

NORTHERN UTILITIES, INC.

ORIGINAL	
N.H.P.U.C. Case No.	DG 11-196
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Witness	Panel 2
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DIRECT TESTIMONY OF  
CHRISTOPHER J. LEBLANC

New Hampshire Public Utilities Commission

Docket No. DG 11-196

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1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Christopher J. Leblanc. My business address is 325 West Rd.  
4 Portsmouth, New Hampshire 03801.

5

6 **Q. What is your position and what are your responsibilities?**

7 A. I am Director of Gas Operations for Unitil Service Corp., a subsidiary of Unitil  
8 Corporation that provides managerial, financial, regulatory and engineering  
9 services to Unitil Corporation's principal subsidiaries Fitchburg Gas and Electric  
10 Light Company, Granite State Gas Transmission, Inc., Northern Utilities, Inc.  
11 ("Northern"), and Unitil Energy Systems, Inc. In this capacity, I manage all of  
12 Unitil's gas operations, and am responsible for the safe, reliable, and efficient  
13 production, transportation and delivery of natural gas service to customers.

14

15 **Q. Please describe your business and educational background.**

16 A. I have 20 years of experience in the utility industry and an extensive background  
17 in the operation, maintenance and construction of natural gas distribution systems.  
18 I have been Operator Qualified in 84 covered tasks and have had formal industry  
19 specific training at the Gas Technology Institute in Gas Distribution Operations,  
20 Transmission Operations, Pipeline Design and Construction Practices and  
21 Regulator Station Design.

1 I joined Unitil in 2000 as a Field Technician; advanced to Project Leader in 2002;  
2 to Manager, Gas Operations in 2003; and assumed my current responsibilities as  
3 Director, Gas Operations in 2008. Prior to joining Unitil, I was employed for nine  
4 years at R.H. White Construction Co., Inc., where I was responsible for leading  
5 and directing field crews in construction and installation of underground utility  
6 infrastructure.

7

8 I hold a Bachelor of Arts degree in Business Administration from Assumption  
9 College a Master's degree in Business Administration at the same institution.

10 Additionally, I have completed civil engineering course work at the University of  
11 Massachusetts, Lowell.

12

13 **Q. Have you previously testified before this Commission or other regulatory**  
14 **agencies?**

15 A. I have participated in various meetings and technical conferences at the  
16 Commission on matters pertaining to gas pipeline safety in other dockets,  
17 including matters directly related to this proceeding. In addition, I have testified  
18 before the Maine Public Utilities Commission regarding operational and safety  
19 compliance matters in Docket No. 2008-151, *Investigation into Cast Iron*  
20 *Replacement Program in Portland and Westbrook for Northern Utilities, Inc. d/b/a*  
21 *Unitil* and Docket No. 2011-92, *Proposed Increase in Base Rates*. I have also  
22 participated in various meetings and technical conferences before the Maine Public  
23 Utilities Commission and the Massachusetts Department of Public Utilities.

1 **II. SUMMARY OF TESTIMONY**

2 **Q. What is the purpose of your testimony?**

3 A. The purpose of my testimony is to: (1) provide an overview of the New Hampshire  
4 distribution system and our infrastructure replacement efforts; (2) describe the  
5 Company's operating objectives and commitment to safety; (3) describe the  
6 Company's operations, maintenance and safety programs; (4) describe the  
7 Company's emergency response protocols

8  
9 **Q. Please summarize your testimony.**

10 A. The key highlights of my testimony are summarized below. Each of these will be  
11 more fully described in the testimony that follows:

- 12 • Northern's system is constructed predominantly of state of the art materials  
13 that are not prone to leaks. Approximately 93.5% of Northern's mains and  
14 97% of Northern's services are constructed of plastic or cathodically protected  
15 steel pipe. In addition, the Company has an aggressive infrastructure  
16 replacement program in place to eliminate all remaining leak-prone pipe  
17 materials from its system by 2017.
- 18 • The Northern system experiences very few leaks, and there are no unrepaired  
19 leaks that could pose a threat to public safety. Just 1.3% of odor calls involve  
20 potentially hazardous leaks. On average, Northern responds to just 4-5 odor  
21 calls per year outside of regular hours that involve a potentially hazardous leak.
- 22 • The cornerstones of the Company's pipeline safety program are inspection,  
23 maintenance and preventative measures that eliminate and prevent leaks and  
24 incidents from occurring *before* they pose a hazard (proactive versus reactive).
- 25 • Until's leak survey and inspection programs far exceed state and federal  
26 standards. Technicians and first responders are outfitted with state-of-the-art  
27 laser methane and portable methane detectors. Leaks are typically detected  
28 *before* customers are able to detect odor, and are repaired immediately.

- 1           •   Unitil has implemented advanced technology systems including integration of  
2           the Company’s Geographic Information System (GIS) and Compliance  
3           Management System (CMS) into a “smart” system that continually monitors  
4           distribution system activities and provides key engineering and operations  
5           personnel with immediate pipeline safety notifications. The Company is also  
6           implementing mobile data capture to support dynamic mobile leak surveys and  
7           dynamic service line inspections.
- 8           •   Unitil participates in the Dig Safe one call notification system in conjunction  
9           with a Dig Track damage prevention program that flags “high risk” contractors  
10          and locations when a call is first received.
- 11          •   The Company believes an effective emergency response involves far more  
12          than just “punching a clock”, or meeting a response time standard. Our  
13          procedures are designed from end-to-end to protect people first, then property,  
14          and then the distribution system.
- 15          •   All of the Company’s call center representatives and dispatchers are trained  
16          and qualified to handle gas emergencies, and to immediately initiate actions  
17          and instructions to protect people first, including evacuations and other safety  
18          instructions. Protecting the public begins *before* the first technician arrives.
- 19          •   All of the Company’s first responders are equipped with advanced  
20          technologies (e.g., portable methane detectors), access to information systems  
21          (e.g., GIS, CMS), and specialized training to maximize and improve decision-  
22          making on the scene.
- 23          •   The Company has implemented the Incident Command System (ICS) as the  
24          foundation of its emergency response plan, conducts full system drills annually  
25          to test and practice emergency response capabilities, and conducts joint  
26          training exercises with local Fire Departments.
- 27          •   The Company provides better and faster emergency response to the Salem,  
28          Plaistow, and Atkinson area than was the case prior to Unitil’s acquisition of  
29          Northern, an area that had been of concern to the Commission.
- 30          •   **We believe our inspection, maintenance, and damage prevention**  
31          **programs are at the forefront of industry best practice and are designed to**  
32          **identify and eliminate risks before they pose a public safety concern.**

33

34

1 **III. DESCRIPTION OF NORTHERN'S DISTRIBUTION SYSTEM**

2 **Q. Please provide a brief description of Until's gas distribution system in New**  
3 **Hampshire.**

4 A. The Company's distribution system consists of a network of approximately 500  
5 miles of natural gas mains providing service to 21 communities in New  
6 Hampshire. A map of Northern's New Hampshire service territory is provided as  
7 Attachment A. The gas main network is divided into 44 separate distribution  
8 systems that operate at a variety of operating pressures. Of these 44 distribution  
9 systems, 1 is an isolated system (Atkinson, Salem & Plaistow) and the remaining  
10 43 are integrated with other systems that provide supply and pressure regulation  
11 through a series of 45 district regulator stations. In addition to these district  
12 regulator stations, the New Hampshire system has 15 points from which it is  
13 supplied gas by Granite State Transmission and one point from which it is  
14 supplied gas by the Maritimes and Northeast Transmission line. In addition to the  
15 500 miles of mains, there are approximately 20,868 gas services that serve  
16 approximately 28,000 customers throughout the New Hampshire distribution  
17 system.

18

19 **Q. What piping materials are currently used in Northern's system?**

20 A. The Unutil natural gas distribution system is constructed predominately of plastic  
21 and cathodically protected coated steel pipe. Only about 6.5% of the gas mains and  
22 2.75% of the services are of cast iron or unprotected (i.e., non-cathodically

1 protected) steel pipe. Table CJL-1 provides a breakdown of Northern's mains and  
2 services by the type of pipe material.

3 **Table CJL-1**

Breakdown / Pipe Material	MAINS		SERVICES	
	(miles)	(%)	(number)	(%)
Unprotected Bare Steel	28.34	5.68%	431	2.07%
Unprotected Coated Steel	4.42	0.89%	141	0.68%
Cathodically Protected Bare Steel	0	0.00%	2	0.01%
Cathodically Protected Coated Steel	80.89	16.21%	160	0.77%
Plastic	375.51	75.26%	20,072	96.19%
Cast & Wrought Iron	9.63	1.93%	5	0.02%
Other	0.15	0.03%	57	0.27%
<b>TOTALS</b>	<b>498.94</b>	<b>100.00%</b>	<b>20,868</b>	<b>100.00%</b>

4

5 **Q. Does the Company have a program to replace bare steel and cast iron pipe?**

6 A. Yes. The Company has an aggressive bare steel pipe replacement program and all  
7 bare steel and/or unprotected steel pipe is scheduled to be replaced by the end of  
8 the 2017 construction season. Cast iron pipe is replaced in conjunction with  
9 municipal construction projects and due to poor performance. It is also anticipated  
10 that cast iron will also be replaced over the next few years.

11

12 **IV. PIPELINE SAFETY OBJECTIVES**

13 **Q. What is Unutil's primary objective for the operation of its natural gas delivery**  
14 **system?**

15 A. Our primary objective is the delivery of safe and reliable natural gas service to our  
16 customers. Because we transport a flammable material on our system, public

1 safety is paramount. Unitil maintains strict compliance with all applicable federal  
2 and state pipeline safety rules and engages in industry best practices that often  
3 exceed code mandated requirements.

4

5 **Q. Please describe how emergency response activities are used to meet the**  
6 **Company's pipeline safety objectives.**

7 A. Effective emergency response is of fundamental importance in ensuring public  
8 safety, but it is just one component of a comprehensive approach in ensuring the  
9 safe delivery of natural gas. The Company's philosophy is focused around  
10 implementing programs that attempt to identify and correct issues before they  
11 become an emergency situation. In other words, the "cornerstone" of Unitil's  
12 pipeline safety approach is to aggressively implement programs (e.g. damage  
13 prevention, leak survey, continuing surveillance) in order to prevent these types of  
14 events from happening in the first place. However, when an emergency does occur  
15 the Company responds in an effective and efficient manner that ensures the public  
16 safety objectives are met.

17

18 **Q. Is this operating philosophy effective in protecting public safety?**

19 A. Yes. The Company believes that an aggressive proactive approach that prevents  
20 emergencies from happening in the first place should be the foundation of all  
21 pipeline safety programs. Emergency response by definition is a reactive approach  
22 and our goal is minimize or eliminate these events as much as possible.

23

1 **Q. How does Until accomplish this objective?**

2 A. The Company has a wide variety of programs and procedures that have been  
3 established to ensure the safe and reliable operation of the gas distribution system.  
4 These programs include damage prevention, leak management, pressure  
5 regulation, Global Positioning System (“GPS”)/Geographical Information System  
6 (“GIS”) Technology enhancements, outage management, Quality Assurance &  
7 Quality Control (“QA/QC”) programs and a robust continuing surveillance  
8 program. All of these programs meet or exceed all applicable federal and state  
9 pipeline safety rules, are considered industry best practice and have been  
10 developed to mitigate risks that are specific to the Company’s distribution system.  
11 These programs have been developed to identify and eliminate threats before they  
12 become an emergency.

13

14 **Q. Have these programs been effective?**

15 A. Yes. Based on an analysis of Northern’s 2010 – 2011 emergency response data,  
16 approximately 89% of all odor complaints are found to be “negative,” or no gas  
17 issues were identified during the investigation. Of the remaining calls where gas  
18 was detected, 88% of such calls were associated with non-hazardous leaks. Thus,  
19 only 1.3% of Northern’s emergency calls are associated with a potentially  
20 hazardous situation. On average, Northern experiences just 4-5 hazardous leaks  
21 per year outside of normal hours.

22

1 **V. OPERATIONS, MAINTENANCE AND SAFETY PROGRAMS**

2 **Q. Please describe the Company's programs and procedures that detect natural**  
3 **gas leaks.**

4 **A.** As required by state and federal code and detailed in our Operations &  
5 Maintenance procedures, the Company performs a number of patrols and leak  
6 surveys. The state and federal codes set forth the minimum requirements, but  
7 Unutil's approach is to use these requirements as the baseline and then to expand  
8 and exceed code requirements in a proactive attempt to find and eliminate issues  
9 before they become a safety concern. The surveys and inspections include those  
10 which are briefly described below.

11 Mobile Leak Surveys Outside of Business Districts are conducted on all  
12 distribution mains and entail a slow speed mobile survey utilizing laser  
13 methane detection equipment. Any positive leak indications are identified  
14 and classified using a combustible gas indicator following prescribed  
15 procedures. Unutil is implementing a risk based approach to mobile leak  
16 survey frequency under which cast iron and bare steel pipe will be leak  
17 surveyed at least annually, and plastic and cathodically protected steel will  
18 be leak surveyed on intervals not to exceed three years.

19 Business District Surveys are conducted on all company identified business  
20 districts. These surveys include tests of the atmosphere over mains, service  
21 lines, meter sets, vaults, manholes, catch basins, other utility openings and  
22 other locations that provide an opportunity for finding gas leaks. These  
23 surveys are conducted annually usually between the months of April and  
24 December.

25 Public Building Surveys are leak surveys of schools, churches, hospitals,  
26 theaters and arenas. These surveys include tests for gas leakage and visual  
27 inspection of gas facilities in the immediate area of the service entrance. In

1 addition, Unitil requires the installation of curb-valves<sup>1</sup> on all services  
2 designated as Public-Buildings and the annual survey also includes a curb-  
3 valve inspection for access and operability.

4 Winter Patrols are mobile leak surveys of all cast iron mains during winter  
5 months to identify hazards from frost induced ground force damage to the  
6 cast iron piping system. Unitil continuously surveys all cast iron pipes  
7 through the winter months and completes a full leak survey of the cast iron  
8 system cast every 5-7 days.

9 Service Line Surveys are leak surveys and exposed pipe atmospheric  
10 corrosion inspections of all service lines connected to the distribution  
11 system. These surveys begin at the connection point of the gas service to  
12 the gas main and end at the outlet of the meter(s) and also provide  
13 additional opportunities to discover any leaks associated with the gas main.  
14 Unitil has implemented a risk based approach in conducting service line  
15 leakage surveys with the cycle times in the range of 1-3 years depending on  
16 the material, age, location and other risk factors.

17 Exposed Pipe Surveys are visual inspections and leak surveys of all  
18 exposed (above ground) jurisdictional piping. The Company performs  
19 these surveys in conjunction with the service line survey, but also requires  
20 this inspection to be conducted whenever a service technician visits a  
21 customer's premises. With this proactive approach many service lines are  
22 inspected far more often than regulatory requirements.

23 Poor or At Risk Pipe Surveys are identified as part our continuing  
24 surveillance program, which will be explained later in this testimony. Pipe  
25 segments that have been identified as "at risk" or in poor condition are  
26 evaluated based on material, size, operating pressure, location, ground  
27 cover, scheduled replacement and leakage history. Additional leakage  
28 surveys are then required commensurate with the risk.

29 Pre-Paving Surveys are comprehensive surveys done prior to and in  
30 conjunction with municipal and state road resurfacing projects. Unitil  
31 proactively seeks advance notice of all street reconstruction projects and  
32 promptly evaluates the affected main segments to determine if repair or  
33 replacement is warranted.

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<sup>1</sup> A type of service-line valve installed for the purpose of shutting off gas supply. It is typically installed below grade at or near the property line.

1

2 **Q. Were these programs implemented in the same manner prior to the**  
3 **acquisition?**

4 A. No. Prior to the acquisition Northern followed a program that in most cases  
5 followed the minimum guidelines established by the federal and state codes.  
6 Unitil's approach is to implement programs exceeding state and federal safety  
7 standards and to continuously evaluate the performance of the system and safety  
8 programs in order to adjust survey schedules to effectively allocate resources in  
9 the best way to improve safety.

10

11 **Q. Have these programs been effective in improving the safety of the distribution**  
12 **system?**

13 A. Yes. We believe that our aggressive approach to leak surveys, inspections, and  
14 other safety programs allows us to identify and eliminate issues before they  
15 become a safety concern and this is the most effective way to ensure public safety.

16

17 **Q. How does Unitil prioritize the repair of natural gas leaks and what is the basis**  
18 **for making those determinations?**

19 A. Unitil relies upon guidance material developed by the Gas Piping Technology  
20 Committee ("GPTC")<sup>2</sup> for determining the level of risk associated with gas leaks.

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<sup>2</sup> GPTC is an independent technical committee accredited by the American National Standards Institute ("ANSI") as ANSI/GPTC Z380.1. The GPTC provides guidance to assist natural gas operators with their implementation of pipeline safety programs that comply with federal regulations.

1 Leaks are classified using a grading system that considers both the severity of the  
2 leak (amount of gas released) and the consequences of ignition (threat to public  
3 safety). Our field personnel responsible for grading leaks receive specialized  
4 training on leak investigation and leak grading. This annual training includes  
5 classroom instruction on equipment use, equipment calibration, leak grading  
6 criteria and a series of real world table top exercises that require first responders to  
7 make critical safety decisions. The GPTC classification guidelines, which are  
8 generally considered to be the industry standard for natural gas operators,  
9 classifies leaks into three grades, defined as follows:

10 Grade 1 Leak – a leak that represents an existing or probable hazard to  
11 persons or property, and requires prompt action, immediate repair, or  
12 continuous action until the conditions are no longer hazardous.

13 Grade 2 Leak – a leak that is recognized as being non-hazardous at the time  
14 of detection, but justifies scheduled repair or removal based on the  
15 probability of future hazard.

16 Grade 3 Leak – a leak that is non-hazardous at the time of detection and  
17 can be reasonably expected to remain non-hazardous.

18 **Q. How does Unitil prioritize and schedule leak repairs after leaks are detected  
19 and graded?**

20 A. Unitil relies upon action criteria and repair guidelines developed by the GPTC for  
21 the three leak grade classifications as a base line, though the procedures developed  
22 by Unitil for the repair, re-evaluation and clearing of gas leaks greatly exceed the  
23 GPTC guidelines and can be considered an industry best practice. As I will  
24 describe in detail later in my testimony, Unitil also uses GIS and GPS technology

1 to systematically capture and track all system leaks. Unitil’s CMS captures this  
2 information not just by street, but by the specific pipe segment and is also the  
3 database for detailed leak repair information. These practices exceed code  
4 requirements and are consistent with industry best practice.

5

6 **Q. Where these programs in place when Unitil acquired Northern Utilities?**

7 A. No. Unitil adopted a “best practice” approach as we integrated Northern into the  
8 Unitil’s existing operations, and implemented these practices across all of the  
9 Company’s operations.

10

11 **Q. Has the program Unitil implemented been effective?**

12 A. Yes. These practices ensure a proactive approach with active oversight and  
13 provide the tools necessary make good and timely decisions for a robust leak  
14 management program that enhances public safety.

15

16 **Q. How many leaks will Northern have on its system by year end?**

17 A. At year end the Company will have no Grade 1 leaks, no Grade 2 leaks and  
18 approximately 20 – 25 Grade 3 leaks. Grade 3 leaks, as I explained earlier in my  
19 testimony, are non-hazardous leaks that are expected to remain non-hazardous.  
20 These leaks are predominately on bare steel or other pipe materials that are being  
21 replaced through pipe replacement programs and Northern does not usually

1 “repair” these sections. Instead, Northern eliminates these leaks through pipe  
2 replacement for more effective allocation of resources.

3

4 **Q. Please describe the Company’s continuing surveillance program.**

5 A. The Company has instituted a robust continuing surveillance program that is  
6 designed to monitor the system and identify pipe segments that may be hazardous  
7 or in unsatisfactory condition. As a cornerstone of this program, the Company has  
8 integrated our GIS and Compliance Management System (“CMS”) into a “smart”  
9 system that continually monitors distribution system activities and provides key  
10 engineering and operations personnel immediate pipeline safety notifications (e-  
11 mail based system) when certain events occur on the distribution system (e.g.,  
12 corrosion leaks on cathodically protected mains, third party damages, very poor  
13 pipe reports). This ensures awareness and allows for further analysis to develop  
14 risk mitigation strategies when necessary.

15

16 **Q. Please describe the Company’s Damage Prevention Program.**

17 A. Unitil participates in the one call system through the Dig Safe program. In  
18 conjunction with our Dig Track damage prevention program, the Company is  
19 notified of planned third party excavations and marks out all underground gas  
20 facilities accordingly. We have also implemented additional programs that  
21 mitigate the potential risk of third party damages to the distribution system.

22

1 **Q. Please describe other programs that the Company has implemented that are**  
2 **designed to mitigate the risk from third party excavation damages?**

3 A. Among the programs the Company has implemented to proactively address and  
4 mitigate the risk of third party damage are the following:

- 5 - The Company has developed and implemented a risk assessment procedure  
6 that requires locate personnel to perform an initial risk assessment for all  
7 dig safe tickets. Tickets identified as high risk are further analyzed by  
8 operations personnel and a risk-specific mitigation strategy is then  
9 formulated and implemented.
- 10 - The Company has developed and implemented a “high risk” contractor  
11 identification system using our Dig Track ticket management program to  
12 automatically flag tickets requested by contractors with a history of causing  
13 third party damage.
- 14 - The Company has developed and implemented a “high risk” location  
15 program that automatically flags incoming tickets that are within specific  
16 geographic locations that the Company considers high risk areas.
- 17 - The Company has implemented a positive response safety message for all  
18 Dig Safe tickets that are requested on the system. This safety message is  
19 provided to all contractors and provides details on regulations; provides  
20 general information on gas pipe material; provides instruction on how to  
21 recognize and what to do in an emergency and also provides emergency  
22 and non-emergency contact information.

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**Q. Are there other ways in which the Company promotes pipeline safety?**

A. Yes. The Company utilizes a variety of technologies to proactively improve how we monitor, maintain and operate the distribution system. With the GIS system as the foundation, the Company can leverage and integrate other technology in a geospatial environment that enhances system analysis, awareness and review. A few examples of these programs include:

- GPS Data Collection: Unutil currently uses GPS technology to model existing and newly-installed gas facilities (e.g., service tee’s, tie-ins, fittings and points of inflection) in a geospatial environment and requires professional-grade equipment that ensures sub-foot accuracy.
- Compliance Management System (“CMS”): Is the Company’s central database for all records associated with asset management, operations, and maintenance of the distribution system (e.g. service cards, service asset information, active leaks, historical leaks, main records and critical valves) and is available 24/7 to all field personnel via mobile applications. The system integrates data from other key systems (e.g. GIS, CIS and MDS) and also provides a linkage from the customer (meter) to the service and to the gas main. In essence, it replaces paper filing systems and moves information into the field for immediate access by emergency personnel and is invaluable for rapid assessment and response in emergencies.

- 1           - Bar Code Scanning: Unitil is implementing an asset management system that  
2           captures detailed asset information (*e.g.*, size, material, SDR<sup>3</sup>, Lot No.) on  
3           newly installed facilities along with GPS coordinates. These asset attributes  
4           will be stored in our GIS mapping system together with a geospatial reference  
5           point for its location.
- 6           - GPS/GIS Mobile Leak Survey: The Company is implementing a fundamental  
7           change in the management and implementation of our mobile leak survey  
8           program. Utilizing the existing vehicle-mounted computer equipment, the  
9           program will leverage GIS and GPS technology for real-time tracking and  
10          capture of all mobile leak survey data. In addition, this technology will  
11          interface with our existing leak survey equipment to record actual results.
- 12          - Leak Survey Equipment: The Company is implementing a significant upgrade  
13          to existing leak survey equipment and is rolling out this equipment to all  
14          emergency first responders. New Portable Methane Detectors (“PMD’s”) use  
15          filtered infrared spectroscopy technology that is methane specific and is highly  
16          sensitive and can detect natural gas in the range of 1 PPM, greatly enhancing  
17          and improving the Company’s response to emergency gas leaks.

18

19 **VI. EMERGENCY RESPONSE**

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<sup>3</sup> SDR is the Standard Dimension Ratio, which is a method used for pressure rating plastic pipe. The SDR is the ratio of outside pipe diameter to wall thickness, expressed as the equation  $SDR = \text{Diameter} / \text{Wall thickness}$ . The lower the SDR the higher the pressure rating of the pipe.

1 **Q. Please Describe Unitil's Emergency Response Objectives.**

2 A. The objective of Unitil's emergency response to ensure effective response in order  
3 to minimize the hazards from potential natural gas emergencies. Our responders  
4 protect people first, then property and then the continuity of the distribution  
5 system.

6

7 **Q. During gas odor complaints when does Unitil begin implementing procedures**  
8 **to protect public safety?**

9 A. As soon as an odor call is received, Unitil implements procedures ensuring that we  
10 protect people first. All of the Unitil's dispatchers and Call Center representatives  
11 are trained and qualified to handle emergency calls including the initiation of  
12 actions that protect people first. This includes evacuations and other safety  
13 instructions (e.g. turning on or off appliances, phones etc.) that are designed to  
14 ensure safety. In this manner the Company is initiating steps to protect the public  
15 well before the first technician arrives.

16

17 **Q. Has the Company implemented other measures to improve the emergency**  
18 **response activities of Northern?**

19 A. Yes. Using a single metric, such as response time, as the sole measure of a utility's  
20 response fails recognize and properly evaluate the full extent and effectiveness of  
21 the utility's emergency response strategy and capabilities. Unitil has implemented  
22 a series of improvements at Northern that significantly improved its response  
23 capabilities. These include the following:

- 1                   - GIS Mapping Technology: All emergency responders have full access  
2                   to GIS maps and data in the field at the scene of the call. These maps  
3                   provide the responder with all gas main attributes including pipe size,  
4                   material, operating pressure, system I.D. valve location and a “leak  
5                   layer” that geospatially displays all active and repaired leaks on the  
6                   system. This information provides the emergency responder with  
7                   immediate access to the information needed for proper decision making  
8                   in an emergency. Prior to Unitol’s acquisition of Northern, this  
9                   information was unavailable in the field.
- 10                  - Compliance Management System (“CMS”): As mentioned previously  
11                  in my testimony, the CMS System is the database for all gas records  
12                  (e.g. service cards, leak information, critical valve plan, system  
13                  inspections, mains data). These records are also available to all field  
14                  personnel including first responders through a web application, and are  
15                  a source of invaluable information when assessing emergencies. In the  
16                  past, access to these records required a telephone call back to the office,  
17                  and if someone was available (i.e. during business hours only) they  
18                  would research paper records in file cabinets.
- 19                  - Leak Survey Equipment: All emergency first responders have been  
20                  equipped with vehicle mounted Portable Methane Detectors (“PMD”).  
21                  These units are a significant enhancement to our emergency response  
22                  capabilities due to their extreme sensitivity, allowing for quick and  
23                  accurate leak investigation over large areas. The ability to identify a

1 hazard quickly allows for better and faster decision making when  
2 responding to potential emergencies.

- 3 - Fire Retardant (“F.R.”) Clothing: The Company has outfitted all  
4 emergency first responders with FR Clothing and other protective  
5 equipment that allows safe ingress into gaseous atmospheres for the  
6 ability address emergency situations safely and effectively.
- 7 - Training: All first responders receive extensive training on leak  
8 investigation and action criteria including a series of table top exercises  
9 that require first responders to make critical safety decisions. In  
10 addition, we have constructed, at our Portsmouth facility, a “hands-on”  
11 training facility that simulates emergency situations under real world  
12 conditions to give emergency responders experience in a controlled  
13 training environment. The Company has also conducted joint training  
14 at this facility with the Portsmouth Fire Department to improve  
15 communication and cooperation during real world emergencies.
- 16 - System Drills: The Company has also implemented the Incident  
17 Command System (“ICS.”) for responding to all types of system  
18 emergencies, of any scale in a safe and effective manner. In addition to  
19 the other training, the Company conducts an annual full system drill to  
20 test and practice our emergency response capabilities.

21  
22 **Q. Were these programs in place prior to Unitil’s acquisition of Northern?**

1 A. No. To the best of my knowledge these types of programs were not in place prior  
2 to the acquisition. We implemented these programs to improve the effectiveness of  
3 our emergency response capabilities.

4

5 **Q. Has the Staff considered these improvements in assessing the Company's**  
6 **emergency response performance and determining that sanctions should be**  
7 **assessed?**

8 A. No. In its memorandum to the Commission, the Staff focused solely on the  
9 Company's response time to the Emergency Response Standards. No  
10 consideration has been given to the effectiveness of our response, which is  
11 determined by how well all the pieces of a response are executed (e.g. call center,  
12 dispatching, technician equipment and training).

13

14 **Q. Does Unifil agree with using the Emergency Response Standards as the sole**  
15 **measure of a company's emergency response?**

16 A. No. Emergency response and effectively protecting public safety is much more  
17 than "punching" a time clock. Effective emergency response results from the  
18 successful execution of the entire emergency response process. Response time is  
19 important, but it is just one facet of many that should be evaluated in determining a  
20 "passing score." Other measures should be considered, including call center  
21 practices, technician training, equipment and other tools, access to information,  
22 and written response procedures.

23

1 **Q. Has Northern met the response time objectives as established by the**  
 2 **settlement agreement?**

3 A. Not entirely. While the Company has undertaken extensive efforts to meet the  
 4 Emergency Response Standards, including changes to staffing, working hours and  
 5 shift coverage enabling it to meet the majority of the metrics, we've been unable to  
 6 meet all nine standards. Table CJL-2 provides the results of our emergency  
 7 response from 2009 – Q1-2011

8 **Table CJL-2:**

Response Objectives	Time of Call	Goal	Actual Response		
			2009	2010	2011 YTD
60 Minutes	Normal Hours	97%	96%	<b>100%</b>	<b>100%</b>
	After Hours	95%	<b>98%</b>	<b>100%</b>	<b>100%</b>
	Weekends/Holidays	94%	<b>98%</b>	<b>99%</b>	<b>98%</b>
45 Minutes	Normal Hours	90%	<b>95%</b>	<b>97%</b>	<b>98%</b>
	After Hours	86%	<b>94%</b>	<b>95%</b>	<b>97%</b>
	Weekends/Holidays	84%	<b>84%</b>	78%	<b>86%</b>
30 Minutes	Normal Hours	82%	<b>84%</b>	<b>89%</b>	<b>89%</b>
	After Hours	80%	67%	75%	79%
	Weekends/Holidays	76%	54%	45%	51%
<b>Bold indicates where Unitil has met or exceeded the established goal</b>					

9

10 **Q. By how much is Northern missing the response time objectives?**

11 A. Table CJL-3 below shows our performance relative to goal, in minutes, for the first  
 12 three quarters of 2011.

13 **Table CJL-3:**

Time of Call	Percentage Objective	Response (mins)		Actual vs Goal
		Goal	Actual	
Normal Hours	97.00%	60	41	-19
After Hours	95.00%	60	42	-18
Weekends/Holidays	94.00%	60	52	-8
Normal Hours	90.00%	45	31	-14
After Hours	86.00%	45	36	-9
Weekends/Holidays	84.00%	45	43	-2
Normal Hours	82.00%	30	27	-3
After Hours	80.00%	30	31	1
Weekends/Holidays	76.00%	30	41	11

1

2 **Q. Did Unitil improve on the response time results since the acquisition of**  
 3 **Northern Utilities?**

4 A. Yes. Under the previous owner Northern met only 5 of the 9 standards, as shown  
 5 in Table CJL-4.<sup>4</sup> Unitil’s current performance, also shown below, has improved in  
 6 every single standard.

7 **TABLE CJL-4:**

Response Objectives	Time of Call	Goal	NU Response 9-11-07 to 9-11-08	Unitil 2011 YTD
60 Minutes	Normal Hours	97%	99.7%	100%
	After Hours	95%	97.7%	100%
	Weekends/Holidays	94%	96.8%	98%
45 Minutes	Normal Hours	90%	96.6%	98%
	After Hours	86%	87.1%	97%
	Weekends/Holidays	84%	83.9%	86%
30 Minutes	Normal Hours	82%	79.9%	89%
	After Hours	80%	51.8%	79%
	Weekends/Holidays	76%	49.7%	51%

8

9 **Q. How many operating centers served the Northern service territory prior to**  
 10 **the acquisition?**

1 A. Northern Utilities was served by two operating centers. The Lawrence division of  
2 Columbia Gas served the Southern territories of the Salem, Plaistow and Atkinson  
3 and the Portsmouth operating center provided service to the remainder of the  
4 territory.

5

6 **Q. How many work centers currently provide service to Northern Utilities?**

7 A. Unitil currently maintains a single operating center in Portsmouth and an  
8 unmanned satellite facility in Plaistow. The satellite facility contains materials,  
9 tools and other equipment for use during emergencies or other types of work.

10

11 **Q. During the acquisition, was there concern that the Northern system would**  
12 **only be served by a single service center in Portsmouth?**

13 A. Yes. The October 4, 2011 Show Cause Proceeding (Prehearing Conference)  
14 Transcript at stated at page 25 at line 7:

15 *Mr. Knepper: "The second is, when—I did mention during the issue when this*  
16 *acquisition did occur, my concern was that they were going from two work*  
17 *centers down to one. And, so, I was concerned about the statistics dropping*  
18 *off."*

19

20 **Q. Did the response statistics drop off in the Southern Territory after the**  
21 **acquisition?**

---

<sup>4</sup> Northern data is for the period 9/11/2007 through 9/11/2008, as this data had been provided by Bay State after the

1 A. No. Response time in these territories in most instances improved after the  
2 acquisition. Table CJL-5 provides a comparison of 2011 response results vs.  
3 9/11/07 through 9/11/08 for the southern territory of Salam, Plaistow and  
4 Atkinson.

5  
6  
7

8 **TABLE CJL-5**

Southern Territory Comparison				
Response Objectives	Time of Call	Goal	Before Acquisition 9-11-07 to 9-11-08	After Acquisition 2011
60 Minutes	Normal Hours	97%	100.0%	100.0%
	After Hours	95%	100.0%	100.0%
	Weekends/Holidays	94%	90.0%	95.0%
45 Minutes	Normal Hours	90%	89.5%	90.0%
	After Hours	86%	78.9%	100.0%
	Weekends/Holidays	84%	80.0%	76.0%
30 Minutes	Normal Hours	82%	60.5%	70.0%
	After Hours	80%	36.8%	67.0%
	Weekends/Holidays	76%	50.0%	43.0%

9

10 **VII. CONCLUSION**

11 **Q. Please summarize your testimony.**

12 A. Since Unitil has assumed responsibility for the operations of Northern Utilities we  
13 have implemented a number of measures that have improved pipeline safety.

1           These include aggressive leak survey and patrol schedules, enhanced emergency  
2           response capabilities, better emergency response performance, new technology  
3           and active management oversight of the local operation. When evaluating Unitil's  
4           operating performance all these improvements should be taken into consideration.

5

6   **Q.    Does this conclude your testimony?**

7   **A.    Yes, it does.**