoff Location	MAIN

Location Information			Pressure Test	
Sketch Type	4	A (M-V)	0	Pressure (PSIG)
B (V-Bldg)	0	Offset to Tap/EFV	C 0	Time (Mins)
		D 0		
Offset to Valve/PropLine	E 0	F 0	Meter Location	
			Curb Valve Installed?	N
			Excess flow valve Installed?	N
			Meter protection Installed?	

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
April 4, 2013

Information Request PL 2-8

Respondent: Tatiana Roc

Request: On February 23, 2012, Department investigators arrived at 627 Pleasant Street, Winthrop, to investigate the release of gas. The investigators were informed that National Grid had performed a leakage survey of the Incident area prior to the Department investigators' arrival. Provide complete and detailed documentation for the following:

- (a) all leakage survey records conducted on February 23, 2012, including all surveys taken before the arrival of the Department investigators;
- (b) supervisor statements concerning the readings taken after the incident;
And
- (c) supervisor statements regarding readings in any of the homes on Pleasant Street after the incident.

Response: Please see attached as Exhibit 2-8, a premise condition report for February 23, 2012 as well as hand written notes date taken the same date. National Grid does not have written statements of supervisors. National Grid did perform all required surveys following the incident. Please see responses to IR PL 1-10.



PREMISE CONDITION REPORT

ALL READINGS TAKEN
AT FOUNDATION WALLS
UNLESS OTHERWISE NOTED.

REPORTED ADDRESS	UNIT	DATE OPENED	DATE ARRIVED	DATE LEFT	ZIP	HEET
J. Bent ADDRESS	627 Pleasant St UNIT	23 Feb 12	23 Feb 12	23 Feb 12	02152	1 of 1
FIRST SERV. REP.	EXECUTED BY	EMP. NO.	DATE	TIME	COMMENTS	
J. Bent	Pederson	25164	840	8:30 P.M.	123.456	
62 Main St	TIME 9:30 10:00 10:30 10:00 11:05 11:45 (Relief)					
72 Main St	READ 0 0 0 0 0 0 (Clear Cell)				INS	
1026 Pleasant St	TIME 9:35 10:15 10:35 10:35 11:20 —					
1023 Pleasant St	READ 0 0 0 0 0 —				INS	
1040 Pleasant St	TIME 9:40 10:20 10:40 11:00 11:25 11:55					
	READ 0 0 0 0 0 0				INS	
	TIME 10:15 10:25 10:45 11:05 11:30 12:00					
	READ 0 0 0 0 0 0				INS	
	TIME 10:00					
	READ 0				INS	
	TIME					
	READ					
	TIME					
	READ					
4 houses continuous	TIME					
Minister Rep Enclosed	TIME					
LEAK INVESTIGATION COMPLETE	HAZARDOUS	NON-HAZARDOUS				
REVIEWED WITH DISTRIBUTION	TECHNICAL SUPERVISOR	RELIEVED BY: EXP. NO.				
LEAK CLASSIFICATION GRADE	1, 2, 3, NA	LEAK SURVEY				
LEAK TURNED OVER TO DISTRIBUTION	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	TIME TO DIST.	— AM	— PM		
LEAK CLOSED OUT	123.456	MONITOR SETUP	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	MONITOR TIME FRAME		HOURS
BOSTON GAS-MANAGING SAFETY Off Rep's Contact Monitor						

FORM NO. 170 (REV. 4/80)

620 Pleasant St. → No reads
627 → Disturbance → cust to plastic right in front
631 → No reads
623 → No reads
632 →
635 →
636 → No gas service
639 →
640 →
641 →

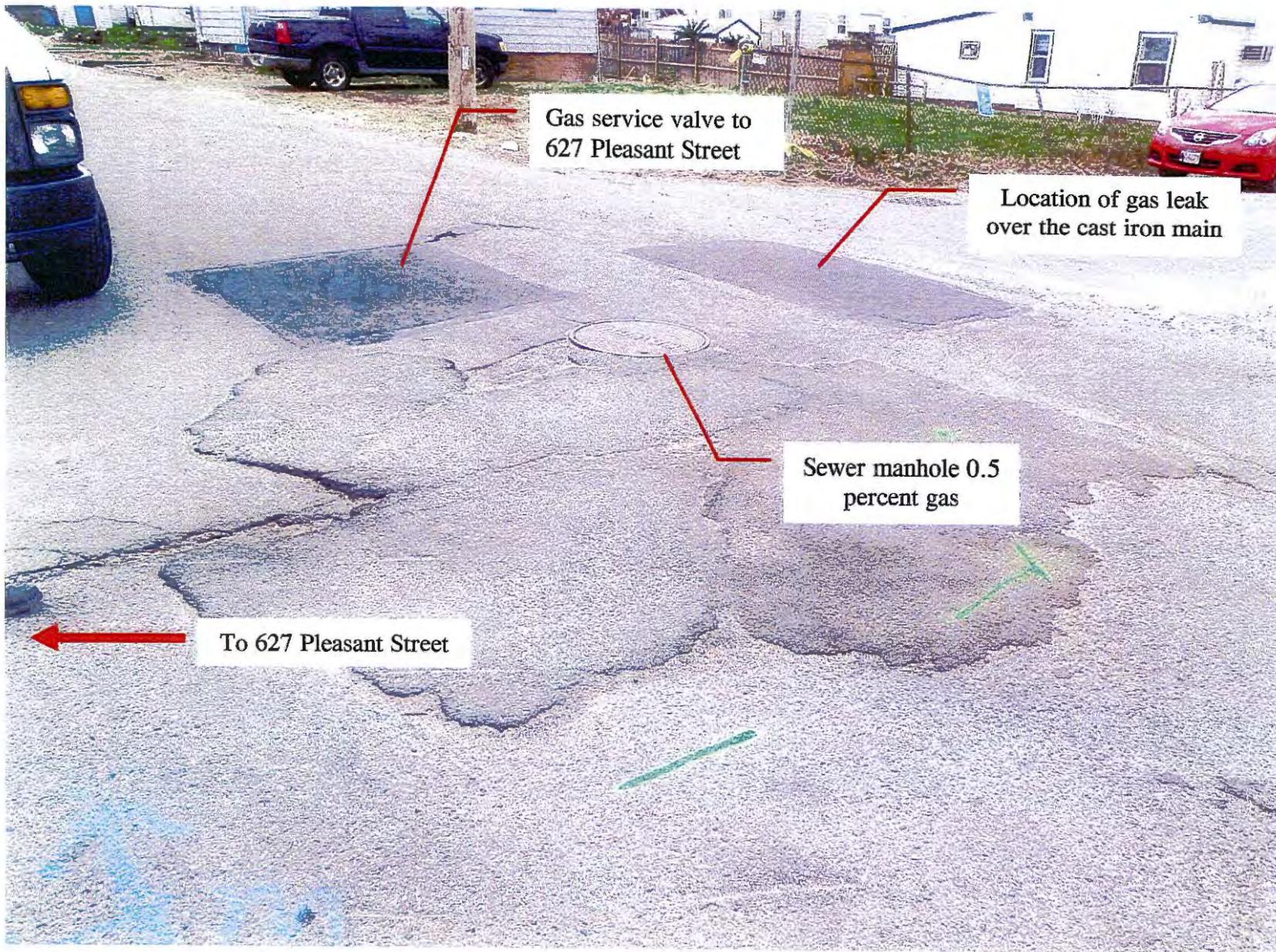
✓ DEMENT

641 9:30 Passenger 44
639 9:40 6:15 AM 11 - 2044 - 04
632 10:00 9:25 AM 15 - 2044 - 04
631 10:10 10:30 10:40
635 10:30 10:40
636 10:40
639 10:40
640 10:40

✓ DEMENT
23253 9:50



7(c) – Gas reading at curb



7(d) – Street typography

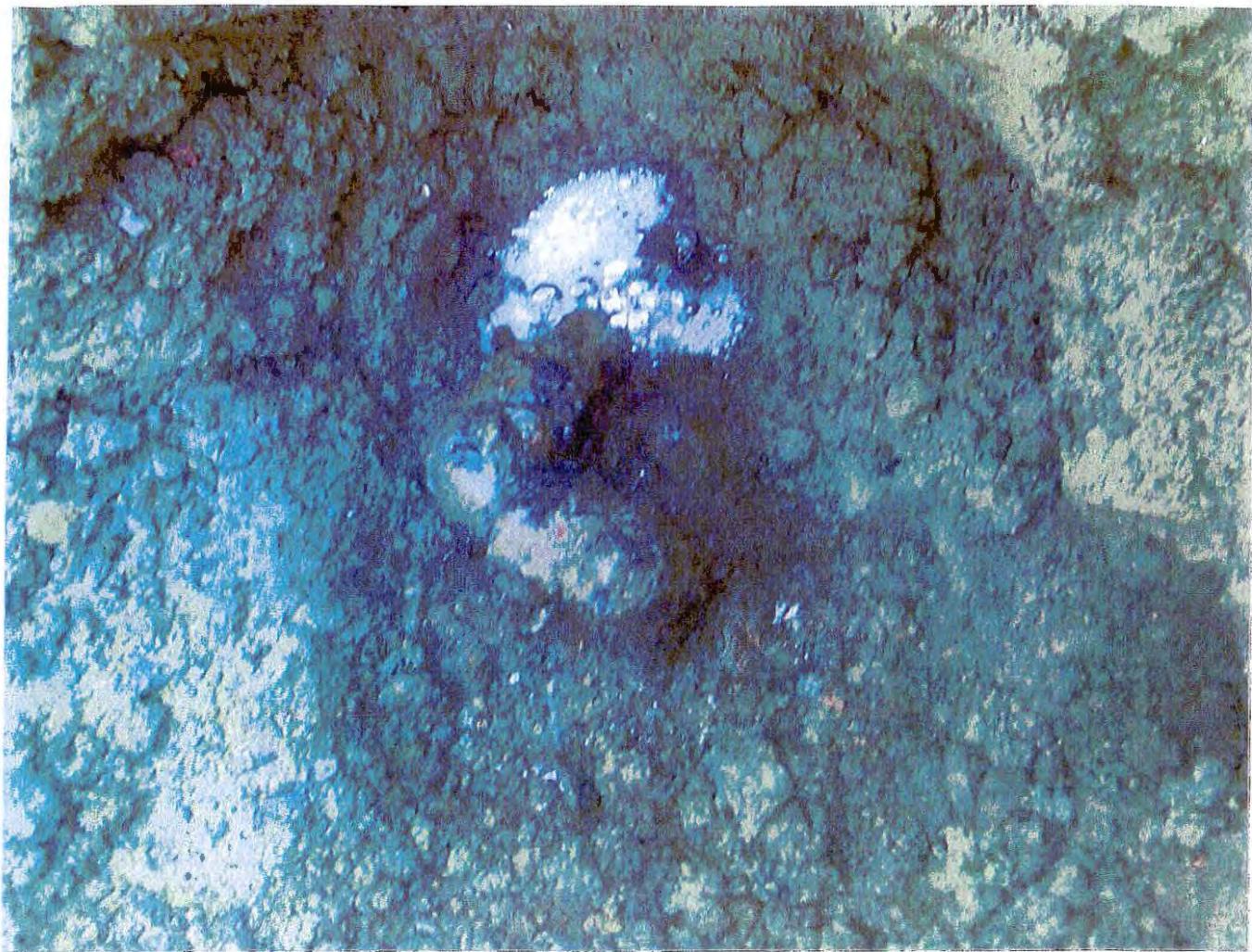


7(e) – Sewer Manhole

EXHIBIT 8

PHOTOGRAPHS:

- 8(a) – Leak at saddle transition fitting attached to the six inch cast iron gas main
- 8(b) – Service saddle transition fitting and plastic pipe that was attached to the six inch cast iron gas main
- 8(c) – Leak at transition fitting inside the basement at the foundation wall
- 8(d) – Leak at transition fitting inside the basement at the foundation wall
- 8(e) – Leak at transition fitting inside the basement at the foundation wall
- 8(f) – Transition fitting attached to the six inch cast iron main saddle
- 8(g) – Leak at transition fitting attached to the six inch cast iron main saddle
- 8(h) – Leak at transition fitting attached to the six inch cast iron main saddle
- 8(i) – Leak at transition fitting attached to the six inch cast iron main saddle



8(a) – Leak at saddle transition fitting attached to the six inch cast iron gas main



Figure 10: The saddle fitting assembly, top view.

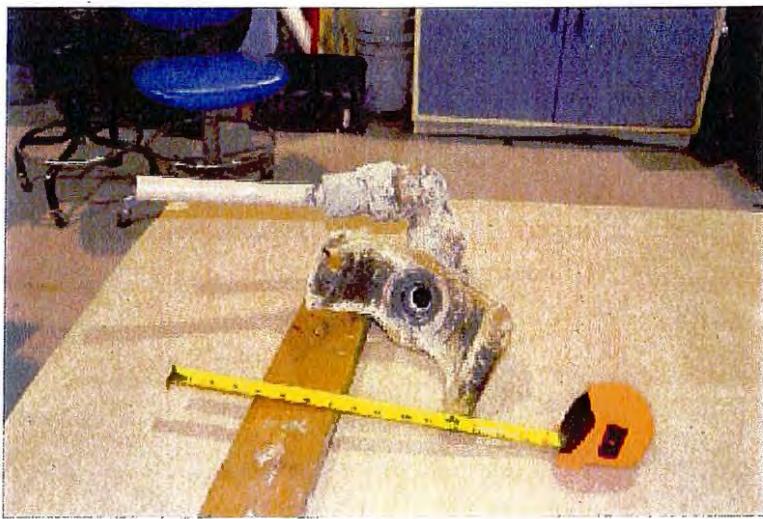


Figure 11: The saddle fitting assembly, bottom view. Note plastic service pipe is askew.

8(b) – Service saddle transition fitting and plastic pipe that was attached to the six inch cast iron gas main



8(c) – Leak at transition fitting inside the basement at the foundation wall

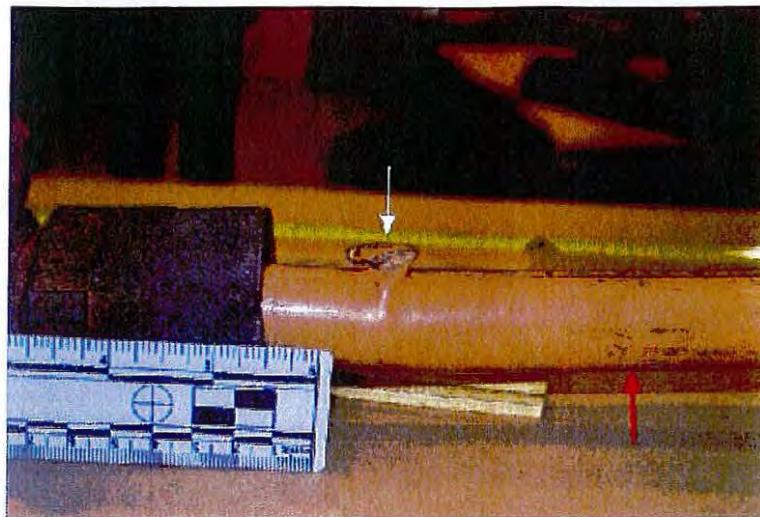


Figure 5: Service line blowhole adjacent to the foundation fitting, white arrow. The service line was bowed on this end, red arrow.



Figure 6: Detail of blowhole. This damage was heat related.

8(d) – Leak at transition fitting inside the basement at the foundation wall

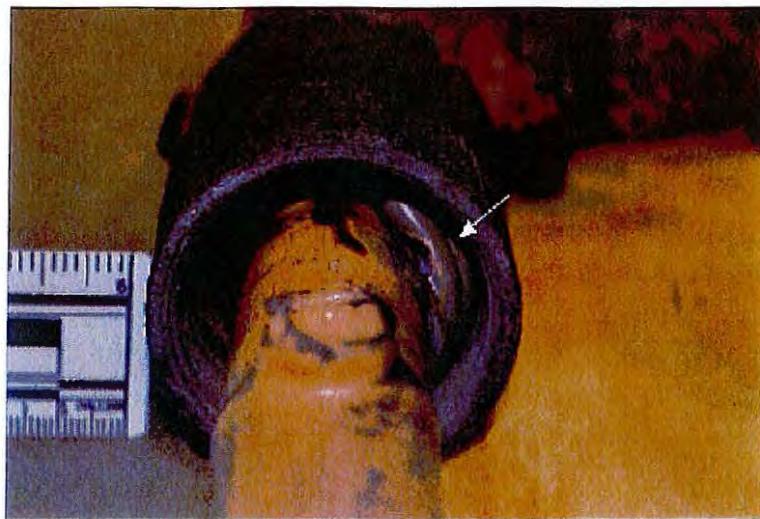


Figure 7: Melted plastic was visible within the foundation fitting, arrow. This was heat related.



Figure 8: The underside of the foundation fitting assembly and service pipe were unremarkable.

8(e) – Leak at transition fitting inside the basement at the foundation wall

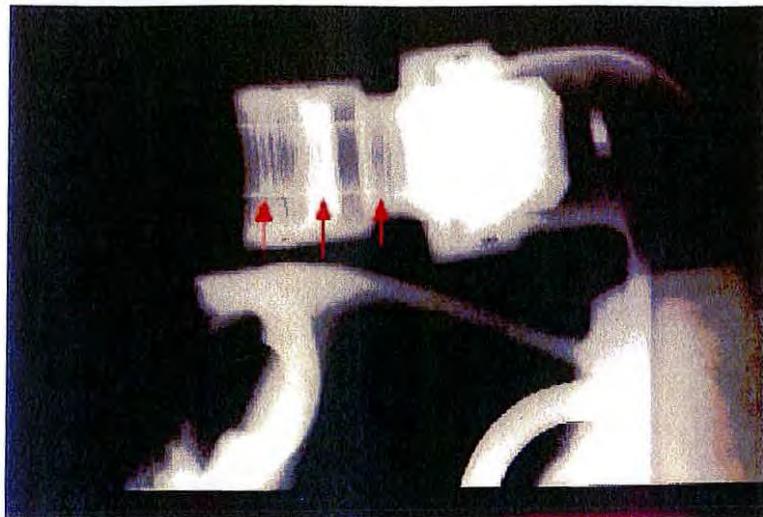


Figure 21: The stiffener in the saddle fitting was obviously askew, arrows.

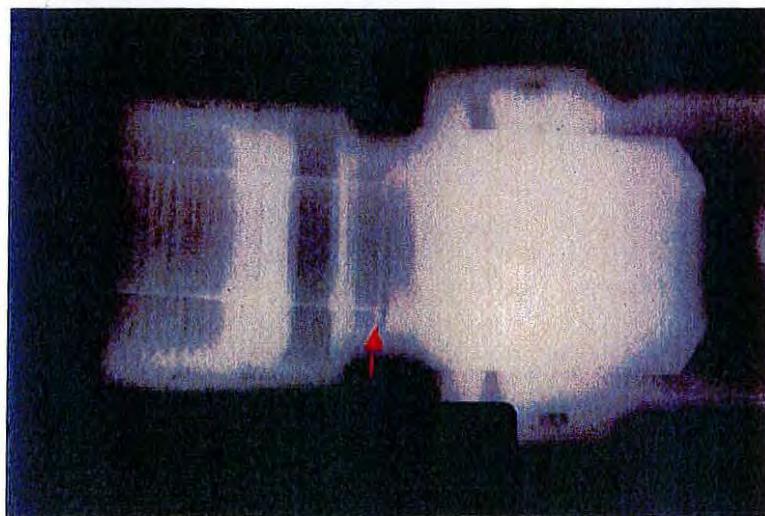


Figure 22: Saddle fitting stiffener detail, arrow.

8(f) -Transition fitting attached to the six inch cast iron main saddle

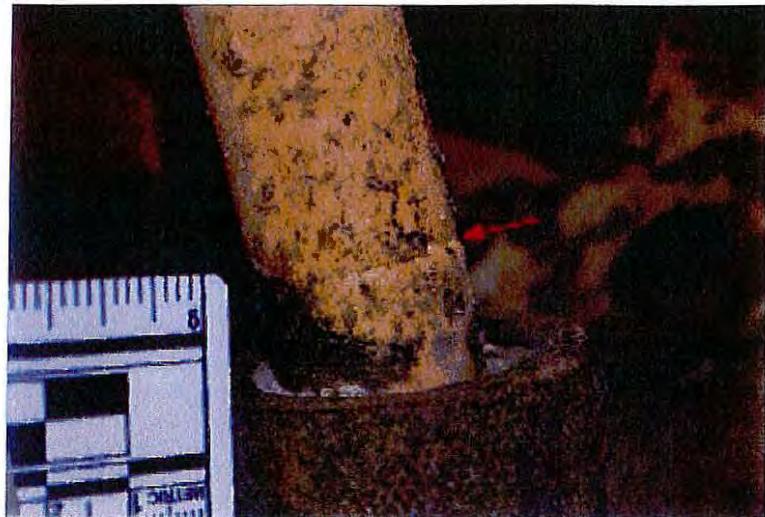


Figure 24: Detail of saddle fitting service pipe after cleaning. Note scrubbed surface texture and dimpled region, arrow.



Figure 25: Facing view of saddle pipe dimple, arrow.

8(g) – Leak at transition fitting attached to the six inch cast iron main saddle

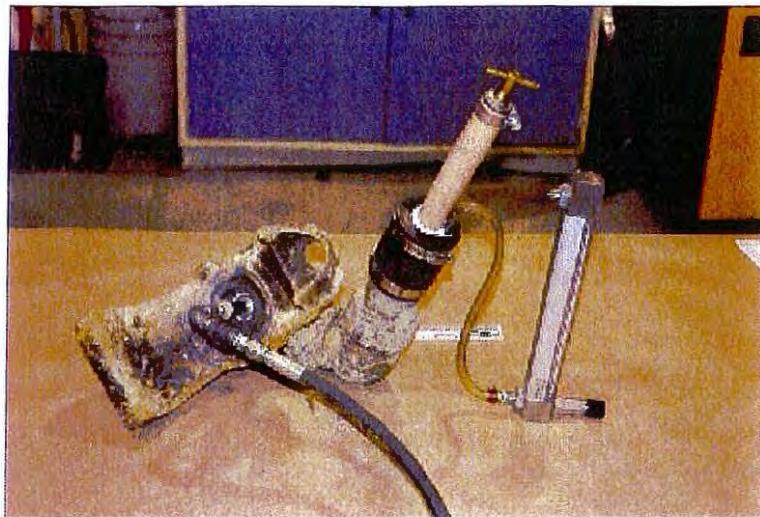


Figure 16: The leak testing apparatus.



Figure 17: The dimpled region was the source of the leak, not the transition fitting, arrow.

8(h) – Leak at transition fitting attached to the six inch cast iron main saddle

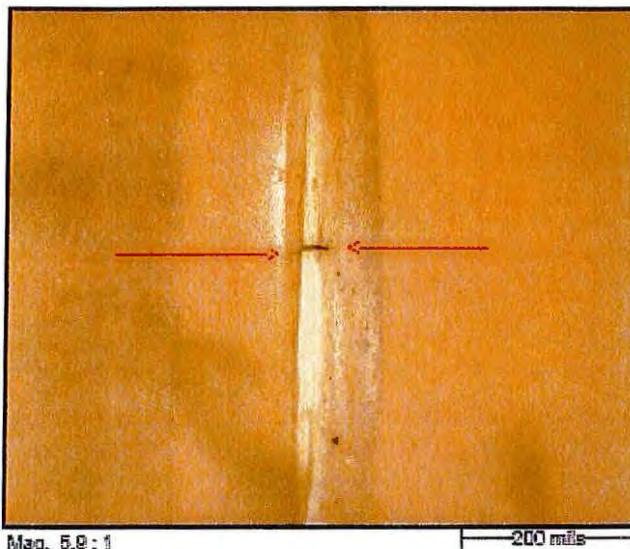


Figure 40: Saddle fitting ID with leak at arrows.

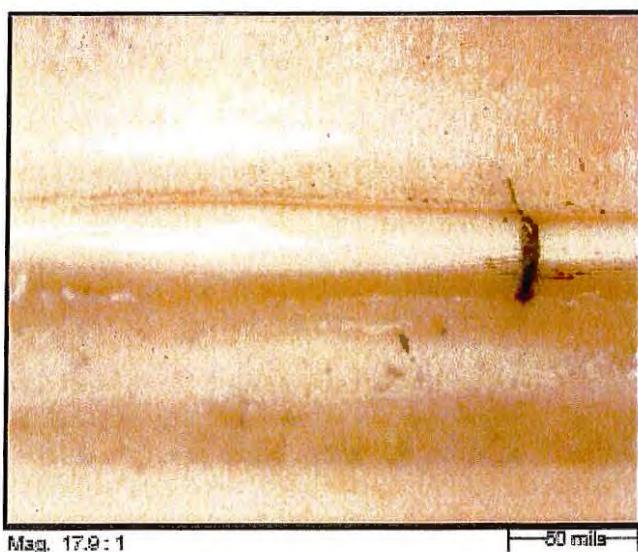


Figure 41: Detail of Figure 40 showing the crack and plastic stretching.

8(i) - Leak at transition fitting attached to the six inch cast iron main saddle

EXHIBIT 9

National Grid Leak Investigation of Customer Piping

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
May 29, 2013

Supplemental Information Request PL 2-1

Respondent: Anthony LaRusso

Request: Refer to National Grid response to IR PL 1-1. Provide:

- (a) the location of the faulty pipe on the customer owned piping referenced in the IR PL 1-1 response;
- (b) provide the name and title of the person who made the determination that a portable electric heater caused the fire;
- (c) provide complete and detailed documentation to support your response.

Response: Joe Connolly from the from Splaine Investigations made the determination that a portable electric heater in the daughter's bedroom on the first floor caused the fire and most probable source of gas was from a faulty pipe on the home owners side of the gas meters. Please see attached photographs (Exhibit PL 2-1) taken of the valve on the customer's piping that did not hold pressure as well as the remains of a heater and extension cords found in the first floor bedroom. We have been informed that the occupant's daughter saw fire on bed and heard what was called an explosion after seeing fire.

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
May 29, 2013

Supplemental Information Request PL 3-2

Respondent: Richard J. Splaine

Request: Refer to National Grid responses to IR PL 1-1 and 2-1. Provide:

- (a) complete and detailed documentation on the background and training of Mr. Connolly sufficient to demonstrate that Mr. Connolly is an expert in the area of determining the response to IR PL 2-1;
- (b) a statement from the witness that informed National Grid that the occupant's daughter saw fire on the bed, and heard what was called an explosion after seeing fire;
- (c) complete and detailed documentation on the pressure test of the piping "that did not hold pressure" referred to in response to IR PL 2-1, including but not limited to; test pressure, test duration, pressure drop documentation;
- (d) test equipment utilized to perform the pressure test of the piping, make, model as referred to in response to IR PL 2-1;
- (e) the operator qualification (or licensing) records of the person(s) that performed the pressure test;
- (f) provide the name and title of the authority that witnessed the pressure test of the piping referred to in response to IR PL 2-1 and;
- (g) complete and detailed documentation to support National Grid's conclusion that "a faulty pipe (or fitting) on the home owners side of the gas meters" was the most probable source of the gas escape.

Response: (a-g) Please see Exhibit PL-3-2 and Exhibit PL-3-1. National Grid investigators' were told by fire investigators from the Town of Winthrop that the daughter saw the bed on fire. The pressure test referred to in IR PL 2-1 was conducted by the investigators from the homeowner's insurance company. National Grid does not have their qualifications.

Splaine Investigations Inc.

14 North Hill Drive
North Falmouth, Massachusetts 02556-2107

Office 508-563-5845

FAX 508-563-3875

E-mail SplaineInv@verizon.net

May 28, 2013

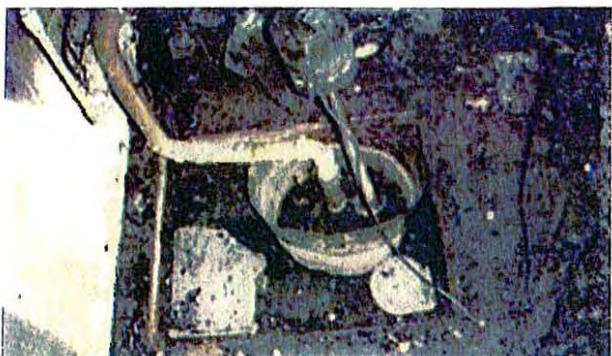
Christopher S. Aronson, Esquire
Senior Counsel
National Grid
40 Sylvan Road
Waltham, MA 02451

Re: Fire Incident – 627 Pleasant Street, Winthrop, Ma
Home Owner: [REDACTED]
Date of Loss: February 23, 2012
National Grid

Mr. Aronson:

As directed, in response to a request from Department of Public Utilities please review the following indicators to support our opinion that the National Grid utility feed was not a source of any gas leak regarding the referenced fire incident.

The fire scene examination and follow-up investigations revealed no avenue for gas vapors to enter the dwelling. No utility supply leaks or orifices were discovered.



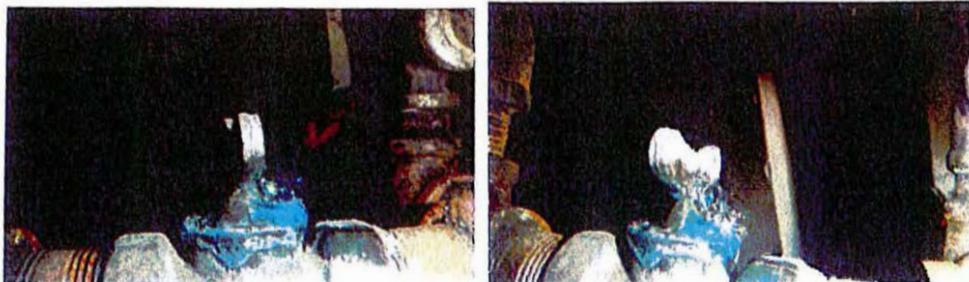
The examination centered around the sump pump area to determine if a leak in the drain pipe occurred and allowed the migration of gas vapors into the dwelling. The area around the sump pipe was excavated and tested with no conclusions. Further examination was requested by the home owners insurance investigators to scope the drain pipe.

On April 9, 2012, the examination continued with the DPU and insurance investigators. Additional excavation was performed and a scope of the pipe was performed with negative results. A minor leak was documented outside the dwelling foundation. The scope procedure was videotaped and we have a copy on file if needed.



It is our continued opinion that the cause of the fire was from an internal source within the dwelling and not from the migration of gas vapors from outside the building. As previously reported, a gas valve located in the basement on the dwelling's side of the gas meter was found to leak as indicated by the bubbles from test soaping and was the most

probable cause for the gas vapor fire in the basement and other areas of the dwelling.



Our fire scene investigation was conducted using the "scientific Method" of fire investigation. The accepted indicators included witness statements, burn patterns, height of burn, direction of burn, electrical arc mapping and propagation of fire. The indicators document the area as being in the basement of the dwelling.

The burn patterns indicate the fire was in the basement and propagated to other areas of the dwelling. Examination of the gas utility revealed no indicator or burn patterns to support the a fire from outside the dwelling or the migration of gas from an external source.

Thank you for the opportunity to provide our service to you. If you need additional information or have any questions please contact us.

SPLAINE INVESTIGATIONS INC

Richard J. Splaine, ME, CFI
Joseph Connolly, CFI

Enclosure

EXHIBIT 10

Operator Qualification Records

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-9

Respondent: Brian Cotting

Request: Provide the operator qualification record for the person(s) who performed the last leakage survey of the main and services before February 23, 2012.

Response: Please see attached as Exhibit PL 1-9 the operator qualification record for the James Riley from Omak Consultants who performed the last leakage survey of the main and services before February 23, 2012.

Exhibit PL 1-9

Company: OMark Consultants (NGA)
Operator: (NGA) Northeast Gas Association
User Task Status Report

Run by: User Nationalgrid
Run on: 08/01/2011

Riley, James

TASK NAME	STATUS
06A - CT06A-Inspecting for atmospheric Corrosion: Distribution Technician	Qualified
06B - CT06B-Inspecting for atmospheric Corrosion: Customer Service Technician	Qualified
08A - CT08A-Visually inspecting for internal corrosion: Distribution Technician	Qualified
08B - CT08B-Visually inspecting for internal corrosion: Customer Service Technician	Qualified
11A - CT11A-Applying pipe coating in the field	Qualified
12A - CT12A-Cleaning and either coating or jacketing pipe for atmospheric corrosion: Distribution	Qualified
17A - CT17A-Repair coating on a steel pipelines: Distribution	Qualified
18 - CT18-Conducting gas leakage surveys	Qualified
19 - CT19-Patrolling and inspecting pipelines	Qualified
20A - CT20A-Investigating Leak/Odor Complaints(Outside)	Qualified
23 - CT23-Inspecting the condition of exposed	Qualified
24 - CT24-Inspect pipe for damage	Qualified
70 - CT70-Properties of Natural Gas and Abnormal Operating Conditions	Qualified

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
April 4, 2013

Information Request PL 2-4

Respondent: Brian Cotting

Request: Refer to National Grid response to IR PL 1-9. Provide:

(a) the Operator Qualification records for James Riley, include in your response previous, current and upcoming qualification dates.

Response: Please find attached as Exhibit PL 2-4 the Operator Qualification records for James Riley. The upcoming qualification dates are listed under the heading of the Next Date. James Riley will be re-qualified for each task as required prior to the expiration of his current qualification.

Exhibit PL 2-4

HISTORY OF EMPLOYEE QUALIFICATIONS

11/16/11 O'Mark Consultants, Inc.

Employee ID: 175 First Name: James Last: Riley
Title: Phone:
Company: O'Mark Consultants, Inc. State:

QUALIFICATIONS

Task ID	Name	Rev Seq	Qualified	Next Date	Revoked
NGA-008A	Inspecting for atmospheric corrosion	1	07/21/11	07/20/16	
NGA-008B	Inspecting for atmospheric corrosion	1	07/21/11	07/20/16	
NGA-008A	Visually Inspecting for internal corrosion	1	07/21/11	07/20/16	
NGA-008B	Visually inspecting for internal corrosion	1	07/21/11	07/20/16	
NGA-018	Conducting gas leakage surveys	1	07/21/11	07/20/16	
NGA-018	Patrolling and inspecting pipeline	1	07/21/11	07/20/16	
NGA-020A	Investigating leak/odor complaints	1	07/21/11	07/20/14	
NGA-070	Properties of natural gas and abnormal operating	1	07/21/11	07/20/14	
NGA-072	Installation of Customer Meters and Regulators	1	07/21/11	07/20/16	

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
April 4, 2013

Information Request PL 2-5

Respondent: Tatiana Roc

Request: Refer to National Grid response to IR PL 1-11. Provide the Operator Qualification records for:

- (a) Michael Ardita and Julie Bentivegna;
- (b) include previous, current and upcoming qualification dates.

Response: Attached as Exhibit PL 2-5 please find Operator Qualification records for Michael Ardita and Julie Bentivegna. The upcoming qualification date is listed under the heading of Retraining Date. These two employees will be re-qualified for each task needed to perform their jobs prior to the expiration of their current qualification.

Exhibit PL 2-5

First Name	Last Name	Item Type	Item ID	Description	Completion Date	Retraining Date	Completion Status
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK06	Q006 Inspecting for atmospheric corrosion	10/28/2002	10/27/2007 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK06	Q006 Inspecting for atmospheric corrosion	09/21/2007	09/19/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK06	Q006 Inspecting for atmospheric corrosion	02/01/2012	01/30/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK06	Q006 Inspecting for atmospheric corrosion	02/05/2013	02/04/2018 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK06	Q008 Visually inspecting for internal corrosion	10/28/2002	10/27/2007 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK08	Q008 Visually inspecting for internal corrosion	09/21/2007	09/19/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK08	Q008 Visually inspecting for internal corrosion	02/01/2012	01/30/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK08	Q008 Visually inspecting for internal corrosion	02/05/2013	02/04/2018 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK11	Q011 Applying pipe coating in the field for maintenance	10/28/2002	10/27/2007 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK11	Q011 Applying pipe coating in the field for maintenance	09/21/2007	09/19/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK11	Q011 Applying pipe coating in the field for maintenance	04/30/2012	04/28/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK11	Q011 Applying pipe coating in the field for maintenance	02/05/2013	02/04/2018 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK12	Q012 Cleaning and other coating pipe for atmospheric corrosion	10/28/2002	10/27/2007 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK12	Q012 Cleaning and other coating pipe for atmospheric corrosion	09/21/2007	09/19/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK12	Q012 Cleaning and other coating pipe for atmospheric corrosion	04/30/2012	04/28/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK12	Q012 Cleaning and other coating pipe for atmospheric corrosion	02/05/2013	02/04/2018 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK15	Q016 Installing/replacing and testing electrical isolation couplings on an existing pipeline	10/28/2002	10/27/2007 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK17	Q017 Repair coating on an existing steel main	09/21/2007	09/18/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK17	Q017 Repair coating on an existing steel main	04/30/2012	04/29/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK17	Q017 Repair coating on an existing steel main	02/05/2013	02/04/2018 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK18	Q018 Conducting gas leakage surveys	10/28/2002	10/27/2005 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK18	Q018 Conducting gas leakage surveys	09/21/2007	09/20/2010 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK19	Q019 Patrolling and inspecting pipeline	02/01/2012	01/31/2015 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK19	Q019 Patrolling and inspecting pipeline	10/28/2002	10/27/2007 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK19	Q019 Patrolling and inspecting pipeline	09/21/2007	09/19/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK20	Q020 Investigating leak/odor complaints	02/01/2012	01/30/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK20	Q020 Investigating leak/odor complaints	11/04/2004	11/04/2007 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK20	Q020 Investigating leak/odor complaints	09/21/2007	09/20/2010 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK20	Q020 Investigating leak/odor complaints	02/01/2012	01/31/2015 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK20	Q020 Investigating leak/odor complaints	11/17/2009	11/16/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK20	Q020 Investigating leak/odor complaints	02/01/2012	01/31/2015 OQ 1-3)(Complete Pass Written,Simulation	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK21	Q021 Line locating and mark out	09/09/2004	09/09/2007 OQ 1-3)(Complete Pass Written,Simulation	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK21	Q021 Line locating and mark out	11/09/2007	11/08/2010 OQ 1-3)(Complete Pass Written,Simulation	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK21	Q021 Line locating and mark out	11/17/2009	11/16/2012 OQ 1-3)(Complete Pass Written,Simulation	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK21	Q021 Line locating and mark out	02/01/2012	01/31/2015 OQ 1-3)(Complete Pass Written,Simulation	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK22	Q022 Inspection of 3rd party excavations for damage prevention	10/28/2002	10/27/2005 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK22	Q022 Inspection of 3rd party excavations for damage prevention	09/21/2007	09/20/2010 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK22	Q022 Inspection of 3rd party excavations for damage prevention	02/01/2012	01/31/2015 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK22	Q022 Inspection of 3rd party excavations for damage prevention	04/30/2012	04/30/2015 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK23	Q023 Inspecting the condition of exposed pipe or pipe coating	10/29/2002	10/27/2005 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK23	Q023 Inspecting the condition of exposed pipe or pipe coating	09/21/2007	09/20/2010 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK23	Q023 Inspecting the condition of exposed pipe or pipe coating	02/01/2012	01/31/2015 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK24	Q024 Inspect the condition of exposed pipe or pipe coating	10/28/2002	10/27/2007 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK24	Q024 Inspect the condition of exposed pipe or pipe coating	09/21/2007	09/19/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK24	Q024 Inspect the condition of exposed pipe or pipe coating	02/01/2012	01/30/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK41	Q041 Inspect valves	09/11/2003	09/09/2009 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK41	Q041 Inspect valves	09/11/2003	09/09/2009 Op Qual Complete Legacy	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK41	Q041 Inspect valves	09/21/2007	09/19/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK41	Q041 Inspect valves	04/30/2012	04/29/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK41	Q041 Inspect valves	02/05/2013	02/04/2018 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK42	Q042 Repair and maintain distribution line valves	09/11/2003	09/10/2006 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK42	Q042 Repair and maintain distribution line valves	09/11/2003	09/10/2006 Op Qual Complete Legacy	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK42	Q042 Repair and maintain distribution line valves	09/21/2007	09/20/2010 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK42	Q042 Repair and maintain distribution line valves	04/30/2012	04/30/2015 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK42	Q042 Repair and maintain distribution line valves	02/05/2013	02/05/2016 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK43	Q043 Lubricate distribution line valves	09/11/2003	09/09/2008 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK43	Q043 Lubricate distribution line valves	09/11/2003	09/09/2008 Op Qual Complete Legacy	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK43	Q043 Lubricate distribution line valves	09/21/2007	09/19/2012 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK43	Q043 Lubricate distribution line valves	04/30/2012	04/29/2017 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK43	Q043 Lubricate distribution line valves	02/05/2013	02/04/2018 OQ 1)(Complete Pass Written	
Julie	Bentivegna	QUALIFICATION	TLD_QQTASK45	Q045 Restore service	10/28/2002	10/27/2007 OQ 1)(Complete Pass Written	

First Name	Last Name	Item Type	Item ID	Description	Completion Date	Retraining Date	Completion Status
Michael	Artila	QUALIFICATION	TLD_QCQTASK31	QCQ31 Installing a pipe by live insertion	02/03/2010	02/08/2013	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK31	QCQ31 Installing a pipe by live insertion	01/20/2012	01/19/2015	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK32	QCQ32 Purging air from pipeline	10/26/2002	10/27/2005	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK32	QCQ32 Purging air from pipeline	05/02/2007	05/01/2010	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK32	QCQ32 Purging air from pipeline	01/23/2012	01/19/2015	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK33	QCQ33 Purging gas from pipeline	10/28/2002	10/27/2005	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK33	QCQ33 Purging gas from pipeline	05/02/2007	05/01/2010	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK34	QCQ34 Performing pressure test on existing pipe	01/20/2012	01/19/2015	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK34	QCQ34 Performing pressure test on existing pipe	10/28/2002	10/27/2005	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK34	QCQ34 Performing pressure test on existing pipe	05/17/2006	05/16/2009	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK34	QCQ34 Performing pressure test on existing pipe	02/09/2010	02/08/2013	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK35	QCQ35 Stopping gas flow	01/23/2013	01/25/2016	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK35	QCQ35 Stopping gas flow	06/23/2005	06/23/2005	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK35	QCQ35 Stopping gas flow	06/17/2006	06/17/2011	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK35	QCQ35 Stopping gas flow	02/09/2010	02/08/2013	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK36	QCQ36 Stopping gas flow	01/25/2013	01/25/2016	OQ 1)(Complete Pass Written, Sim, Perf
Michael	Artila	QUALIFICATION	TLD_QCQTASK36	QCQ36 Abandonment or Deactivation of Facilities	04/23/2005	04/22/2008	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK36	QCQ36 Abandonment or Deactivation of Facilities	08/17/2006	08/17/2011	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK36	QCQ36 Abandonment or Deactivation of Facilities	02/09/2010	02/08/2013	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK37	QCQ37 Tapping pipelines under pressure	01/25/2013	01/25/2016	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK37	QCQ37 Tapping pipelines under pressure	05/24/2004	05/24/2007	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK37	QCQ37 Tapping pipelines under pressure	05/02/2007	05/01/2010	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK37	QCQ37 Tapping pipelines under pressure	02/08/2010	02/08/2013	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK37	QCQ37 Tapping pipelines under pressure	01/25/2013	01/25/2016	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK38	QCQ38 Remove service tee or fitting from steel or cast iron mains	10/28/2002	10/27/2007	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK38	QCQ38 Remove service tee or fitting from steel or cast iron mains	08/23/2005	08/22/2010	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK38	QCQ38 Remove service tee or fitting from steel or cast iron mains	06/17/2006	06/16/2013	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK38	QCQ38 Remove service tee or fitting from steel or cast iron mains	02/09/2010	02/08/2013	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK38	QCQ38 Remove service tee or fitting from steel or cast iron mains	01/25/2013	01/25/2016	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK40	QCQ40 Replace a section of existing tracer wire	05/13/2003	05/12/2008	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK40	QCQ40 Replace a section of existing tracer wire	06/17/2006	06/16/2013	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK40	QCQ40 Replace a section of existing tracer wire	01/25/2013	01/25/2017	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK41	QCQ41 Inspect valves	05/12/2003	05/11/2008	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK41	QCQ41 Inspect valves	06/17/2006	06/16/2013	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK41	QCQ42 Repair and maintain distribution line valves	01/20/2012	01/18/2017	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK42	QCQ42 Repair and maintain distribution line valves	05/13/2003	05/12/2008	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK42	QCQ42 Repair and maintain distribution line valves	06/17/2006	06/17/2011	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK43	QCQ43 Lubricate distribution line valves	01/23/2012	01/23/2017	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK43	QCQ43 Lubricate distribution line valves	05/13/2003	05/12/2008	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK43	QCQ43 Lubricate distribution line valves	06/17/2006	06/16/2011	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK45	QCQ45 Restore service	05/17/2000	05/16/2011	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK45	QCQ45 Restore service	05/17/2006	05/16/2011	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK45	QCQ45 Restore service	01/27/2011	01/26/2016	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK47	QCQ47 Abandon a gas service line	10/26/2002	10/27/2007	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK47	QCQ47 Abandon a gas service line	05/17/2006	05/16/2011	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK47	QCQ47 Abandon a gas service line	02/09/2010	02/08/2015	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	04/23/2004	04/23/2007	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	05/24/2004	05/24/2007	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	05/12/2005	05/11/2006	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	04/05/2006	04/04/2009	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	04/03/2007	04/02/2010	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	04/02/2008	04/02/2011	OQ 1-3)(Complete Pass Written,Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	02/24/2009	02/24/2012	OQ 2-3)(Complete Pass Oral, Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	02/09/2010	02/08/2013	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	01/27/2011	01/26/2014	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	01/26/2012	01/19/2015	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK49	QCQ48 Joining pipe materials other than plastic or steel during maintenance	01/25/2013	01/25/2016	OQ 1)(Complete Pass Written
Michael	Artila	QUALIFICATION	TLD_QCQTASK50	QCQ50 Joining plastic pipe for maintenance	02/24/2009	02/24/2012	OQ 1-3)(Complete Pass Written, Simulation
Michael	Artila	QUALIFICATION	TLD_QCQTASK50	QCQ50 Joining plastic pipe for maintenance	02/09/2010	02/08/2013	OQ 1-3)(Complete Pass Written, Sim, Perf
Michael	Artila	QUALIFICATION	TLD_QCQTASK50	QCQ50 Joining plastic pipe for maintenance	01/27/2011	01/20/2014	OQ 1-3)(Complete Pass Written, Sim, Perf

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
May 6, 2013

Information Request PL 3-6

Respondent: Tatiana Roc

Request: Refer to the Company response to IR PL 2-5.

- (a) Provide operator qualification records after 2005 for Mr. Ardita in Task 18;
- (b) Provide a list of all covered tasks Mr. Ardita must be qualified, to perform his job functions.

Response:

- (a) Provide operator qualification records after 2005 for Mr. Ardita in Task 18;

Mr. Ardita has no operator qualification records for Task 18 after 2005

- (b) Provide a list of all covered tasks Mr. Ardita must be qualified, to perform his job functions:

Below is the list of covered tasks for Mr. Ardita to perform his job functions:

Task 6 - Inspecting for atmospheric corrosion
Task 8 - Visually inspecting for internal corrosion
Task 11 - Applying pipe coating in the field
Task 12 - Cleaning and either coating or jacketing pipe for atmospheric corrosion
Task 14 - Installing/replacing an anode on a pipeline
Task 15 - Installing/replacing and testing electrical isolation couplings on a pipeline
Task 16 - Install/replace a corrosion test station on a pipeline
Task 17 - Repair coating on a steel pipelines
Task 20 - Investigating leak/odor complaints
Task 21 - Line locating and mark out
Task 22 - Inspection of 3rd party excavations for damage prevention/cast iron encroachment
Task 23 - Inspecting the condition of exposed metallic pipe or pipe coating
Task 24 - Inspect pipe for damage
Task 29 - Repair distribution line leaks

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
May 6, 2013

Task 30 - Repair a non-leaking pipe
Task 31 - Installation of pipe
Task 32 - Purging a pipeline into service
Task 33 - Purging a pipeline out of service
Task 34 - Performing pressure test on a pipeline
Task 35 - Stopping gas flow
Task 36 - Abandonment or deactivation of facilities
Task 37 - Tapping pipelines under pressure
Task 39 - Remove service tee or fitting from steel or cast iron mains
Task 40 - Install/Replace tracer wire
Task 41 - Inspect and operate valves
Task 42 - Repair and maintain distribution line valves
Task 43 - Lubricate distribution line valves
Task 45 - Restore service
Task 47 - Abandon a gas service line
Task 49 - Mechanical joining of pipe other than plastic
Task 50 - Joining plastic pipe
Task 51 - Install tapping tee on plastic pipe
Task 52 - Inspect plastic pipe fusion joint
Task 70 - Properties of natural gas and abnormal operating conditions
Task 71 - Operator Excavation and Backfilling in the Vicinity of a Pipeline
Task 72 - Installation of Customer Meters and Regulators

PJQ01 - Electro Fusion
PJQ02 - Various Mechanical Fittings
PJQ03 - Manual Butt Fusion

EXHIBIT 11

Odorant Level Readings

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-21

Respondent: John Barrett

Request: Provide the Odorant level readings taken on Pleasant Street, prior to and after the Incident. Provide operator qualification records for the person(s) who performed the odorant test the day of the incident.

Response: Attached as Exhibit PL 1-21 are records of distinct odor level tests taken before the incident on February 16, 2012 at the Winthrop Fire Department, and directly after the incident on February 23, 2012 at 10:00 and 10:40 am. All distinct odorant levels measured were within legal limits. Please note that the original memorandum from John Barrett was edited on November 16, 2012 to correct a typographical error regarding the calibration date. In addition, please see attached operator qualification records for James Muldowney, Jaques Moron and John Doherty.



**Inter-office Memo
Instrumentation & Regulation NE**

To: File
From: John Barrett
Date: February 23, 2012
Subject: 627 Pleasant St., Winthrop, MA.

On February 23, 2012 at approximately 8:45 p.m. John Doherty, Instrumentation and Regulation Supervisor, was notified of a possible gas related incident at 627 Pleasant St., Winthrop. John Doherty, Jacques Moron (I&R Technician) and James Muldowney (I&R Technician) went to the site. Distinct Odor Level tests were conducted at the Pleasant @Pauline Regulator Station, Winthrop and # 623 Pleasant St., Winthrop. These locations are in close proximity to the incident.

The results of these tests are listed below:

Date	Time	Location	Threshold Odor Level (% Gas in Air)	Distinct Odor Level (% Gas in Air)	Test Equip. ID	Test Equip. Calibration Date	Test By
2/23/2012	10: 00 am	Pleasant @ Pauline Regulator Station	0.04	0.11	#1991-3	May/2012	J.M.
			0.05	0.11	#1991-3	May/2012	J.M.
			0.06	0.12	#1991-3	May/2012	J.D.
2/23/2012	10:40 am	623 Pleasant St. @ water heater	0.03	0.10	#1991-3	May/2012	J.M.
			0.04	0.12	#1991-3	May/2012	J.M.
			0.04	0.11	#1991-3	May/2012	J.D.

cc: Mark Eagan
Tatiana Roc
Christopher Aronson
Ernest Grasso



Inter-office Memo
Instrumentation & Regulation NE

To: File

From: John Barrett

Date: November 16, 2012

Subject: 627 Pleasant St., Winthrop, MA.

On February 23, 2012 at approximately 8:45 p.m. John Doherty, Instrumentation and Regulation Supervisor, was notified of a possible gas related incident at 627 Pleasant St., Winthrop. John Doherty, Jacques Moron (I&R Technician) and James Muldowney (I&R Technician) went to the site. Distinct Odor Level tests were conducted at the Pleasant @Pauline Regulator Station, Winthrop and # 623 Pleasant St., Winthrop. These locations are in close proximity to the incident.

The results of these tests are listed below:

Date	Time	Location	Threshold Odor Level (% Gas in Air)	Distinct Odor Level (% Gas in Air)	Test Equip. ID	Test Equip. Calibration Date	Test By
2/23/2012	10: 00 am	Pleasant @ Pauline Regulator Station	0.04	0.11	#1991-3	May/2011	J.M.
			0.06	0.11	#1991-3	May/2011	J.M.
			0.06	0.12	#1991-3	May/2011	J.D.
2/23/2012	10:40 am	623 Pleasant St. @ water heater	0.03	0.10	#1991-3	May/2011	J.M.
			0.04	0.12	#1991-3	May/2011	J.M.
			0.04	0.11	#1991-3	May/2011	J.D.

cc: Mark Eagan
Tatiana Roc
Christopher Aronson
Ernest Grasso

EXHIBIT 12

**Inside Leakage Survey and Atmospheric Corrosion Records
Main and Outside Services Leakage Surveys**

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 14, 2012

Information Request PL 1-8

Respondent: Brian Cotting

Request: Provide the dates of the inside leakage surveys and atmospheric corrosion inspections performed since 2002 and the results of those inspections.

Response: The last inside leak survey and atmospheric corrosion inspection was performed on March 17, 2011. There was no leak and visual inspection of piping found no corrosion. National Grid will supplement this response with regard to earlier inspections.

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
January 4, 2013

Information Request PL 1-8

Respondent: Brian Cotting

Request: Provide the dates of the inside leakage surveys and atmospheric corrosion inspections performed since 2002 and the results of those inspections.

Response: No further records were found of earlier inspections.

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 21, 2012

Information Request PL 1-7

Respondent: Brian Cotting

Request: Provide the dates of the main and service leakage surveys performed since 2002, and the results on those surveys.

Response: Please see dates and results of leak surveys below.

Information Request PL 1-7

Main and service leakage surveys performed since 2002/results
627 Pleasant Street
Winthrop, MA

Walking Survey

Date/Date Range	Surveyor	Company	Results
08/01/2011	James Riley	Omark Consultants	No leaks located
07/14/2008 - 08/01/2008	Matt Coutu	Omark Consultants	No leaks located
09/06/2005 - 10/20/2005	James McGuire	Union	No leaks located
05/06/2002 - 06/06/2002	B Grabau	Heath Consultants	No leaks located

Mobile Survey

Date/Date Range	Surveyor	Company	Results
09/15/2010	Jamie Johnston	Omark Consultants	No leaks located
04/21/2009	Dave Clough	Union	No leaks located
01/11/2007 - 01/18/2007	J Alvarado	Union	No leaks located
10/26/2006 - 10/27/2006	John Baes	Surveys & Analysis	No leaks located

National Grid
National Grid's Responses to the Department's First Set of Information Requests
627 Pleasant Street, Winthrop Incident Investigation
December 21, 2012

09/15/2004 - 09/17/2004	Hank Perkins	Heath Consultants	No leaks located
03/24/2003 - 03/26/2003	Julie Bentivegna	Union	No leaks located

Winter Patrol

Date/Date Range	Surveyor	Company	Results
02/01/2011	Mike Harris	Omark Consultants	No leaks located
Winter 2010	No Winter Patrol		NA
Winter 2009	Dave Connely	Union	No leaks located
Winter 2008	No Winter Patrol		NA
Winter 2007	J Alvarado	Union	No leaks located
Winter 2006	Roger Breau	Union	No leaks located
Winter 2005	Hank Perkins	Heath Consultants	No leaks located
Winter 2004	John Czarnota	Union	No leaks located
Winter 2003	Julie Bentivegna	Union	No leaks located
Winter 2002	B Grabau	Heath Consultants	No leaks located