Burnell, David

From: Burnell, David
Sent: Wednesday, September 10, 2014 8:23 AM
To: Knepper, Randy
Subject: RE: PHMSA Interpretation

Att 1-40 #3

Yes that is a good description of what I observed, however the SCADA point at the end of the system saw 55 a psi increase so I believe that some point of the system closer to the station saw pressures about 56 psi.

David Burnell
Safety Specialist
NH Public Utilities Commission
21 South Fruit St. Suite 10
Concord, NH 03301
Office 603-271-6554
Cell 603 419 0169

From: Knepper, Randy
Sent: Friday, September 05, 2014 1:40 PM
To: Burnell, David
Subject: FW: PHMSA Interpretation

Att 1-40 #2

Please let me know if this letter is accurate and depicts what you observed.

Randy

From: LeBlanc, Christopher [mailto:LeBlanc@unitil.com]
Sent: Friday, September 05, 2014 1:26 PM
To: Knepper, Randy
Cc: Burnell, David; Vercellotti, Joseph; Pfister, Jonathan
Subject: PHMSA Interpretation

Randy

I hope all is well and I have attached a copy of the PHMSA interpretation on MAOP and over pressure protection. Have a great weekend.

Thanks

Christopher LeBlanc
Director, Gas Operations

Unitil

325 West Road
Portsmouth, NH 03801

603.294.5166 978.833.1225

Knepper, Randy

From: Glynn.Blanton@dot.gov
Sent: Monday, September 08, 2014 3:07 AM
To: Knepper, Randy
Subject: RE: PHMSA Interpretation

Hi Randy
Yes this information reflects what I observed.

Glynn Blanton
USDOT/PHMSA
Sent with Good (www.good.com)

-----Original Message-----
From: Knepper, Randy [Randy.Knepper@puc.nh.gov]
Sent: Friday, September 05, 2014 01:39 PM Eastern Standard Time
To: Blanton, Glynn (PHMSA)
Subject: FW: PHMSA Interpretation

Glynn
This is based on the inspection that you observed with Dave Burnell on June 25 2014. Please let me know if this accurately portrays what you witnessed.

Thanks

Randy Knepper
Director of Safety
New Hampshire Public Utilities Commission
21 So Fruit St
Concord, NH 03301
603-271-6026
randy.knepper@puc.nh.gov

From: LeBlanc, Christopher [mailto:LeBlanc@unitil.com]
Sent: Friday, September 05, 2014 1:26 PM
To: Knepper, Randy
Cc: Burnell, David; Vercellotti, Joseph; Pfister, Jonathan
Subject: PHMSA Interpretation

Randy

I hope all is well and I have attached a copy of the PHMSA interpretation on MAOP and over pressure protection. Have a great weekend.

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Christopher LeBlanc
Director, Gas Operations

Unitil

325 West Road
Portsmouth, NH 03801

603.294.5166 978.833.1225

Knepper, Randy

From: Tewabe.Asebe@dot.gov
Sent: Thursday, January 15, 2015 6:00 AM
To: Knepper, Randy
Cc: jim.anderson@dot.gov; Cameron.Satterthwaite@dot.gov; john.gale@dot.gov
Subject: RE: Emailing: Unitil PHMSA Interpretation.pdf

Good morning Mr. Knepper,

The Unitil interpretation request is under internal review. We hope to send our response to the requester within a couple of months. Thank you.

-----Original Message-----
From: Anderson, Jim (PHMSA)
Sent: Wednesday, January 14, 2015 6:09 PM
To: Asebe, Tewabe (PHMSA)
Cc: Randall S. Knepper (randy.knepper@puc.nh.gov); Anderson, Jim (PHMSA)
Subject: FW: Emailing: Unitil PHMSA Interpretation.pdf

Tweabe,

Randy's email is randy.knepper@puc.nh.gov

Jim Anderson

-----Original Message-----
From: Satterthwaite, Cameron (PHMSA)
Sent: Wednesday, January 14, 2015 5:10 PM
To: Asebe, Tewabe (PHMSA)
Cc: Gale, John (PHMSA); Anderson, Jim (PHMSA); Donohue, Jenny (PHMSA)
Subject: FW: Emailing: Unitil PHMSA Interpretation.pdf

Tewabe,

Please touch base with Randy Knepper on the status of his interpretation letter (attached).

You may want to review below for a little more background.

Cameron H. Satterthwaite
Transportation Regulations Specialist
Standards and Rulemaking
East Building, PHP 30
1200 New Jersey Avenue, SE
Washington, DC 20590
(o) 202-366-1319

-----Original Message-----

From: Anderson, Jim (PHMSA)
Sent: Wednesday, January 14, 2015 4:12 PM
To: Gale, John (PHMSA); Satterthwaite, Cameron (PHMSA)
Cc: Knepper@puc.nh.puc; Anderson, Jim (PHMSA); Barrett, Zach (PHMSA)
Subject: FW: Emailing: Unitil PHMSA Interpretation.pdf

John,

One of our state partners, Randy Knepper, from New Hampshire, ask me to follow up on the interpretation requested by one of his operators. Zach Barrett told me the interpretations are handled in your office. Would you please contact Randy at the NH PUC and let him know where the interpretation stands. The interpretation request is attached and his contact email is Randy.Knepper@puc.nh.gov .

Thanks,

Jim Anderson
Transportation Specialist
1200 New Jersey Avenue, SE
Washington, DC 20590
919-762-9157
919-757-7193
jim.anderson@dot.gov

-----Original Message-----
From: Knepper, Randy [mailto:Randy.Knepper@puc.nh.gov]
Sent: Friday, January 09, 2015 11:58 AM
To: Anderson, Jim (PHMSA)
Subject: Emailing: Unitil PHMSA Interpretation.pdf

Jim there are many incorrect statements made in this letter. Since no one at PHMSA has contacted the New Hampshire Program can you track down who at PHMSA is going to respond and when.

New Hampshire believes this is a 192.195 and 192.619 code violation. We will be sending out the violation letter on Monday January 12 2015.

FYI, also a PHMSA liaison witnessed the event. (Glynn Blanton) during our review.

Thanks

Randy Knepper
Director of Safety
New Hampshire Public Utilities Commission
21 So Fruit St
Concord, NH 03301
603-271-6026
randy.knepper@puc.nh.gov

Your message is ready to be sent with the following file or link attachments:

Unitil PHMSA Interpretation.pdf

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

Knepper, Randy

From: Knepper, Randy
Sent: Friday, April 10, 2015 5:02 PM
To: 'horace.bethea.ctr@dot.gov'
Subject: RE: Unitil Corporation/Northern Utilities, Onc.
Attachments: PS1501NU NOV & CONSENT AGREEMENT 03.26.15.pdf; PS1502NU NOV & CONSENT AGREEMENT 03.26.15.pdf; PS1501NU NOPV & Consent Agreement.PDF; PS1502NU NOPV & Consent Agreement.PDF; Northern Plaistow Overpressurization - NOV - that went out.doc

As requested

From: horace.bethea.ctr@dot.gov [mailto:horace.bethea.ctr@dot.gov]
Sent: Friday, April 10, 2015 1:14 PM
To: Knepper, Randy
Subject: Unitil Corporation/Northern Utilities, Onc.

Good afternoon Randy,

I am working on an assignment for Byron Coy who suggested that I reach out to you. I am looking to obtain any compliance action history against Northern Utilities, Inc. related to over-pressure or MAOP. Any information you have will be greatly appreciated.

Best,

Horace Bethea
USDOT/PHMSA
Paralegal, Eastern Region
Beatty's Services
Phone: (609) 989-2179
Fax: (609) 882-1209
Email: horace.bethea.ctr@dot.gov

Knepper, Randy

From: Byron.Coy@dot.gov
Sent: Tuesday, April 14, 2015 1:56 PM
To: horace.bethea.ctr@dot.gov
Cc: Knepper, Randy
Subject: RE: Unitil Corporation/Northern Utilities, Onc.

I forwarded to Tewabe.

From: Bethea, Horace CTR (PHMSA)
Sent: Tuesday, April 14, 2015 9:18 AM
To: Coy, Byron (PHMSA)
Cc: randy.knepper@puc.nh.gov
Subject: FW: Unitil Corporation/Northern Utilities, Onc.

Byron,

Please see Randy Kneppers attached findings regarding Unitil Corporation /Northern Utilities. Should I forward same to Tewabe.

From: Knepper, Randy [mailto:Randy.Knepper@puc.nh.gov]
Sent: Friday, April 10, 2015 5:02 PM
To: Bethea, Horace CTR (PHMSA)
Subject: RE: Unitil Corporation/Northern Utilities, Onc.

As requested

From: horace.bethea.ctr@dot.gov [mailto:horace.bethea.ctr@dot.gov]
Sent: Friday, April 10, 2015 1:14 PM
To: Knepper, Randy
Subject: Unitil Corporation/Northern Utilities, Onc.

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Best,

Horace Bethea
USDOT/PHMSA
Paralegal, Eastern Region
Beatty's Services
Phone: (609) 989-2179
Fax: (609) 882-1209
Email: horace.bethea.ctr@dot.gov

Thanks,

Jim Anderson
Transportation Specialist
1200 New Jersey Avenue, SE
Washington, DC 20590
919-762-9157
919-757-7193
jim.anderson@dot.gov

-----Original Message-----
From: Knepper, Randy [mailto:Randy.Knepper@puc.nh.gov]
Sent: Friday, January 09, 2015 11:58 AM
To: Anderson, Jim (PHMSA)
Subject: Emailing: Unitil PHMSA Interpretation.pdf

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Thanks

Randy Knepper
Director of Safety
New Hampshire Public Utilities Commission
21 So Fruit St
Concord, NH 03301
603-271-6026
randy.knepper@puc.nh.gov

Your message is ready to be sent with the following file or link attachments:

Unitil PHMSA Interpretation.pdf

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Knepper, Randy

From: Knepper, Randy
Sent: Thursday, April 16, 2015 3:43 PM
To: 'Tewabe.Asebe@dot.gov'
Subject: RE: Northern Utilities

I have no comments.

From: Tewabe.Asebe@dot.gov [mailto:Tewabe.Asebe@dot.gov]
Sent: Thursday, April 16, 2015 2:53 PM
To: Knepper, Randy
Subject: Northern Utilities

Hello Mr. Knepper,

Please respond to the below response. If you have any comments, please forward them to me. Thank you very much.

Based on the above information, Northern requests interpretation on the following two issues:

1. During normal operation (i.e., no system emergency) of a high pressure distribution system with a properly established MAOP of 56 psig, does the operator violate § 192.621(a) if the system is operated above 56 psig?
2. During a system emergency, such as a failed worker regulator, on a high pressure distribution system with a properly established MAOP of 56 psig, does the operator violate § 192.201(a) if the system pressure does not exceed 62 psig?

Section 192.621(a) states:

> (a) No person may operate a segment of a high pressure distribution system at a pressure that exceeds the lowest of the following pressures, as applicable:
> (1) The design pressure of the weakest element in the segment, determined in accordance with subparts C and D of this part.
> (2) 60 psi (414 kPa) gage, for a segment of a distribution system otherwise designed to operate at over 60 psi (414 kPa) gage, unless the service lines in the segment are equipped with service regulators or other pressure limiting devices in series that meet the requirements of § 192.197(c).
> (3) 25 psi (172 kPa) gage in segments of cast iron pipe in which there are unreinforced bell and spigot joints.
> (4) The pressure limits to which a joint could be subjected without the possibility of its parting.
> (5) The pressure determined by the operator to be the maximum safe pressure after considering the history of the segment, particularly known corrosion and the actual operating pressures.

Response 1 – Yes, the operator violates § 192.621(a) if the MAOP is exceeded during normal operating conditions. Under the regulation, operators must use pipeline pressure control equipment sized for pressure control with pressure sensors, actuators and control or relief valves that react in a timely manner and have pressure settings that do not exceed MAOP in accordance with Part 192.

Section 192.201(a) states:

(a) Each pressure relief station or pressure limiting station or group of those stations installed to protect a pipeline must have enough capacity, and must be set to operate, to insure the following:
(1) In a low pressure distribution system, the pressure may not cause the unsafe operation of any connected and properly adjusted gas utilization equipment.
(2) In pipelines other than a low pressure distribution system:
(i) If the maximum allowable operating pressure is 60 psi (414 kPa) gage or more, the pressure may not exceed the maximum allowable operating pressure plus 10 percent, or the pressure that produces a hoop stress of 75 percent of SMYS, whichever is lower;
(ii) If the maximum allowable operating pressure is 12 psi (83 kPa) gage or more, but less than 60 psi (414 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 6 psi (41 kPa) gage; or
(iii) If the maximum allowable operating pressure is less than 12 psi (83 kPa) gage, the pressure may not exceed the maximum allowable operating pressure plus 50 percent.

Response 2 – No, the operator does not violate § 192.201(a) as long as the MAOP limits are met during a system emergency and the pipeline meets the Subpart D - Design of Pipeline Components requirements. In this case, the emergency operating limit is 62 psi (56 + 6 psi). Emergency operating overpressure conditions are only allowed for the time required to activate the overpressure protection device and are not meant for long term or frequently occurring normal operating or periodic maintenance conditions and, therefore, require immediate response by the operator either to shut down or reduce the operating pressure to the normal operating conditions.

Finally, we would note that based upon your actions described in your letter, there may be some confusion about appropriate testing and maintenance of a pressure limiting or regulator station for buildup and set point. Conducting a simulated test on a pressure limiting or regulator station that is not isolated from the system does not constitute a system emergency. It is a normal operation subject to the limitations described above. The pressure limiting or regulator station should be isolated from the system prior to any testing of buildup and set points.

Unitil d/b/a Northern Utilities, Inc.

DG 15-121
Hearing on Notices of Violations

Northern Utilities Data Requests - Set 1

Date Request Received: 4/28/15
Request No. Staff 1-29

Date of Response: 7/20/15
Respondent: R Knepper

REQUEST:

Please provide copies of all decisions, orders, interpretations or other documents that you believe support the positions Staff is taking in NOV 2.

RESPONSE:

1) Liberty NOPV with signed consent agreement PS1402LU of overpressurization. Pressures went up 5% over MAOP on one system of Liberty and 7.7% over MAOP on another system. Signed consent agreement was on 9/2/2014. *See* Attachment 1-3.

2) PHMSA Interpretation 192.619, Number 15, dated February 23, 1973, reinforces the distinction between Subpart L, Operations, and Subpart D, Design, that these subparts of the code are separate and should not be comingled.

3) Guidance Material November 24, 2014, Statement 7 of Guidance Information : "Operators may not design or set normal pressure controlling devices such that any part of any pipeline segment exceeds its prescribed MAOP.

THE STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION
21 S. Fruit Street, Suite 10
Concord, N.H. 03301-2429

TDD Access: Relay NH
1-800-735-2964

Tel. (603) 271-2431

FAX (603) 271-3878

Website:
www.puc.nh.gov

July 29, 2014

Mr. Daniel Saad
Vice President Operations and Engineering
Liberty Utilities
15 Buttrick Rd
Londonderry, NH 03053

Re: Liberty Utilities, New Hampshire Gas Division
Notice of Probable Violations of Natural Gas Pipeline Safety Act and
NH Code of Administrative Rules Part 500
Control# PS1402LU
Pipelines Affected:
1) 200 psig Tilton Highline from Broken Bridge Rd, Concord, NH to Operations Center at Rte. 140 Tilton, NH
2) 130 psig Candia Rd Inlet Feed from Candia Rd, Manchester, NH to Operations Center at 130 Elm St, Manchester, NH

Dear Mr. Saad:

Pursuant to the Natural Gas Pipeline Safety Act, 49 U.S.C. §60101 *et seq.*, applicable state law as set forth at RSA 370:2, and the relevant regulations of the New Hampshire Public Utilities Commission (Commission), N.H. Code Admin. Rules Part Puc 511 the Commission hereby serves upon Liberty Utilities (Liberty) this formal Notice of Probable Violation as required by Puc 511.05 for conditions relating to operations that exceeded the maximum allowable operating pressure (MAOP) for two steel gas pipeline distribution systems. The two gas pipeline systems were identified as the 200 pounds per square inch gauge (psig) Tilton Highline that transports natural gas from Broken Bridge Rd, Concord, NH to the Rte. 140 Operations Center, Tilton, NH and the 130 psig Candia Rd Inlet Feed that transports natural gas from Candia Rd, Manchester, NH to the 130 Elm St Operations Center, Manchester, NH. These systems were improperly tested during operations and found to have not operated in accordance with minimum federal standards.

This notice arises from the April 9, 2014, notifications by Liberty to the Safety Division of three separate and distinct occurrences where Liberty exceeded the maximum allowable operating pressure (MAOP) at two separate locations. The Liberty notifications were not made in accordance with *Puc 504.05 (c) Emergency Notifications*. The Safety Division alleges that Liberty violated 49 CFR §192.619 for knowingly operating two pipeline

segments for approximately 13 minutes (twice) and 4 minutes respectively in excess of identified and previously established Liberty MAOPs for the two systems. Records indicated that annual regulator station inspections were performed on April 9 2014 by two separate Liberty crews. Digital pressure recording devices confirmed that the 200 psig (MAOP) Tilton Highline was raised above the maximum allowable operating pressure to a recorded level of 211 psig. Also, digital pressure recording devices confirmed that the 130 psig (MAOP) Candia Rd High Pressure Feeder was raised above the maximum allowable operating pressure to a recorded level of 140 psig. Liberty crews reported that this was a standard operating procedure used many times in the past to validate the setting of the monitor regulator. The recorded pressures of 210 psig represents a 5% over pressurization and 140 psig represents a 7.7% over pressurization.

The Safety Division is concerned that Liberty would allow downstream piping to be exposed to pressures above the MAOP. The Safety Division conferred with PHMSA Training & Qualification personnel to confirm that CFR §192. 619 does not allow for settings to be above MAOP and still be in compliance with protection of downstream piping up to those limits established by MAOP. Please note that this notice alleges a series of probable violations.

Probable Violation No. 1 **49 CFR §192.619 No person may operate a segment of steel or plastic pipeline at a pressure that exceeds a maximum allowable operating pressure determined under subparagraph (c) or (d) of this section, or the lowest of four criteria listed in subparagraph (a), (b), (c) or (d)**

The Safety Division alleges that Liberty knowingly allowed downstream piping to be subject to pressures above the MAOP. The federal code in 49 CFR §192.619 and 49 CFR §192.621 does not allow for the operation of a pipeline above the MAOP. The Safety Division's position is that Liberty was *"operating"* the pipeline while an inspection was being conducted and resulted in the over pressurization. For those situations when customers are connected to distribution gas piping and system loads cause flow through the pipeline then *"operations"* are being conducted since gas is being *"transported"*. *(See CFR §192.3)* Liberty may have considered this stage of the inspection procees to be *"test"* mode. The Safety Division believes that considering this as *"test"* mode rather than *"operations"* mode contradicts Liberty's typical pressure testing procedures used for establishing MAOP by conducting pressure tests when customers are not connected.

Liberty provided documentation for 2013 indicating that over pressurizations of similar time durations also occurred at the same two regulating stations. The Safety Division did not review any records prior to 2013 regarding this issue so at the time of this writing cannot determine how many years this may have been occuring or if it occurred at other locations.

Probable Violation No.2 **49 CFR §192.603 No person may operate a segment of pipeline unless it is operated in accordance with SubPart L Operations**

The Safety Division alleges that Liberty maintains a current O&M manual as required by 49 CFR §192.605 but that it is not written in accordance with Subpart L Operations of 49 CFR §192. Liberty's O&M manual was updated on April 1, 2014 and effective April 21, 2014. Section *12-G Pressure Limiting and Regulating Stations* subsection 6.0 Procedures (6.1.7) does not preclude the monitor regulator from being set above the MAOP. It states "...**Obtain appropriate approval before making any change in regulator set points; however, no set point shall exceed MAOP for monitor, plus build up allowance as allowed and referenced in 49 CFR §192.201**". Section *11-E Maximum Allowable Operating Pressure* subsection 6.0 Procedures (6.4.1) does not preclude the monitor regulator from being set above the MAOP. **Table 11-E-1- states pressure setting permitted is listed as MAOP plus 10%.** The procedure allows for a practice that is not in accordance with Subpart L. This is a probable violation of 49 CFR §192.603.

After researching previous editions of Operations and Maintenance Manuals of Liberty's predecessor companies, the Safety Division alleges that Liberty may have utilized previous improperly established procedures from predecessor companies, National Grid and KeySpan Energy Delivery. The Safety Division was able to locate and review an original EnergyNorth O&M procedure which was written in accordance with Subpart L Operations of 49 CFR §192 that prohibited monitor regulator settings above MAOP.

The written procedure in effect at the date of over pressurization (4/9/2014) was a National Grid procedure titled Regulator Station Annual Inspection Policy 060026-PL revision 1 (effective April 15, 2012). Section 5 Inspections subsection Overpressure Protection Devices states "**An operational test of monitor regulator installations shall be made to ensure that they are in operable condition and controlled at the correct override and set pressures." ..Place the monitor into override. This can be performed by either stroking the control regulator to a wide-open position of installing a jumper connection off the normal control line to the override/failure line with the monitor vault.**"

The Safety Division alleges that there is no language within Liberty's written O&M manual specifically prohibiting the setting of monitor pressures above the MAOP. While the procedures have STOP graphics for other portions of the procedure and contains references to OQ qualifications that do recognize "Abnormal Operating Conditions" it appears to encourage overriding the monitor setting and allowing pressures to be set higher than MAOP. This is a probable violation of 49 CFR §192.603.

Probable Violation No.3 **49 CFR §192.605 Failure to follow company written procedures**

This violation happened at three levels.

First, according to Liberty supervisors of the crews working at the Tilton Highline and Candia Rd Feeder regulator stations, Liberty crews were utilizing a National Grid procedure titled: *Regulator Station Annual Inspection Policy 060026-PL revision 0 (effective Nov 15, 2011).*

In reviewing the revisions of the O&M Manual, the Safety Division found there was a more recent version of *Regulator Station Annual Inspection Policy 060026-PL revision 1* (effective April 15, 2012). The Safety Division alleges that Liberty Crews were not following the most recent procedure in effect and in violation of 49 CFR §192.605.

Secondly, *Regulator Station Annual Inspection Policy 060026-PL revision 1* (effective April 15, 2012). Section 2. Responsibilities states "**Pressure Regulation Engineering shall be responsible for determining the adequacy of relief capacities and set points**". The Safety Division alleges that Liberty maintained an O&M manual but that it was not followed. There was no documentation found that supports that the Engineering department determined the set points were adequate.

Thirdly, *Regulator Station Annual Inspection Policy 060026-PL revision 1* (effective April 15, 2012). Section 2. Responsibilities states "**Gas Control shall also monitor conditions throughout the work cycle for stations with telemetry**". There is no documentation of Gas Control or the controller at work having discussions with crew as Alarm levels were being activated. This is a violation of 49 CFR §192.605 which requires each operator to prepare and follow a manual of written procedures for conducting O&M activities to ensure the safe operation of a gas distribution system.

Probable Violation No. 4 **49 CFR §192.13 General Requirements**

(a) No person may operate a segment of pipeline that is readied for service listed in the first column that is readied for service after March 12, 1971, unless:

(1) The pipeline has been designed, installed, constructed; initially inspected, and initially tested in accordance with this **part;**

(b) No person may operate a segment of pipeline that is replaced, relocated, or otherwise changed after November 12, 1970, unless that replacement, relocation, or change has been made in accordance with this **part**

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this **part.**

The Safety Division alleges that by not following portions of the Subparts of Part 49 CFR §192 then Liberty could not have been in accordance with the "part".

Probable Violation No.5 **49 CFR §192.805 Qualification program**

Each operator shall have and follow a written qualification program. The program shall include provisions to:

(a) Identify covered tasks;

(b) Ensure through evaluation that individuals performing covered tasks are qualified;

(c) Allow individuals that are not qualified pursuant to this subpart to perform a covered task if directed and observed by an individual that is qualified;

(d) Evaluate an individual if the operator has reason to believe that the individual's performance of a covered task contributed to an incident as defined in Part 191;

(e) Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task;

(f) Communicate changes that affect covered tasks to individuals performing those covered tasks; and

(g) Identify those covered tasks and the intervals at which evaluation of the individual's qualifications is needed.

(h) After December 16, 2004, provide training, as appropriate, to ensure that individuals performing covered tasks have the necessary knowledge and skills to perform the tasks in a manner that ensures the safe operation of pipeline facilities; and

(i) After December 16, 2004, notify the Administrator or a state agency participating under 49 U.S.C. Chapter 601 if the operator significantly modifies the program after the Administrator or state agency has verified that it complies with this section.

The Safety Division alleges that Liberty does not have a written qualification program that ensures that individuals that are performing covered tasks are *"qualified"* as referenced in Subpart N when there appears to be no recognition that operating above the MAOP is an abnormal operating condition that is to be avoided. Statements made by personnel performing covered tasks indicated that allowing the downstream piping to be subject to pressures above the operating design limits was acceptable during annual inspection and testing of pressure limiting devices. Covered Tasks 62 and 63 and Appendix G of the Liberty OQ manual state the qualified individual must recognize and react to pressures exceeding the MAOP as being *"abnormal"*.

Probable Violation No.6 Puc 504.05 Emergency Notification

(a) The utility shall notify the safety division of the commission by telephone when any of the following events occur:

(7) Any exceedance of maximum allowable operating pressure of any duration, including accidental overpressurizations..

(c) The telephone notification shall be made promptly, but no **more than one hour** following confirmed discovery by the utility of the event

The Safety Division alleges that Liberty over pressurized the HighLine system on April 9, 2014 at 10:45 until 10:58 am and notified the Puc at 1:47 pm. The Safety Division alleges that Liberty over pressurized the Candia Rd Feeder system on April 9, 2014 at 9:36 am until 9:40 am and notified the Puc at 12:37 pm. Since these were not reported within the hour, then the notifications are not considered prompt. Confirmed discovery of the event is documented from Liberty's data log of the event and verifying field personnel were present at each location.

Given the importance of following procedures and the specific emphasis placed within *Section 7 Adherence to written Company Procedures of Attachment J of Settlement Agreement of DG 11-040*[1], the Safety Division imposes the following additional requirements:

1. Liberty must specifically include written procedures within its O&M manual regarding documentation that outlines that all monitor regulators be set so that the downstream piping never operates above the MAOP. References to 49 CFR §192.201 should not be used unless clearly delineating company system operating philosophy. The written procedures shall be updated within 45 days from the execution of the consent agreement and the Safety Division notified of the completion of the amended procedure.
2. Liberty shall place placards, signs, large stickers, tags or other cautionary materials within regulator stations and gate stations clearly stating that PRESSURE SETTINGS SHOULD NEVER EXCEED MAOP or the equivalent.
3. Liberty shall incorporate and emphasize the importance of following written procedures with training of internal supervisory staff and crews. All training session materials including agenda item referencing this violation, attendance sheets showing employees who may perform annual inspections and maintenance of over pressure protection devices as well as a copy of the training presentation shall be furnished to the Safety Division upon completion.

[1] Bates page 516, Settlement Agreement - Attachment J, National Grid/Liberty Energy, DG 11-040,Page 6 of 19
EnergyNorth shall follow all written company policies, guidelines, construction specifications, technical instructions, training manuals, construction standards, procedure manuals, operation and maintenance plans, integrity management plans, distribution integrity management plans, quality assurance plans, drug and alcohol plans, and any other written document that is equivalent in nature to those listed, that relate to the integrity of any distribution or transmission pipeline facility, LNG production or vaporization facility, LPG/Air production facility or LPG Bulk Tank Storage facility

Civil Penalties

RSA 374:7-a, III and Puc 511.08(b) (2) require the Safety Division to set forth the factors it relied upon in determining civil penalties. The factors are similar to the factors the federal Office of Pipeline Safety relies upon in assessing similar penalties under the Natural Gas Pipeline Safety Act. The Safety Division considered the severity of the potential consequences of not following Commission rules, the company's inability to follow company written procedures, and possible negative effects upon the ability to respond to emergencies in pipeline segments downstream of critical valves. Consideration was given to the effects and proximity to customers along the affected pipelines, possible impacts to non-customers, associated safety hazards, and the potential detrimental effects on the company's emergency response efforts. The Safety Division also considered the prior history of offenses, the nature and circumstances of the above violations, Liberty's response to the offenses, as well as the effect the civil penalties will have on Liberty's ability to continue operations.

The respondent is fully culpable for this violation. In light of the identified factors, the Safety Division proposes civil penalties as follows:

Probable Violation No. 1 **$ 15,000**
(Non-compliance with 49 CFR §192.619, Maximum allowable operating pressure - Steel or plastic pipelines)

Probable Violation No. 2 **$ 7,500**
(Non-compliance with 49 CFR §192.603 O&M not in accordance with subpart L)

Probable Violation No. 3 **$ 5,000**
(Non-compliance with 49 CFR §192.605 not following written O&M procedures)

Probable Violation No. 4 **$ 2,500**
(Non-compliance with 49 CFR §192.13 not operating in accordance with Part §192)

Probable Violation No. 5 **$ 5,000**
(Non-compliance with 49 CFR §192.805 not ensuring qualifications of operating personnel performing covered tasks)

Probable Violation No. 6 **$ 5,000**
(Non-compliance with Puc 504.05 improper event notifications to PUC)

TOTAL CIVIL PENALTIES **$40,000**

Pursuant to RSA 374:7-a, the company has the right to seek compromise of these penalties. Puc 511.06 requires the company to take one of the following steps:

(a) Upon receipt of the NOPV the respondent shall either:
(1) Submit to the commission within 30 days, in writing, evidence refuting the probable violation referenced in the NOPV;

(2) Submit to the commission within 30 days, a written plan of action outlining action the respondent will take to correct the violations, including a schedule and the date when compliance is anticipated[2];

(3) Execute a consent agreement with the commission resolving the probable violation and remit the civil penalty; or

(4) Request in writing within 30 days, an informal conference with the commission staff to examine the basis of the probable violation.

(b) Any utility involved in the NOPV shall provide a representative for any informal conference or hearing scheduled relative to that NOPV.

Enclosed is a Consent Agreement that would resolve the civil penalty without need for an informal conference or a hearing. Liberty may execute the Consent Agreement and remit a check or money order payable to the State of New Hampshire, in the amount of $40,000. Responses and payments relevant to this notice should reference the PS1402LU Liberty Over Pressurization, and be directed to the Safety Division Director at the Public Utilities Commission.

Alternately, Liberty may file with the Executive Director a request for an informal conference with the Commission Staff within 30 days of receipt of this Notice of Probable Violation in accordance with N.H. Admin. Rules Puc 511.06.

Sincerely,

Randall S. Knepper
Director, Safety Division

cc: Leo Cody, Program Manager, Compliance & Quality
Alain Tinker, Operator and Qualifications Plan Administrator

enclosure

[2] *This option may not apply to violations that are written after the violation has occurred. It usually applies only to forward looking violations.*

February 13, 1973

Mr. Thomas Mitchell
Iowa Public Service Company
P.O. Box 778
Sioux City, Iowa 51101

Dear Mr. Mitchell:

This is in response to your telephone conversation with Mr. Cesar DeLeon of this office on January 10, 1973, in which you ask us to verify by letter that §192.619(b) and §192.621(b) of Title 49 of the Code of Federal Regulations provide for installation of overpressure protective devices for gas systems that have a maximum operating pressure determined by the corrosion history of the pipe segment. You indicated in your telephone conversation with Mr. DeLeon that it appeared to you that these two sections were in conflict with §192.195 and §192.197 which do not apply to installation of overpressure protective devices on systems built prior to March 12, 1971, or systems which were replaced, relocated, or otherwise changed prior to November 12, 1970, pursuant to §192.13, 49 CFR.

The requirements of §192.195 and §192.197 are contained in Subpart D of Part 192 which prescribes minimum requirements for the design and installation of pipeline components and facilities. Sections 192.619 and 192.621, on the other hand, are operational requirements contained in Subpart L. Section 192.603(a) makes clear that no person may operate a segment of pipeline unless it is operated in accordance with the requirements of Subpart L. Subpart L sets forth the continuing requirements necessary to insure safe operation of a pipeline independent of the initial design, installation and construction requirements that were applicable to that pipeline. Sections 192.619(b) and 192.621(b) prescribe requirements for the operation of pipeline facilities regardless of when these pipelines were installed. Therefore, you must comply with the requirements of both of these sections in the operation of your gas facilities.

We trust that this has answered your particular question. If we can be of further service regarding this matter, please let us know.

Sincerely,

Joseph C. Caldwell
Director
Office of Pipeline Safety

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Enforcement Guidance	O&M Part 192
Revision Date	11-24-2014
Code Section	§192.619
Section Title	Maximum Allowable Operating Pressure – Steel or Plastic Pipelines
Existing Code Language	(a) No person may operate a segment of steel or plastic pipeline at a pressure that exceeds a maximum allowable operating pressure determined under paragraph (c) or (d) of this section, or the lowest of the following: (1) The design pressure of the weakest element in the segment, determined in accordance with subparts C and D of this part. However, for steel pipe in pipelines being converted under §192.14 or uprated under subpart K of this part, if any variable necessary to determine the design pressure under the design formula (§192.105) is unknown, one of the following pressures is to be used as design pressure: (i) Eighty percent of the first test pressure that produces yield under Section N5 of Appendix N of ASME B31.8 (incorporated by reference, *see* §192.7), reduced by the appropriate factor in paragraph (a)(2)(ii) of this section; or (ii) If the pipe is 12 ¾ inches (324 mm) or less in outside diameter and is not tested to yield under this paragraph, 200 psi. (1379 kPa). (2) The pressure obtained by dividing the pressure to which the segment was tested after construction as follows: (i) For plastic pipe in all locations, the test pressure is divided by a factor of 1.5. (ii) For steel pipe operated at 100 p.s.i. (689 kPa) gage or more, the test pressure is divided by a factor determined in accordance with the following table:

Class location	Factors[1], segment—		
	Installed before (Nov. 12, 1970)	**Installed after (Nov. 11, 1970)**	**Converted under §192.14**
1	1.1	1.1	1.25
2	1.25	1.25	1.25
3	1.4	1.5	1.5
4	1.4	1.5	1.5

[1]For offshore segments installed, uprated or converted after July 31, 1977, that are not located on an offshore platform, the factor is 1.25. For segments installed, uprated or converted after July 31, 1977, that are located on an offshore platform or

on a platform in inland navigable waters, including a pipe riser, the factor is 1.5.

(3) The highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column. This pressure restriction applies unless the segment was tested according to the requirements in paragraph (a)(2) of this section after the applicable date in the third column or the segment was uprated according to the requirements in subpart K of this part:

Pipeline segment	Pressure date	Test date
Onshore gathering line that first became subject to this part (other than §192.612) after April 13, 2006	March 15, 2006, or date line becomes subject to this part, whichever is later	5 years preceding applicable date in second column.
Onshore transmission line that was a gathering line not subject to this part before March 15, 2006		
Offshore gathering lines	July 1, 1976	July 1, 1971.
All other pipelines	July 1, 1970	July 1, 1965.

(4) The pressure determined by the operator to be the maximum safe pressure after considering the history of the segment, particularly known corrosion and the actual operating pressure.

(b) No person may operate a segment to which paragraph (a)(4) of this section is applicable, unless over-pressure protective devices are installed on the segment in a manner that will prevent the maximum allowable operating pressure from being exceeded, in accordance with §192.195.

(c) The requirements on pressure restrictions in this section do not apply in the following instance. An operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column of the table in paragraph (a)(3) of this section. An operator must still comply with §192.611.

(d) The operator of a pipeline segment of steel pipeline meeting the conditions prescribed in §192.620(b) may elect to operate the segment at a maximum allowable operating pressure determined under §192.620(a).

Origin of Code	Original Code Document, 35 FR 13248, 08-19-1970
Last Amendment	Amdt. 192-107, 73 FR 62147, 10-17-2008
Interpretation Summaries	**Interpretation: PI-09-0015 Date: 08-18-2009** The MAOP of a plastic gas pipeline can be upgraded through incremental pressure increases as allowed in §192.557(c). OPS's response was that the §192.619(a)(2)(i)

requirement is not the same for steel pipe and plastic pipe. §192.619 requires plastic pipe to be tested at 1.5 times MAOP and incremental pressure increases cannot be used.

Interpretation: PI-ZZ-060 Date: 04-11-2007

"When a temporary launcher or receiver is moved to a new location on the same or a different gas pipeline is a new pressure test required prior to placing the launcher or receiver back into temporary service."

Section 192.503 states that a segment of a pipeline cannot be returned to service after it has been relocated until it has been tested in accordance with Subpart J and Section 192.619 to substantiate the MAOP.

Interpretation: PI-ZZ-059 Date: 04-06-2007

"49CFR192.619(a)(3) allows an operator to establish an MAOP based upon the 5-year window for older systems prior to July 1, 1970. Once that has been established and documented and a class location study is performed resulting in a class location change from what it was on July 1, 1970, does the operator have to incorporate a class location factor for revision of the MAOP established by the 5-year window?

While there is a clause in §192.629(a)(3) which allows the operator to establish the MAOP as the highest actual operating pressure to which a pipeline segment had been subjected to during the 5 year period prior to July 1, 1970, this is only true if that operating pressure is lower than the design pressure or adjusted test pressure as explained in §192.619(a). There is a similar provision in §192.619(c), the "grandfather" clause, which allows an operator to establish MAOP of a pipeline segment at the highest actual operating pressure to which it had been subjected to during the five years preceding July 1, 1970, as long as the pipeline segment is in good condition and the operator considered the segment's operating and maintenance histories.

Regardless, §192.609 requires operators to conduct class location studies to look for population density increases along existing steel pipelines operating at a hoop stress above 40% SMYS. If a class location study identifies a pipeline segment with a hoop stress corresponding to an established MAOP of the pipeline segment using one of the three methods in §192.611(a). Operators must use all the applicable class location factors wherever called for in each of these methods.

Interpretation: PI-ZZ-053 Date: 05-31-2001

Following is our response to a question that a local distribution company (LDC) wants to up rate a steel pipeline in a Class 3 location to a pressure that will produce a hoop stress of less than 30 percent of specified minimum yield strength (SMYS). In 1957, the pipe was pressure tested to 465 psig and the LDC established a maximum allowable operating pressure (MAOP) of 190 psig based on the highest operating pressure during the five-years prior to July 1, 1970. The LDC proposes to raise the pressure from 190 psig to 250 psig in four increments of 15 psig.

The assertion was made that the up rating procedure described above does not meet the minimum requirement of 49 CFR §192.553(d), which states that

> . . . a new maximum allowable operating pressure established under this subpart may not exceed the maximum that would be allowed under this part for a new segment of pipeline constructed of the same materials in the same location.

We agree that the word "part" as used in §192.553(d) refers to 49 CFR Part 192, rather than just to Subpart K. Therefore, any uprating is limited by the provisions of §192.619.

The uprating regulations in Subpart K do not require that a new pressure test be conducted at the time of uprating. And, §192.555(c), which covers uprating to a pressure that will produce a hoop stress 30 percent or more of SMYS, explicitly allows the use of a previous pressure test as the basis for MAOP, even if the pipeline was not operated to the MAOP during the five years prior to July 1, 1970. Although the use of a previous pressure test is not mentioned in §192.557, which covers up rating to a pressure that will produce a hoop stress less than 30 percent of SMYS, it makes no sense to rely on a previous pressure test for high-stress pipe and to disallow it for low-stress pipe. And, in any case, §192.553(d) clearly states that the new MAOP may not exceed the maximum that we would allow for new pipe of the same material at the same location. Therefore, reliance on a previous pressure test is allowable for uprating to a higher MAOP, providing that the pressure test, de-rated for class location as specified in §192.619, allows for a maximum allowable operating pressure equal to or greater than the proposed uprated pressure.

In response to your specific questions:

Do you agree with our interpretation that the LDC must up rate to a pressure using the table and factors found in 49 CFR §192.619(a)(2)(ii)?

Answer: No. The LDC may follow the uprating procedure in 49 CFR Part 192, Subpart K. The uprated pressure will be limited to the maximum pressure that can be supported by a current or previous pressure test, as de-rated for class location using the factors found in 49 CFR §192.619(a)(2)(ii).

Interpretation: PI-94-033 Date: 10-18-1994

Concerning the maximum allowable operating pressure (MAOP) of a distribution system. The operator established an MAOP of 5 psig, based on a maximum safe pressure under §192.621(a)(5). However, as shown on an MAOP worksheet, the system was operated at 10 psig on a peak day during 1970. The operator now alleges the MAOP was mistakenly set at 5 psig and should have been 10 psig. You ask if the operator may increase the MAOP to 10 psig without uprating under Subpart K of Part 192.

When we addressed this issue in our letter to you dated May 2, 1994, we said the operator must uprate the system under Subpart K. We still believe that is a correct application of the regulations. System MAOP is governed by the lowest value determined under §192.619 and §192.621. The worksheet shows that 5 psig was the lowest value. Thus, 5 psig was unmistakenly [sic] the correct MAOP, and any increase in MAOP must meet Subpart K. However, inasmuch as the system has been operated at 10 psig every winter since 1970, the operator may wish to seek a waiver of Subpart K based on this history of operation.

Interpretation: PI-94-019 Date: 03-23-1994

Concerning the maximum allowable operating pressure (MAOP) of a distribution system. Answers to your question regarding the system follow.

The system has an MAOP of 125 psig based on a maximum safe pressure (§§192.619(b)(6) and 192.621(a)(5)), but the system was operated at 145 psig during the 5-year period prior to July 1, 1970. Section 192.619(c) would allow a new MAOP of 145 psig if the system is now in "satisfactory condition," and the limitations on MAOP under §192.611 (class location change) and §192.621 (high-pressure distribution systems) are met. However, any increase in MAOP above 125 psig must comply with the uprating requirements of Subpart K of Part 192 (§192.551). Subpart K would still have to be met even if the system had been tested after construction to at least 218 psig (1.5 times 145 psig).

Interpretation: PI-94-010 Date: 02-18-1994

In letter to John Searcy, dated March 11, 1974, the second sentence of the second paragraph incorrectly implies that the pressure test required in uprating under §192.557 must be done concurrently with the uprating process. However, the source of the pressure test requirement, §192.619(a)(2)(ii), which limits MAOP on the basis of test pressure, does not prescribe the timing of the test pressure. So any previous test pressure (including any operating pressure that suffices as test pressure) could qualify for uprating under §192.557. Only if the pipeline had not previously pressure tested or if the previous test pressure were insufficient would the pipeline have to be pressure tested concurrently with uprating.

Interpretation: PI-85-002 Date: 03-20-1985

A system was designed for 40 psi but was operated at a maximum of 10 psi for 5 years prior to 07-01-1970. Per OPS, the system MAOP is 10 psi.

Interpretation: PI-82-019 Date: 10-07-1982

Under §192.611(a), an MAOP equivalent to 72% of SMYS may be confirmed for a new Class 2 location. The design pressure referenced in §192.619(a)(1) is based on original conditions, and does not change with changes in Class location.

Interpretation: PI-ZZ-026 Date: 07-10-1981

A pipeline is to be used to transport naphtha and refinery gas. This is allowed if it is qualified for use under §192.14 and it is pressure tested in accordance with Subpart J and the MAOP is determined in accordance with §192.619.

Interpretation: PI-79-031 Date: 08-31-1979

Part 192 requires the installation of overpressure protection at regulator stations which were installed in the 1950's with MAOP based on §192.619(a)(3). Since the regulator stations were installed in the 1950's the overpressure protection requirements of §192.195 would not apply to them unless they have been replaced, relocated, or otherwise changed within the meaning of §192.13. Since MAOP is governed by §192.619(a)(3), they need not have overpressure protection in accordance with §192.195, as they would if §192.619(b) or §192.621(b) applied.

Interpretation: PI-ZZ-023 Date: 08-02-1979

Following is the response to if increasing the pressure in a distribution line to 17 psi which had been in operation for 48 years at a pressure of 5 1/2 ounces can be classified as an "uprating."

The regulations prescribing requirements for uprating (Sections 192.555 and 192.557) are applicable to pipelines which are intended to operate at a pressure higher than the current maximum allowable operating pressure established under 49 CFR 192.619. Therefore, if the established maximum allowable operating pressure for the line in question is less than 17 psi, then the line is subject to the uprating regulations of Subpart K.

Interpretation: PI-78-007 Date: 02-22-1978

Following is the response regarding the test pressure required for a gas "pipeline and riser assembly" installed at an offshore platform. As you point out, Section 192.619(a) (2) (ii) would necessitate a higher test pressure for the riser portion of the assembly if a single maximum allowable operating pressure (MAOP) is to be established. It would be incorrect, therefore, to test the whole assembly only to 1.25 times the proposed MAOP.

You indicate that it may be possible to conduct a pre-installation strength test on the riser portion of the assembly so that the pipeline portion would not have to be designed to withstand a higher test pressure. If so, depending on the factual circumstances involved, such a test may be permissible under the provision of Section 192.505(e).

Interpretation: PI-78-001 Date: 01-04-1978

Would the installation of a 10-inch branch connection on a 24-inch O.D., 0.281-inch wall, grade X-52 pipe in a Class 1 area, using a hot tap and a split full encirclement saddle for reinforcement, require a reduction in the pipe's maximum allowable operating pressure (MAOP) of 850 psig

Under the applicable regulations governing MAOP in this situation (§192.619(a)(1), §192.13(b), §192.105, and §192.111), the pipe's MAOP would be reduced only if installing the 10-inch branch connection "changes" the pipe within the meaning of §192.13(b) and, if it does, the hot tap with split saddle constitutes a "fabricated assembly" within the meaning of §192.111(d). We have not addressed the second issue because in our opinion installing the branch connection as described would not "change" the existing pipe as intended by §192.13(b). Thus, the installation would not require reassessment of the pipe's design under Subpart C and the MAOP prescribed by §192.619(a)-(c) likewise would remain the same.

Interpretation: PI-ZZ-017 Date: 06-19-1975

Subject to the requirements of Sections 192.621 or 192.623, as the case may be, the maximum allowable operating pressure for a pipeline may not be increased above the lowest pressure determined under Section 192.619(a). For a steel pipeline operated at 100 psig or more, in uprating under Section 192.557 to a pressure permitted by Section 192.619(a)(2)(ii), a pressure test must be performed under that section. Steel pipelines operated at less than 100 psig may be uprated under Section 192.557 to a pressure permitted by Section 192.619(a) without conducting a pressure test.

Interpretation: PI-75-017 Date: 05-01-1975

Does a pressure test made on replacement pipe before it is installed, as permitted by Section 192.719(a)(2), satisfy the requirement of Section 192.619(a)(2)(ii) that in establishing an MAOP for certain pipe, a pressure test be made "after Construction"?

Because the requirements of Section 192.619(a)(2)(ii) and 192.719(a)(2) apply in conjunction, a pressure test permitted by Section 192.719(a)(2) to be made before installation must necessarily qualify as the test required by Section 192.619(a)(2)(ii).

Interpretation: PI-ZZ-012 Date: 05-30-1974

To comply with Part 192, an operator who acquires an existing plastic pipeline other than one relocated or replaced after November 12, 1970, need not know what pressure test was made after installation of the line. However, since the line's MAOP cannot be determined under §192.619(a)(2)(i) without this information, the operator must establish an MAOP by testing the line, unless the exception of §192.619(c) applies.

An operator who acquires a new steel pipeline or one relocated or replaced after November 12, 1970, must obtain or establish the test record required by §192.517, if applicable to the line acquired. Irrespective of this recordkeeping requirement, in the case of a new steel pipeline or a relocated or replaced one, to comply with Subpart J an operator must know what pressure test was made after installation or conduct a proper test. In the case of an existing steel pipeline operated at 100 psig or more, other than one relocated or replaced, to establish an MAOP under §192.619(a)(2)(ii), an operator must know what test was made after installation or

conduct a proper test, unless the exception in §192.619(c) applies. Where such an existing line is operated at less than 100 psig, an MAOP may be established under §192.619(a) in the absence of a post installation test.

Interpretation: PI-73-014 Date: 06-19-1973

".....under 192.619 and 192.621. If a gas system is an all steel system and designed and tested for a 100 lb. system and has only operated at 30 lbs. for the last ten years, what is its MAOP?"

This system is governed by §192.619(c) which, in effect, allows the pipeline to operate at the highest actual operating pressure to which it was subjected during the 5 years preceding July 1, 1970. In the given case, the system operated at only 30 lbs. in that 5 year period. The MAOP is, therefore, 30 lbs.

Interpretation: PI-73-008 Date: 02-13-1973

The letter asked us to verify that §192.619(b) and §192.621(b) of Title 49 of the Code of Federal Regulations provide for installation of overpressure protective devices for gas systems that have a maximum operating pressure determined by the corrosion history of the pipe segment. You indicated in your telephone conversation with Mr. DeLeon that it appeared to you that these two sections were in conflict with §192.195 and §192.197 which do not apply to installation of overpressure protective devices on systems built prior to March 12, 1971, or systems which were replaced, relocated, or otherwise changed prior to November 12, 1970, pursuant to §192.13, 49 CFR.

The requirements of §192.195 and §192.197 are contained in Subpart D of Part 192 which prescribes minimum requirements for the design and installation of pipeline components and facilities. Sections 192.619 and 192.621, on the other hand, are operational requirements contained in Subpart L. Section 192.603(a) makes clear that no person may operate a segment of pipeline unless it is operated in accordance with the requirements of Subpart L. Subpart L sets forth the continuing requirements necessary to insure safe operation of a pipeline independent of the initial design, installation and construction requirements that were applicable to that pipeline. Sections 192.619(b) and 192.621(b) prescribe requirements for the operation of pipeline facilities regardless of when these pipelines were installed. Therefore, compliance is required with both of these sections in the operation of the gas facilities.

Interpretation: PI-72-035 Date: 08-09-1972

The letter asked whether a hydrostatic pressure test was required on a pipeline. If the operating company plans to pressure test the replacing section of pipe in the operating pipeline, then the pressure test would have to be made with air or water since the permissible test pressure in a Class III location using gas, as set forth in Section 192.503(c), falls just short of that required to comply with Section 192.619(a)(2)(ii). However, gas, air, or water could be used on the fabricated short section of pipe at some other location than in the pipeline.

Interpretation: PI-ZZ-004 Date: 11-03-1971

Our regulations do not specify a test pressure above the desired operating pressure for service line operating in the range of 90 psig to 20 per cent of SMYS. However, the requirement that is specified in §192.619(a) (2) revised. This paragraph specifies that in order to operate a pipeline at 100 psig or more, it must be tested according to the limits shown in the table incorporated in the regulation.
According to §192.619(a)(2)(ii) the test pressure for new Lines to operate over 100 psig will always exceed the maximum allowable operating pressure. The only situation where a test pressure of a new pipeline is less than the permitted operating pressure is for the line that will operate between 90-100 psig. This variation was included based on strong recommendations of industry and TPSSC who claimed there was too much existing equipment designed for 100 psig output but incapable of achieving much over 90 psig. Also, since this is a leak test not a strength test, it was concluded there was little likelihood of there being any detrimental effect on safety.

Interpretation: PI-71-057 Date: 06-04-1971

The letter asked for an opinion on the effect of the "grandfather" clause in §192.619(c) vis-a-vis the requirements in §§192.607 and 192.611 that an MAOP of a pipeline which is not commensurate with its present class location must be confirmed or revised in accordance with §192.611.

When Part 192 was issued, the preamble indicated the primary purpose of the "grandfather" clause was to avoid reductions of the existing MAOP's because the pipeline was only tested to 50 psig above MAOP or because the pipeline was operated at pressures above the design stress levels permitted under §192.619(a). However, the right conferred by this "grandfather" clause are somewhat circumscribed by the phrase "subject to the requirements of §192.611".

Section 192.611 was derived from provision in the ANSI B31.8 Code (850.42) which was specifically limited to pipelines in Class 2, 3, or 4 locations. Although this limitation was not included in Section 192.611, we note that the provisions of that section can only be meaningfully applied to pipelines in Class 2, 3, or 4 locations. Nowhere in this section is there a reference to a pipeline in a Class 1 location.

Therefore, it is our opinion that pipelines in Class 2, 3 and 4 locations must have their operating pressures confirmed or revised in accordance with Section 192.611. However, pipelines in Class 1 locations operated at pressures which are not commensurate with that class location, based on the design stress levels of Section 192.619(a)(1), may continue to operate at their previous MAOP under the "grandfather" clause of Section 192.619(c). In answer to the specific questions -- the first pipeline could continue operations at the stress level of 75% of SMYS; pressure in the second or third pipeline would have to be confirmed or revised in accordance with Section 192.611.

Interpretation: PI-ZZ-001 Date: 12-03-1970

	Section 192.619 establishes a maximum allowable operating pressure for all steel and plastic pipelines. The requirements of Section 192.621 are additional requirements which apply to high-pressure distribution systems, defined in Section 192.3 as those systems in which the gas pressure in the main is higher than the pressure provided to the customer.
Advisory Bulletin/Alert Notice Summaries	
Other Reference Material & Source	GPTC Guide Material is available. Transportation Safety Institute - Determination of Maximum Allowable Operating Pressure in Natural Gas Pipelines. Date: 04-22-1998 ASME B31.8-2007, "Gas Transmission and Distribution Piping Systems", November 2007.
Guidance Information	1. Section §192.619 is used to determine MAOP of a specific pipeline segment. 2. An operator must have some means that will ensure that the MAOP is not exceeded during normal operations. 3. The intent of §192.619(c) is to allow existing pipeline segments to continue operating at a specified pressure which will not exceed MP5 (maximum pressure in the five years prior to a pipeline segment becoming regulated). 4. MAOPs based on MP5 pressure gradients may still apply. As an example, the MP5 pressure at the discharge side of compressor station A may be greater than the MP5 pressure at the suction side of compressor station B. In this case, established MAOPs along a segment or section may differ. The guiding principal is that the MAOP of an element inside the segment cannot exceed its old (MP5) operating level. 5. MAOPs for pipelines and all associated appurtenances established under 192.619(c), pipelines and all associated appurtenances may operate at an MAOP where stresses exceed the SMYS limits of §§192.619(a)(1), 192.105, and 192.111. 6. Regardless of when placed in service, pipelines that have changes in class to Class 2, 3 and 4 locations cannot operate above the hoop stress that is commensurate with the present class location, unless the MAOP has been confirmed or revised (or is being confirmed or revised due to a recent class location change) in accordance with §192.611. Segments with MAOP established by §192.619(c) with class changes are not exempted from the requirements of §192.611. 7. Operators may not design or set normal pressure controlling devices such that any part of any pipeline segment exceeds its prescribed MAOP. 8. Operators may not exceed MAOP for such purposes as temporarily applying a pressure boost in an attempt to dislodge a stuck pig, during times of high demand rates, or other operational upset conditions. 9. §192.619(a)(2)(ii) permits operators to rely on previous test pressures in calculating MAOP, as long as the segment was tested between July 1, 1965 and

	July 1, 1970, and there is nothing in the regulations that alters this policy when MAOP is determined by up-rating. 10. The "desired maximum pressure" of facilities is not defined or specifically regulated by Part 192. However, the operating pressure of a pipeline may not exceed its maximum allowable operating pressure (§192.619 and §192.623) or any lower pressure that might be required as a remedial measure for safety (e.g., §192.485). 11. The maximum safe pressure as defined in §192.619(a)(4) should only be used to derate or lower an established MAOP. 12. Additional MAOP requirements are available under §192.620 for pipeline operating at an alternate MAOP. 13. For overpressure requirements, see §192.201 and §192.739.
Examples of a Probable Violation or Inadequate Procedures	1. Operator's listed MAOP exceeds the criteria of §192.619. 2. All applicable elements required in a MAOP calculation were not adequately documented. 3. Actual operating pressure exceeded MAOP, without the occurrence of an equipment malfunction or failure. 4. Operator has no means to prevent the pipeline from being operated above the MAOP. 5. No records to substantiate the established MAOP. *Depending on the circumstances, some of the examples listed in this section may be inadequate plans and procedures, and not probable violations. Thus, the enforcement tool to address these issues would be a Notice of Amendment and not a Notice of Probable Violation or a Warning Letter. Section 3 of the Enforcement Procedures provides guidance on selecting the appropriate enforcement action.*
Examples of Evidence	1. Records used to substantiate MAOP, such as: a. MP5 records b. Uprating records c. Pressure test records d. Pipe and component specifications e. Segment class designations. 2. Diagram of the system showing existing pressure-limiting devices. 3. Photographs of field equipment. 4. Segment operating pressure records (charts and SCADA information).
Other Special Notations	

<table>
<tr><td>Enforcement Guidance</td><td>O&M Part 192</td></tr>
<tr><td>Revision Date</td><td>11-24-2014</td></tr>
<tr><td>Code Section</td><td>§192.739</td></tr>
<tr><td>Section Title</td><td>Pressure Limiting and Regulating Stations – Inspection and Testing</td></tr>
<tr><td>Existing Code Language</td><td>(a) Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is-
(1) In good mechanical condition;
(2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;
(3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressures consistent with the pressure limits of §192.201(a); and
(4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.
(b) For steel pipelines whose MAOP is determined under §192.619(c), if the MAOP is 60 psi (414 kPa) gage or more, the control or relief pressure limit is as follows:
<table><tr><td>If the MAOP produces a hoop stress that is:</td><td>Then the pressure limit is:</td></tr><tr><td>Greater than 72 percent of SMYS.</td><td>MAOP plus 4 percent.</td></tr><tr><td>Unknown as a percentage of SMYS.</td><td>A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP.</td></tr></table></td></tr>
<tr><td>Origin of Code</td><td>Original Code Document, 35 FR 13248, 08-19-1970</td></tr>
<tr><td>Last Amendment</td><td>Amdt. 192-96, 69 FR 27861, 05-17-2004</td></tr>
<tr><td>Interpretation Summaries</td><td>Interpretation: PI-ZZ-056 Date: 01-22-2004

Responding to a request for an interpretation of the Federal gas pipeline safety regulation at 49 CFR 192.739, Pressure Limiting and Regulating Stations: Inspections and Testing regarding small regulators on the system that provide protection for operating, or end-use, equipment. These types of regulators are installed by the manufacturer of the equipment.

Section 192.701, Scope, notes the Subpart M "prescribes minimum requirements for maintenance of pipeline facilities." Section 192.739 must be read in cognizance of this scope statement. It is clear that §192.739 is intended to address inspection and testing of pressure limiting and regulating stations that are necessary to maintain safe pressures on the pipeline facility, not on end-use equipment.</td></tr>
</table>

This is consistent with the June 28, 1988, interpretation letter cited in your letter. In that interpretation, we note that a regulator subject to §192.739 would have to fall within the definition of "pressure limiting station" or "pressure regulatory station" as these terms are defined in the ASME B31.8 standard. Under these definitions, it is clear that any regulator serving a downstream piping is a pressure regulating station and is subject to inspection and testing in accordance with §192.739. Conversely, a regulator that is NOT intended to protect a downstream piping, but rather serves only to protect end-use equipment, such as a compressor, would not be subject to §192.739.

Interpretation: PI-ZZ-048 Date: 02-08-1999

Following is the response to whether 49 CFR Part 192 Sections 192.731, 192.739, and 192.743 apply to compressor station relief devices that relieve natural gas in equipment and systems associated with operation of the compressor, such as fuel gas lines and instrument gas lines, PHMSA previously stated that these sections apply to all gas relief devices in compressor stations. Only relief devices on non-gas carrying equipment are exempt.

Interpretation: PI-93-019 Date: 04-28-1993

This letter is to further clarify my letter of October 22, 1992, in which I tried to clarify the specific inspections and tests the operator should be required to conduct in complying with §192.739. I explained in that letter that regulator stations must be inspected and tested to comply with §192.739 using any practicable method that will demonstrate compliance with paragraphs (a) through (d) of §192.739. Set-point, lock-up, and full-stroke-operation would be part of the inspection and testing if such tests are practicable at the station concerned.

Regulator stations that use service-type regulators, such as stations that supply master meter systems, may not be equipped with valving, manifolding, or by-passes. This equipment is needed to preclude interruption of supply to a customer or group of customers while maintenance is performed. Consequently, all the inspections and tests that can be done at some regulator stations may not be practicable at stations with service-type regulators.

In addition, to us, practicable inspections and tests do not require the operator to disassemble the regulator, re-pipe the regulator, or cut off the supply of gas to the system. Instead, we suggest that, as a minimum, these service-type regulators be visually inspected, be checked for leaks (including the regulator vent), and be checked for correct set-point. Verifying the correct set-point on a service-type regulator can be done by measuring the pressure of the gas (downstream of the regulator) with a pressure gauge. (We plan to better define "regulator station" in a future rulemaking).

Interpretation: PI-92-058 Date: 10-22-1992

In response to a drawing submitted of two distribution systems with regulator stations, since the only difference in the two distribution systems you portray is the

size of the operator, the two systems are subject to the same inspection and test requirements.

You request that we identify specific inspections and tests the operator would be required by §192.739 to conduct. Specifically, you asked if set-point, lock-up, and full-stroke operation are part of the required inspections and tests.
Set-point, lock-up, and full-stroke are undefined in Part 192 and are not specified as necessary for compliance with §192.739. Section 192.739 requires all pressure limiting and regulating stations to be subjected, at intervals not exceeding 15 months, but at least one each calendar year, to inspections and tests to determine if the station has the qualities listed in paragraphs (a)-(d) of §192.739.

Regulator stations must be inspected and tested to comply with §192.739 using any practicable method that will demonstrate the presence or absence of the listed qualities. Set-point, lock-up, and full-stroke-operation would be part of the inspection and testing if such tests are practicable at the station concerned. If not, whatever other tests are practicable in meeting the requirements of §192.739 must be used. Specific procedures should be documented in the utility's operating and maintenance plan prescribed by §192.605.

Interpretation: PI-88-002 Date: 06-28-1988

The letter asks our opinion whether the Texas Railroad Commission is correct in its interpretation that the inspection and testing requirements of §192.739 apply to a pressure regulator designed in accordance with §192.197 that supplies gas to a master meter system.

For such a regulator to be subject to §192.739, it would have to come within the meaning of "pressure limiting station" or "pressure regulating station." These two terms are not defined in Part 192. However, they are defined in two widely accepted Industry documents, the ANSI B31.8 Code and the ASME Guide for Gas Transmission and Distribution Piping Systems. Under these industry definitions of a "pressure regulating station," it is clear that any regulator serving a downstream main is a pressure regulating station. While the drafters of the industry definition may not have had in mind regulators that serve mains in master meter systems, such regulators do meet the terms of the definition. Also, they function similarly to other regulators that are generally recognized to come under the definition. Thus, we support the Texas Railroad Commission's position that §192.739 applies to pressure regulator when they are used to supply gas to master meter systems.

Interpretation: PI-ZZ-036 Date: 08-31-1984

Concerning the application of 49 CFR Part 192, §192.739, Pressure limiting and regulating stations: Inspection and testing, and §192.743, Pressure limiting and regulating stations: Testing of relief devices, to metering and pressure regulating equipment used to deliver gas to a single commercial or industrial consumer.
I am enclosing a copy of Interpretation 81-1, dated March 17, 1981. This interpretation makes it clear that these maintenance requirements (§§192.739 and 192.743) do not apply to regulator installations on service lines.

Interpretation: PI-81-006 Date: 03-17-1981

QUESTION#1: Are the pressure regulating and relief installations described in §192.197(c) subject to the requirements of §192.739?

ANSWER: The pressure regulating and relief installations described in §192.197 for high pressure distribution systems are those for a service line with meter and service regulator and series regulator, service regulator or other protective devices.

QUESTION #2: The requirements of §192.739 are for regulating stations such as a city gate measuring and pressure regulating station or a distribution regulator station installed in a gas distribution main regulating a multiple feed distribution system.

ANSWER: Since the pressure regulating and relief devices described in §192.197 are neither a city gate measuring and pressure regulating station nor a distribution regulating station regulating a multiple feed distribution system, they are not subject to the inspection and testing requirements of §192.739.

Interpretation: PI-79-018 Date: 06-01-1979

The word "pressure" in §§192.731, 192.739, and 192.743 restricts the applicability of those sections to devices or stations which serve to relieve or limit gas pressure. The sections do not apply to devices or regulators which are part of non-gas carrying equipment that may exist inside gas compressor stations. This interpretation is based on the relationship between the words "pressure" and "gas" occurring throughout Part 192 and in particular in the requirements of §192.195 for installation of pressure control devices.

Interpretation: PI-79-005 Date: 03-12-1979

Pursuant to our conversation of this afternoon, I am forwarding a copy of a letter written by Marshall W. Taylor, Chief of the Central Region, Office of Pipeline Safety, interpreting the above referenced sections of Title 49, Code of Federal Regulations. In his letter Mr. Taylor states that "the requirements of §§192.731, 192.739 and 192.743 do not apply to relief devices or regulators which are not installed in a piping system or storage vessels containing gas . . ."

Interpretation: PI-77-005 Date: 01-28-1977

The letter asks whether the requirements of Sections 192.731, 192.739, and 192.743 concerning the maintenance of pressure relief devices and limiting stations apply to devices and stations which are not part of a "pipeline" as that term is defined in Section 192.3. As examples, you refer to devices and regulators which are used in gas compressor stations for purposes other than to relieve or limit gas pressure, such as devices or regulators on compressed air or fuel systems.

The word "pressure" in Sections 192.731, 192.739, and 192.743 restricts the applicability of those sections to devices or stations which serve to relieve or limit gas pressure. The sections do not apply to devices or regulators which are part of non-gas carrying equipment inside gas compressor stations.

	This interpretation is based on the relationship between the words "pressure" and "gas" occurring throughout Part 192 and in particular in the requirements of Section 192.192 for installation of pressure control devices. Since under Section 192.3 the term "pipeline" encompasses all the gas carrying parts of an operator's systems, the pressure relief devices and limiting stations subject to Sections 192.731, 192.739, and 192.743 are those on a pipeline. **Interpretation: PI-76-066 Date: 10-04-1976** To provide for safe operation of pipelines, the maintenance requirements of §§192.739 and 192.743 apply to all relief devices on a pipeline whether or not their installation is required by §192.195. This unrestricted application is indicated by §192.703 which provides - "No person may operate a segment of pipeline, unless it is maintained in accordance with this subpart." **Interpretation: PI-76-007 Date: 01-30-1976** The letter asks whether any remedial action implied in §192.739 and §192.749? If so, would such action be subject to Sections 192.195 thru 192.203 and 192.183 thru 192.189, since this would involve a change after November 12, 1970? Sections 192.739 and 192.749 govern the maintenance of pressure limiting station relief devices and pressure regulating stations and vaults used in the transportation of gas. Remedial actions as appropriate, is implicit in the requirements of these sections. Any specific component which is replaced, relocated, or changed as a result of inspections or tests made under Sections 192.739 and 192.749 must comply with all applicable requirements of 49 CFR 192, including those to which you refer.
Advisory Bulletin/Alert Notice Summaries	
Other Reference Material & Source	GPTC Guide Material is available.
Guidance Information	1. Also see §192.743 guidance for capacity guidance. 2. Set pressures for pressure protection/relief devices must be set so as to prevent system pressures from exceeding the pressure limits of either §192.201(a) or §192.739(b), whichever is applicable. See below.

If the MAOP:	Then the pressure limit is:
Produces a hoop stress equal to or less than 72% of SMYS and is 60 psig or greater.	The lower of... MAOP plus 10 percent or 75% SMYS.
Produces a hoop stress equal to or less than 72% of SMYS and is 12 psig or more, but less than 60 psig.	MAOP plus 6 psig.

Produces a hoop stress equal to or less than 72% of SMYS and is less than 12 psig.	MAOP plus 50 percent.
Was determined under §192.619(c) and produces a hoop stress greater than 72% of SMYS .*	MAOP plus 4 percent.
Was determined under §192.619(c) and produces a hoop stress that is unknown as a percentage of SMYS.*	A pressure that will prevent unsafe operation of the pipeline considering its operating and maintenance history and MAOP.

* This does not apply to pipelines operating under 192.620 alternate SMYS.

3. Visually check station piping supports, control/sensing/supply lines, and ventilating equipment for proper design and maintenance.
4. If a pipeline was either built or modified after March 12, 1971 and the pressure limiting device is removed from service for testing; adequate over-pressure protection of the affected line must still be maintained.
5. Device testing records shall include the set pressure of the device as well as the name of the individual who did the testing.
6. Testing relief valves to determine they are in good mechanical condition requires, in part, physical movement of the valve plug to assure the valve can open.
7. Relief stacks must be free of obstructions and have rain caps or weep holes.
8. Relief stacks, as well as instrument supply line vents, must be above the roof line.
9. Check valves may not be used as pressure control devices.
10. The occurrence of over-pressure may be indicative of an equipment failure or design flaw. Overpressure should be documented as an abnormal operation as per §192.605 (c)(1)(ii) Operation of the relief device should also be documented as an abnormal operation as per §192.605 (c)(1)(iv).
11. Facilities not in service, but still physically connected, must meet the inspection and testing requirements of §192.739.
12. Regulators and over pressure protection devices on compressor fuel gas lines and instrumentation gas are subject to the requirements of §§192.731, 192.739, and 192.743.
13. §192.195(a) indicates that except for relief valves and rupture disks, two devices are required for overpressure protection "Except as provided in §192.197, each pipeline that is connected to a gas source so that the maximum allowable operating pressure could be exceeded as the result of pressure control failure or of some other type of failure, must have pressure relieving or pressure limiting devices……."
14. For a pipeline or pipeline facility that was either built or modified after March 12, 1971 the downstream pressure rating of a regulator must be capable of withstanding pressures it would be subjected to if it were to fail open. §192.143.
15. If a facility has been installed or modified after March 12, 1971, and there is only a single pressure control device, the operator must also be able to show that the failure of that device will not cause the downstream MAOP to be exceeded, otherwise there must be an over-pressure protection device installed that will meet the requirements of §192.199 and §192.201.

	16. If the regulator assembly includes a worker/monitor configuration, then separate taps and sensing lines are required; or designed to fail-safe. §192.199. 17. Facilities either built or modified after March 12, 1971 are required to meet the requirements of §192.201(a): Setpoints can either be locally or remotely controlled or set; however, sole reliance on remote human intervention to activate a safety valve in the case of regulator or pressure control failure does not satisfy the set point requirements of §192.201(a). 18. Devices such as pressure switches or transducers that are used as overpressure protection, must meet the requirements of annual testing, and be set at the appropriate points. 19. Slam shut valves or other fail close devices are acceptable overpressure protection. 20. The operator must have written pressure limiting and regulating stations inspection and testing procedures. 21. AmeriGas Partners, LP [2-2013-0021] (June 30, 2014) Operator failed to inspect and test each pressure regulating station and its equipment at intervals not exceeding 15 months, but at least once each calendar year. PHMSA found that there is no conflict between § 192.739 and NFPA 58/59 regarding the inspection and testing of pressure regulating stations. In deciding whether the § 192.739 testing requirement is "incompatible" with NFPA 58/59, PHMSA determined nothing in either text would impede the operator from complying with both the standard and the regulation at the same time. CP
Examples of a Probable Violation or Inadequate Procedures	1. The lack of procedures is a violation of §192.605. 2. The lack of records is a violation of §192.603. 3. The operator did not follow written inspection and testing procedures. 4. Excessive ice buildup on the downstream side of a regulating station that impedes the operation of any pressure protection device. 5. Inadequate or non-existent overpressure protection equipment for §192.195(a that may allow the MAOP to be exceeded as a result of pressure control or other type of failure. 6. Test or review of the required capacity of the relief device is not made within the required intervals. 7. Inspection and testing of an overpressure protection device has not been completed within the required intervals. 8. Actual set pressures do not match required settings. 9. Capacity calculations do not match the current station piping design. Capacity calculations should include downstream piping capacity calculations for maximum pressure and flow. 10. Changes to a station relief capacity were not made after a facility change or operation change that required an increase in relief capacity. 11. The operator did not change setpoints when MAOP changed. 12. Repairs to pressure control/pressure relief devices to correct an unsafe condition were not made prior to resuming operations. 13. Regulators and over pressure protection devices on compressor fuel gas and instrumentation gas have not been tested and inspected at the required intervals. 14. A pressure limiting device that has a set point set above the pressure limits allowed. 15. A pressure limiting device that fails to operate at the set point due to lack of

	maintenance. 16. Unremediated corrosion or mechanical damage of the device or associated control piping. 17. Capacity calculations that pre-date piping changes (or other factors) that may have impacted actual capacity requirements. 18. Unprotected relief ports that would be subject to damage or restriction from water, ice, debris, etc. 19. A facility built or modified after March 12, 1971 has out of service tests conducted without an equivalent temporary device or adequate manual control provided to protect against the possibility of over-pressure. 20. Except for relief valves, only one overpressure protection device. 21. Unintended operation of a relief device not documented as an abnormal operation. 22. Check valves are used as overpressure protection. *Depending on the circumstances, some of the examples listed in this section may be inadequate plans and procedures, and not probable violations. Thus, the enforcement tool to address these issues would be a Notice of Amendment and not a Notice of Probable Violation or a Warning Letter. Section 3 of the Enforcement Procedures provides guidance on selecting the appropriate enforcement action.*
Examples of Evidence	1. Test records. 2. Photographs. 3. Station schematics. 4. Documentation of increased upstream regulator capacity. 5. Capacity calculation sheets. 6. MAOP listings. 7. Maintenance records. 8. Stations pressure charts or database pressure history. 9. Incident reports. 10. Operator's written procedures. 11. Equipment and manufacturer's specifications. 12. The lack of procedures or records.
Other Special Notations	

Unitil d/b/a Northern Utilities, Inc.

DG 15-121
Hearing on Notices of Violations

Northern Utilities Data Requests - Set 1

Date Request Received: 4/28/15
Request No. Staff 1-28

Date of Response: 7/20/15
Respondent: R Knepper

REQUEST:

Please identify all provisions in 49 C.F.R. Part 192 that allow MAOP to be exceeded on a pipeline segment or system. Please include in your response a description of the circumstances or conditions that must occur before or in conjunction with such an allowed exceedance of MAOP.

RESPONSE:

Subpart K Uprating (Pressures made in increments to establish a new MAOP);

Subpart J Pressure Testing (when pressure testing a segment being returned to service); and

Subpart L Operations (Starting and shutting down of a pipeline).

Mr. Charles C. Heath
Heath and Associates
P. O. Box 185
7 North Lafayette Street
Shelby, North Carolina 28150

Dear Mr. Heath:

You have requested our opinion whether a monitoring-type regulator station that includes a by-pass line with a lockable valve meets the design requirements of 49 CFR Part 192. James Stites of the South Carolina Public Service Commission, anticipating your request, has sent us copies of correspondence with you related to an incident in which an individual opened such a by-pass line, causing a downstream main to rupture.

We have concluded from our review of applicable regulations that regulator stations designed as you have described are permissible under Part 192. Moreover, we do not believe that the intent of the regulations requires installation of a non-isolatable relief device in these stations to provide further protection against downstream overpressure. The purpose of the regulations that govern the control of pressure at regulator stations is to protect against accidental overpressure caused by failure of a piping component. The regulations are not intended to require the installation of hardware to guard against potential overpressure caused by human error, such as opening a by-pass valve without regard for the consequences.

Our experience shows that in most cases the best regulatory approach to preventing pipeline accidents caused by human error involves requiring personnel to follow detailed operating and maintenance procedures and to undergo training and testing in those procedures. We have rulemaking proceedings underway in both areas.

Sincerely,

George W. Tenley, Jr.
Director
Office of Pipeline Safety

DB
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Northern Utilities, Inc.
Docket No. DG 15-121
PUC Staff Information Requests – Set 1

Received: July 27, 2015 Date of Response: August 6, 2015

Request No. NUNH-Staff 1-10 Witness: Christopher LeBlanc; Philip Sher

Request:

Please indicate what Northern believes "accidental overpressurization" means as used in section 192.

Response: The term "accidental overpressurization" is not a defined term in Part 192. Based on various PHMSA interpretations, however, the term "accidental overpressurization" is commonly interpreted as overpressurization that could occur if a worker regulator were to fail. For example, in an October 21, 1971 interpretation, PHMSA explained:

> When we say [in Section 192.195(b)] "and that could be activated in the event of failure of some portion of the system; and (2) be designed so as to prevent accidental overpressuring", we have in mind either a series or monitor type of regulator set where if one of the two or more regulators in that series should fail, the remaining regulator or regulators will limit the pressure to a maximum of 1.1x the maximum allowable operating pressure.

In this interpretation, PHMSA explained that the "be designed to prevent accidental overpressuring" means a worker-monitor configuration where the monitor regulator will limit the system pressure to 1.1x MAOP if the worker regulator fails. The "1.1x MAOP" standard refers to a former version of Section 192.201, and therefore this interpretation is marked by WinDOt as "currently under review by PHMSA." (See response to Staff 1-14.)

When Section 192.201 was amended effective November 4, 1972, it was clear that the amendment was intended to address the fact that regulator technology in the early 1970's was not capable of accurately limiting "accidental overpressure" on systems with an MAOP of 60 psig or lower to "the present 10 percent of MAOP standard." Fed. Reg. vol, 37, no. 193 at 20827 (Oct. 4, 1972).[1] *See id.* at 20826 ("This amendment to § 192.201(a) changes the restriction on accidental pressure buildup in pipelines, other than low pressure distribution systems, which have a maximum allowable operating pressure (MAOP) of less than 60 p.s.i.g.") As the 1972 amendment to Section 192.201 makes clear, PHMSA uses

[1] During the rulemaking comment period, two commenters suggested that PHMSA apply to new standard not just to systems with an MAOP of 60 psig or less, but also to systems with an MAOP of up to 150 psig. PHMSA rejected that approach and reasoned:

> As it is only when the MAOP of a system is below 60 p.s.i.g. that present-day regulating equipment cannot accurately limit accidental overpressure to the present 10 percent of MAOP standard, it is in the best interest of overall safety that the proposed amendment allowing an increase in the limits for accidental overpressure be restricted to systems with MAOP's of 60 p.s.i.g. or less.

Fed. Reg. vol, 37, no. 193 at 20827 (Oct. 4, 1972).

Northern Utilities, Inc.
Docket No. DG 15-121
PUC Staff Information Requests – Set 1

Received: July 27, 2015 Date of Response: August 6, 2015

Request No. NUNH-Staff 1-10 Witness: Christopher LeBlanc; Philip Sher

the term "accidental overpressure" to refer the pressure greater than system MAOP that results from the failure of the worker regulator.

Finally, on February 22, 1990, PHMSA provided an interpretation of the overpressure protection requirements of Part 192 and observed:

> The purpose of the regulations that govern the control of pressure at regulator stations is to protect against accidental overpressure caused by failure of a piping component. The regulations are not intended to require the installation of hardware to guard against potential overpressure caused by human error, such as opening a bypass valve without regard for the consequences.

These interpretations demonstrate that "accidental overpressuring" refers to the failure of the worker regulator and that the monitor regulator serves to limit accidental overpressuring to the pressures dictated by Section 192.201.

Unitil d/b/a Northern Utilities, Inc.

DG 15-121
Hearing on Notices of Violations

Northern Utilities Data Requests - Set 1

Date Request Received: 4/28/15
Request No. Staff 1-34

Date of Response: 7/20/15
Respondent: R Knepper

REQUEST:

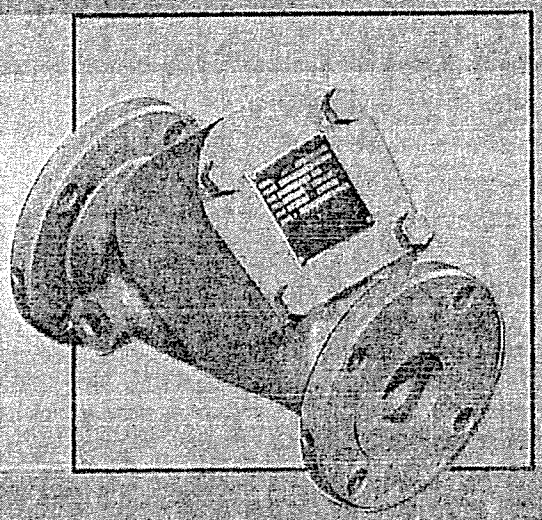
Staff alleges on page 2 of NOV 2 that there was an "accidental overpressuring" of the system. Please define "accidental overpressuring" and provide citations to all authority upon which you rely for your definition.

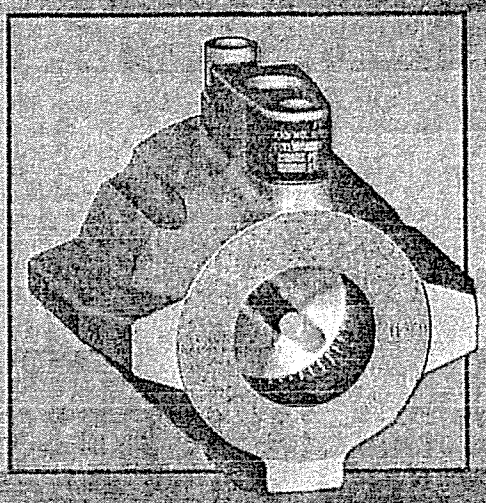
RESPONSE:

"Accidental overpressurization" is a phrase used in 49 CFR §192.195, "PROTECTION AGAINST ACCIDENTAL OVERPRESSURING," and in Puc 504.05 Emergency Notification. Neither source defines the phrase. Staff thus interprets the phrase according to common usage, which is an unintentional overpressurization.

DRESSER

REDQ Flexflo Regulators





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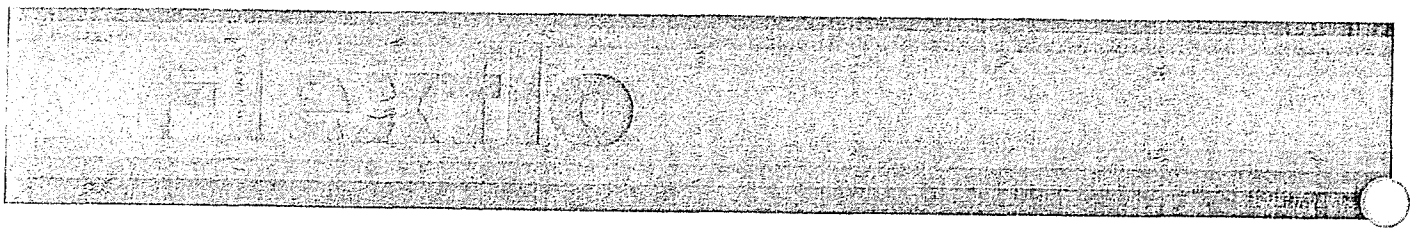
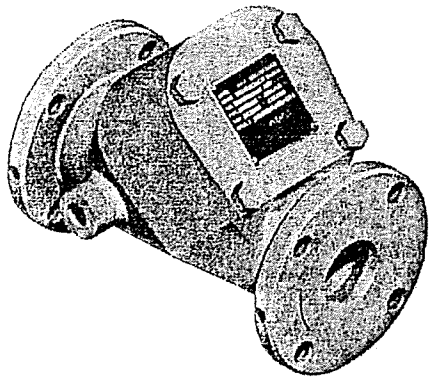
The information presented in this brochure is for informational purposes only. For actual design assistance please visit our website at www.redqregulators.com or see your local representative.



Flexflo® Top Entry Regulator Model 900TE



The Model 900TE (Top Entry) Flexflo® Regulator is a self-contained, pilot-operated pressure regulator that may be used in both gas and liquid applications. The 900TE Flexflo® Regulator design features a simple, top-entry design for easy in-line maintenance. The 900TE incorporates a cast steel body with integral flanged end connections. Multiple trim configurations are available to match a variety of applications. The 900TE Flexflo® Regulator is available from 2" (50.8 mm) to 6" (152.4 mm) bore. The 900TE Flexflo® Regulator typically is used with a Flexflo® Pilot for pressure control applications. The environmentally friendly design of the Flexflo® Pilot and Regulator eliminates all atmospheric emissions by maintaining all gas/liquid within the piping system.

Features:

- Top entry design provides easy in-line maintenance or inspection
- Top entry design accessible without removal of pilot or plumbing
- Rugged design ideal for demanding pipeline applications
- Pulsation resistant design ideal for power plant type applications
- No hydraulic oil or internal springs required
- Simple design has only one moving part
- Environmentally friendly design with no emissions
- Reduced capacity trims may be easily exchanged to optimize for flow conditions
- Dual instrument connection ports allow versatile control options/configurations
- Since 1942, the Flexflo® Regulator is the original flexible element regulator
- Can be mounted horizontal, vertical or upside down
- Low noise
- Pressure reducing, pressure relief or flow control applications

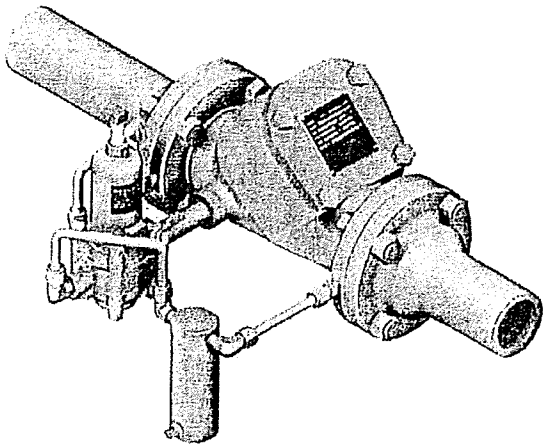
Specifications:

Item:	Model 900TE Flexflo® Regulator
Type:	Pilot Operated Regulator
Body Materials:	WCB
Available Sizes:	2 in. (50.8 mm) 3 in. (76.2 mm) 4 in. (101.6 mm) 6 in. (152.4 mm)
End Connections:	Raised Face Flange 150, 300, 600 ANSI ASME/ANSI B16.10
Working Temperature:	-20°F to +150°F (-29°C to +66°C) Standard*
Maximum Differential:	1200 psid*
Maximum Inlet Pressure:	1480 psig*
Outlet Pressure Range:	1480 psig**

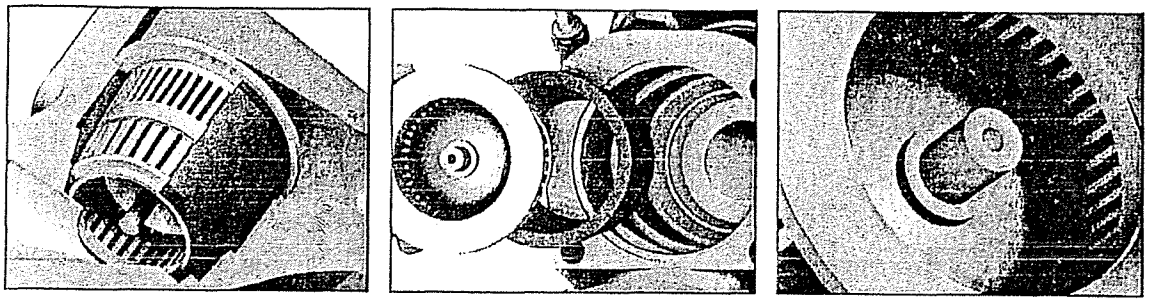
* Limited by Flexflo® Tube Selection.
** Limited by Flexflo® Pilot Selection.

The Flexflo® Regulator is the original flexible element regulator!

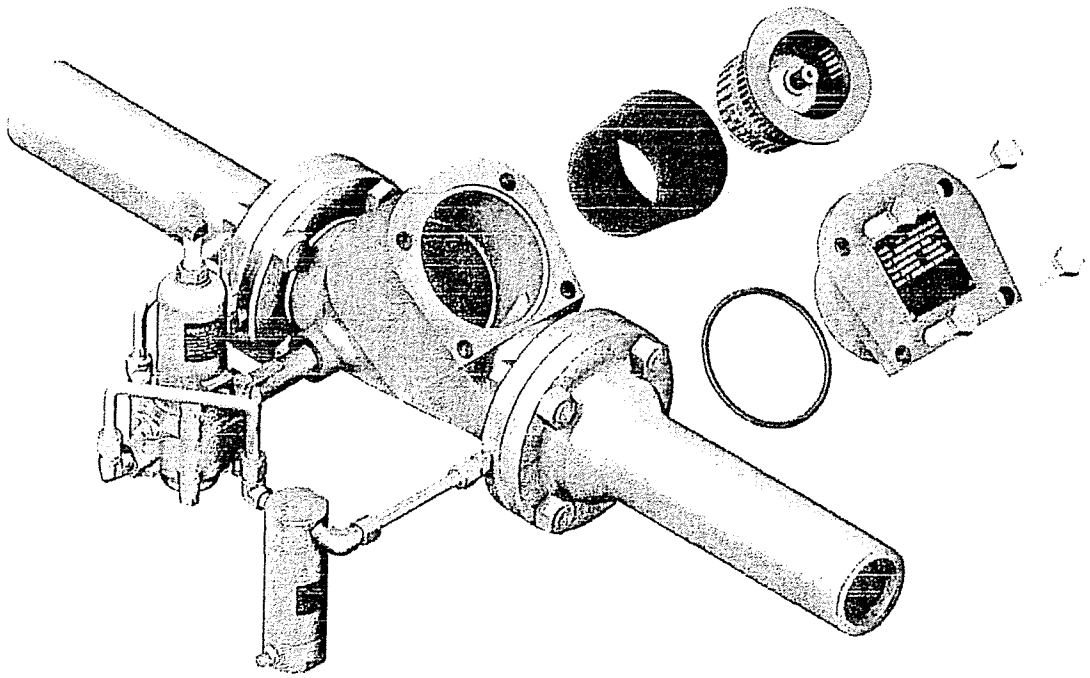
The 900TE Flexflo® Regulator is the ideal regulator for natural gas transmission/distribution systems and power plants. The combined package of the 900TE, filter, and Model 829S1 Pilot shown here provides a reliable and economical regulation package for all your pipeline needs. The 900TE Flexflo® Regulator is capable of regulating both gas and liquids, but is most commonly utilized in natural gas pipelines.



The REDQ™ Model 900TE Flexflo® Regulator is Extremely User Friendly to Maintain



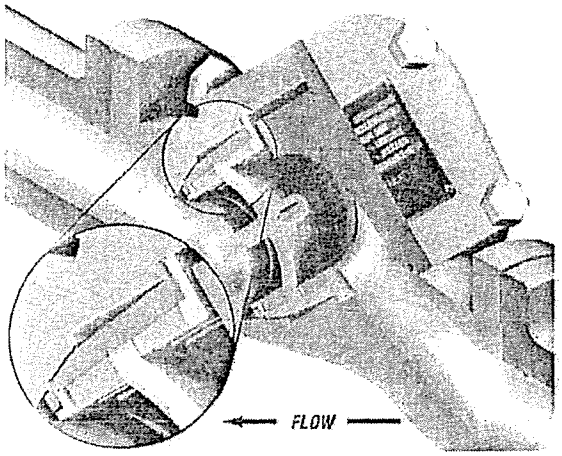
REDQ™ Model 900TE Flexflo® Regulator



How it Works

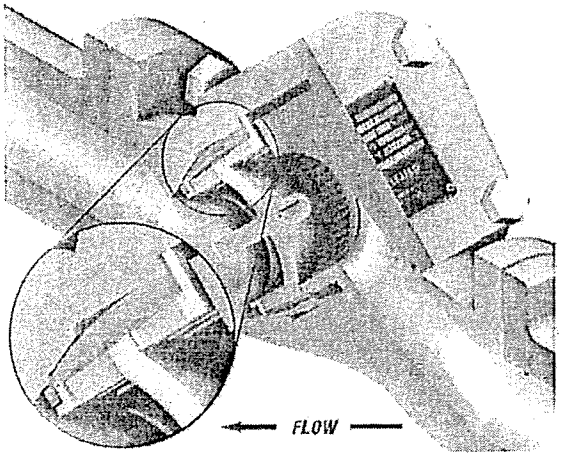
Operation of the 900TE Flexflo® Regulator consists of one moving part, the Tube. This single moving part is a flexible element that controls the flow of gas/liquid through the Core of the regulator. Application of Jacket Pressure to the Tube (tube shown in purple) will regulate the volume of gas/liquid that flows through the regulator.

The 900TE Flexflo® Regulator functions as a "slave" device and requires a "brain" to control the process application. Most commonly, Flexflo® Pilots are utilized as the "brain" to control the process. For information on REDQ™ Flexflo® Pilots and other related Flexflo® accessories, see pages 13 to 15 of this brochure.



Model 900TE Flexflo® Regulator at Full Closed Position

As Jacket Pressure is increased the Tube will constrict around the Core reducing the flow volume that passes through the Core of the regulator. If Jacket Pressure is maximized, the Tube will seal around the center sealing surface of the Core and shut off flow. Jacket Pressure is maximized when it is equal to Upstream Pressure.



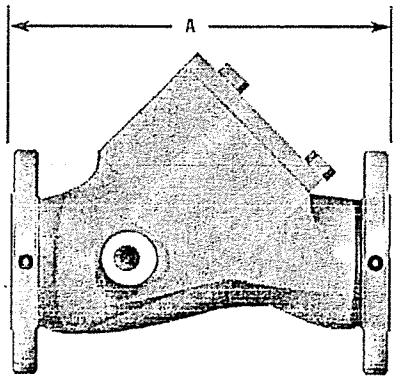
Model 900TE Flexflo® Regulator at Full Open Position

As Jacket Pressure is decreased, the Tube will expand from the Core increasing the flow volume that passes through the regulator. If Jacket Pressure is minimized, the Tube will expand away from the sealing surface of the Core allowing maximum flow. Jacket Pressure is minimized when it is equal to Downstream Pressure.

Size	ANSI Class	Face to Face (A)	Flange Diameter	Weight
2" (50.8 mm)	150	10" 254 mm	6" 152 mm	40 lbs 18 kg
	300	10.5" 267 mm	6.5" 165 mm	45 lbs 20 kg
	600	11.25" 286 mm	6.5" 165 mm	49 lbs 22 kg
3" (76.2 mm)	150	11.75" 298 mm	7.5" 191 mm	96 lbs 44 kg
	300	12.5" 318 mm	8.25" 210 mm	103 lbs 47 kg
	600	13.25" 337 mm	8.25" 210 mm	119 lbs 54 kg
4" (101.6 mm)	150	13.875" 352 mm	9" 229 mm	124 lbs 56 kg
	300	14.5" 368 mm	10" 254 mm	144 lbs 65 kg
	600	15.5" 394 mm	10" 254 mm	164 lbs 74 kg
6" (152.4 mm)	150	17.75" 451 mm	11" 279 mm	294lbs 133kg
	300	18.63" 473 mm	12.5" 318 mm	338 lbs 153 kg
	600	20" 508 mm	14" 356 mm	373 lbs 169 kg

Model 900TE Flexflo® Regulator Cv (Flow Coefficient) Data

Size	Max C_V (100% Core)	Qmax H_2O
2" (50.8 mm)	58	300
3" (76.2 mm)	94	660
4" (101.6 mm)	128.5	1175
6" (152.4 mm)	304	2644



Model 900TE Flexflo® Regulator Figure Number Designation

REDQ™ Flexflo® Regulator Model Number Designation Explanation. Every REDQ regulator product can be completely identified by its figure number. Listed below is an example of how figure numbers are derived.

Example: 3 in. REDQ™ Model 900TE Regulator, Class 150 ANSI End Connections with Hydrin 893 Tube.

11559	L	3	A	D	N

Basic Figure Number		
	Basic F/N	
Standard	11559	100% C_v
	11558	50% C_v
	11574	30% C_v
Nace	11561	100% C_v
	11582	50% C_v

Code	Tube Types
N	Standard

ANSI Rating	
Code	ANSI
L	ANSI Cl 150
M	ANSI Cl 300
H	ANSI Cl 600
S	NPT (1" only)

Tube Material		
Code	Material	Max. Diff (psid)
A	Hydrin 878	740
B	EPDM 888	740
C	Nitrile 814	740
D	Hydrin 893	285
E	Nitrile 846	1200
F	Hydrin 725	60
K	HNBR 740	1200
L	HNBR 744	740
M	HNBR 745	285
R	Nitrile 644	1200

NOTE:
Tube selection, see Page 12 for additional information.

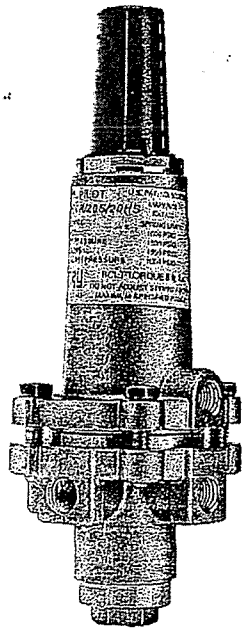
Size			
Code	in.	mm	End Type
2	2"	50.8	Flanged
3	3"	76.2	Flanged
4	4"	101.6	Flanged
6	6"	152.4	Flanged

Code	Material
A	WCB Cast Steel

DRESSER®

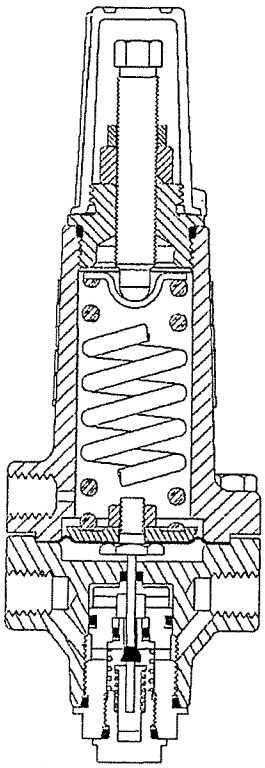
Mooney Regulators

Series 20 & 20S Pilot



Series 20S Flowgrid® Pilot

The Series 20 & 20S Flowgrid® Pilot is a reversible pressure control regulator designed primarily for use as a control pilot with unloading type pilot systems for pressure reducing (PRV) backpressure (BPV or Relief), and differential pressure (DPV) applications. The Series 20 Pilot is designed for both liquid and gas applications. The unique cartridge design permits quick disassembly and allows the control action to be reversed simply by inverting the plug/stem assembly in the cartridge. The pilot is available in both brass (Series 20) and stainless steel (Series 20S).



SECTIONAL VIEW

SPECIFICATIONS

Body Style	Pressure Reducing (PRV) & Back Pressure (BPV)
Orifice Size	0.15 Inches (Standard) 0.17 Inches (Optional)
Connections	1/4" NPTF
Temperature Nitrile Diaphragm & O-rings	Working -20°F to 150°F Emergency -40°F to 200°F
Temperature Viton Diaphragm & O-rings	30° F to 200°F
Maximum Inlet Pressure	1500 psig
Maximum Loading Pressure	1500 psig
Maximum Outlet Pressure	1500 psig
Maximum Emergency Sensing Pressure	1000 psig
Maximum Spring Housing Pressure	1000 psig
Set Pressure Range	3-12 psig 60-200 psig 10-40 psig 100-260 psig 25-90 psig 200-450 psig

* Anytime the Flowgrid ® Pilot or Valve is exposed to pressures in excess of its rating it should be inspected for damage.

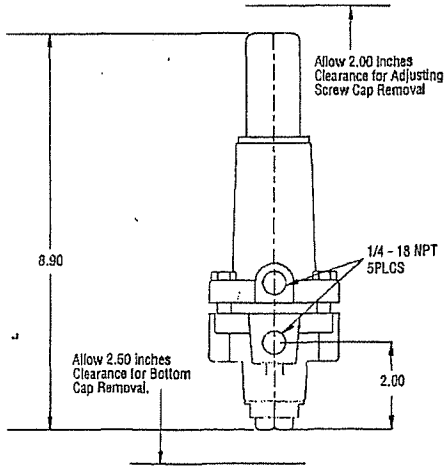
FLOW COEFFICIENTS AND CONSTANTS

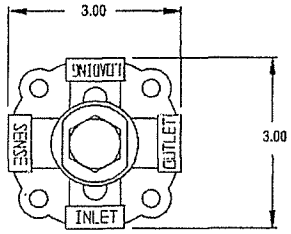
Series 20/20S/20H/20HS Pilots			
	C1	**MAX Cg**	**MAX CV**
0.15 Orifice (Standard)	38	9.58	0.25
0.17 Orifice (Optional)	38	11.18	0.29

MATERIALS OF CONSTRUCTION

Body & Spring Housing	Forged Brass or 303 Stainless Steel
Body Insert & Closing Cap	Brass or 303 Stainless Steel
Orifice	303 Stainless Steel or Delrin
Plug & Stem	Nitrile/303 Stainless Steel Viton/303 Stainless Steel 303 - Stainless Steel
Diaphragm	Nitrile/Nylon or Viton/Nylon
O-Rings	Nitrile or Viton

DIMENSIONS





TRIM OPTIONS

All Series 20 Pilots			
Internal Trim	**Std. Construction**	**Option 1**	**Option 2**
Orifice	303 Stainless	303 Stainless	Delrin
Plug/Stem	Nitrile/303 SST	Nitrile/303 SST	303 Stainless
Diaphragm	Nitrite/Nylon	Viton/Nylon	Nitrite/Nylon
O-Ring	Nitrile	Viton	Nitrile

STOCK NUMBERS

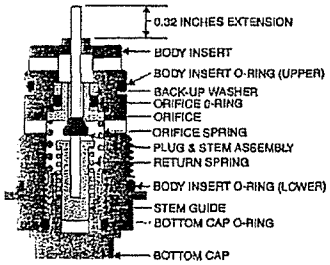
Series 20 Pilot (Brass)	Spring Color	PRV Stock	BPV Stock	Weight
3-12 psi	Red	FP-57	FP-58	6 lbs
10-40	Cadmium	FP-6	FP-16	6 lbs
25-90	Blue	FP-7	FP-17	6 lbs
60-200	Purple	FP-8	FP-18	6 lbs
100-260	Black	FP-9	FP-19	6 lbs
200-450	Green	FP-10	FP-20	6 lbs
Series 20S Stainless				
3-12 psi	Red	FP-59	FP-60	6 lbs
10-40	Cadmium	FP-26	FP-36	6 lbs
25-90	Blue	FP-27	FP-37	6 lbs
60-200	Purple	FP-28	FP-38	6 lbs
100-260	Black	FP-29	FP-39	6 lbs
200-450	Green	FP-30	FP-40	6 lbs

PILOT PERFORMANCE

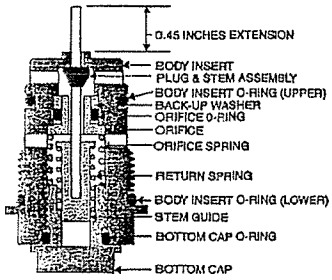
SERIES 20 Pilot		Pressure Reducing Mode Restrictor set at 4			Back Pressure Mode Restrictor set at 4	
Spring Range	**Color**	**Lock-up (psi)**	**Droop (psi) @ MAX Capacity [1]**	**Boost @ Constant Flow (psi) [3]**	**Build up (psi) for Max Capacity[2]**	**Lock-up (psi)**
3-12 [2]	Red	1.0	0.3	0.7	[2]	[2]
10-40 [2]	Cadmium	1.0	0.3	0.7	+.50	-1.0
25-90	Blue	2.0	0.6	0.7	+.50	-1.0
60-90	Purple	2.0	1.30	0.7	+1.0	-1.0
100-200	Black	5.0	2.00	0.7	+3.0	-1.5
200-450	Green	10.0	4.00	0.7	+5.0 [4]	-2.0

1. Inlet Pressure (P_1).
2. Minimum set point for Flowgrid® Valve and Pilot when used as a Relief Valve (BPV) is 15 psig or the minimum differential whichever is greater.
3. Per 100 psi decrease in inlet pressure (P_1).
4. SST/Delrin trim required.

Pressure Reducing (PRV) Mode



Back Pressure (BPV) Mode



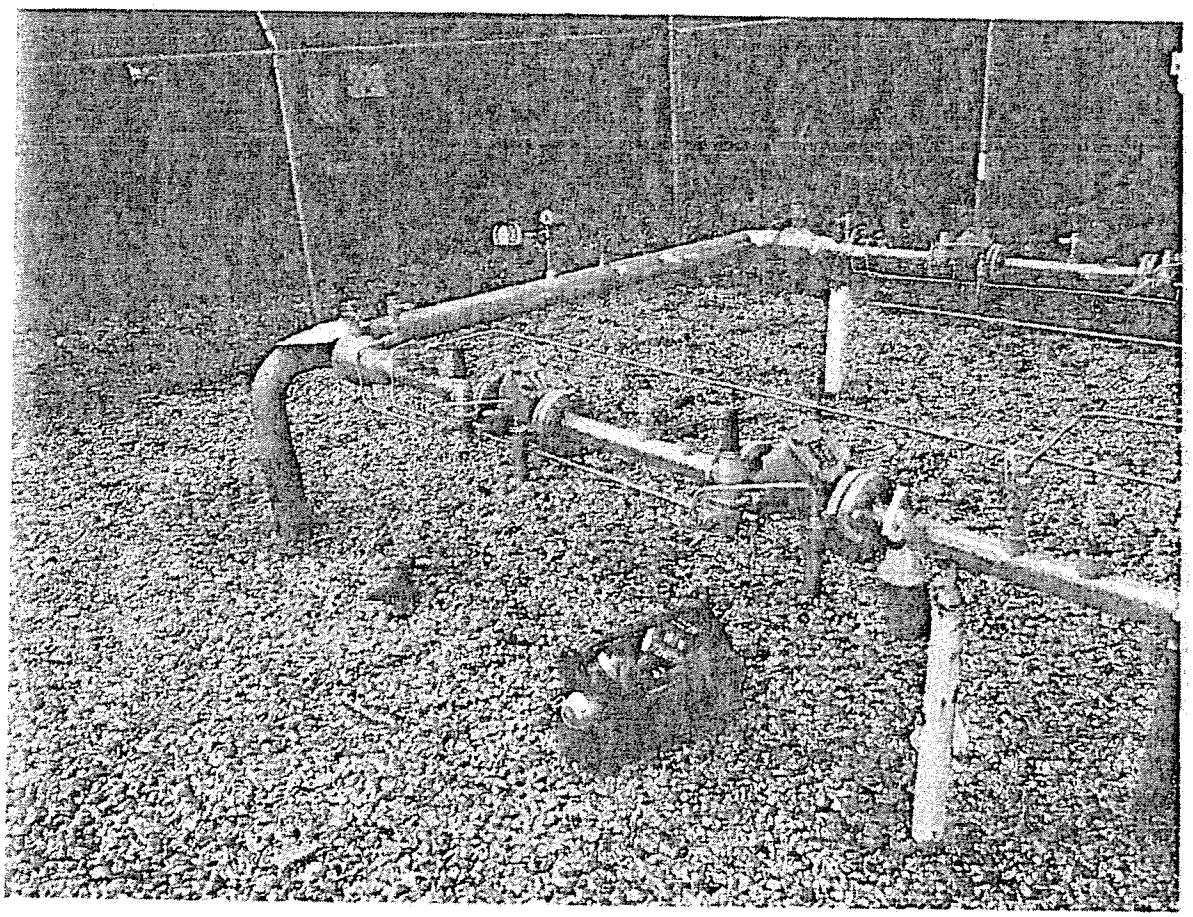
CARTRIDGE SECTIONAL VIEW

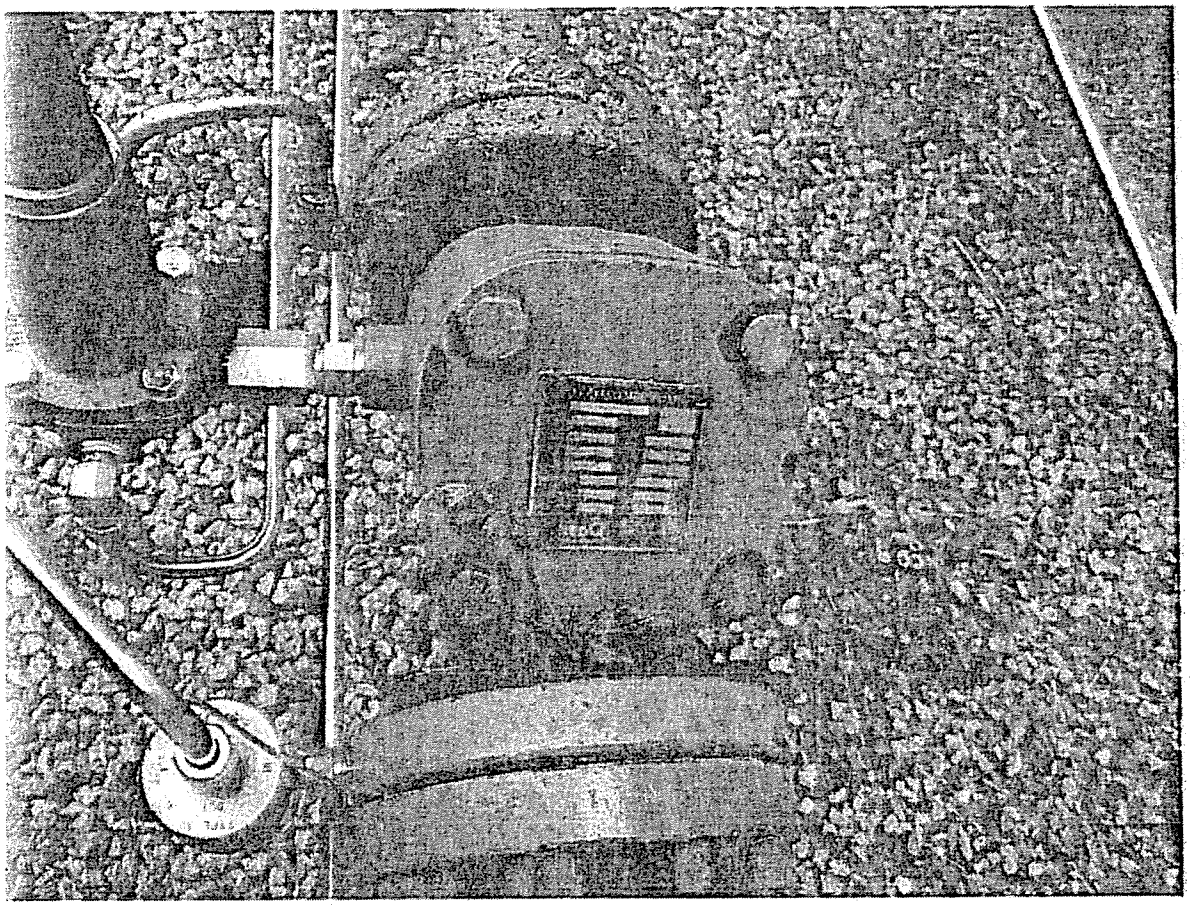
* The difference between PRV and BPV Modes is that the Pilot Stem is inverted and the control action is reversed.

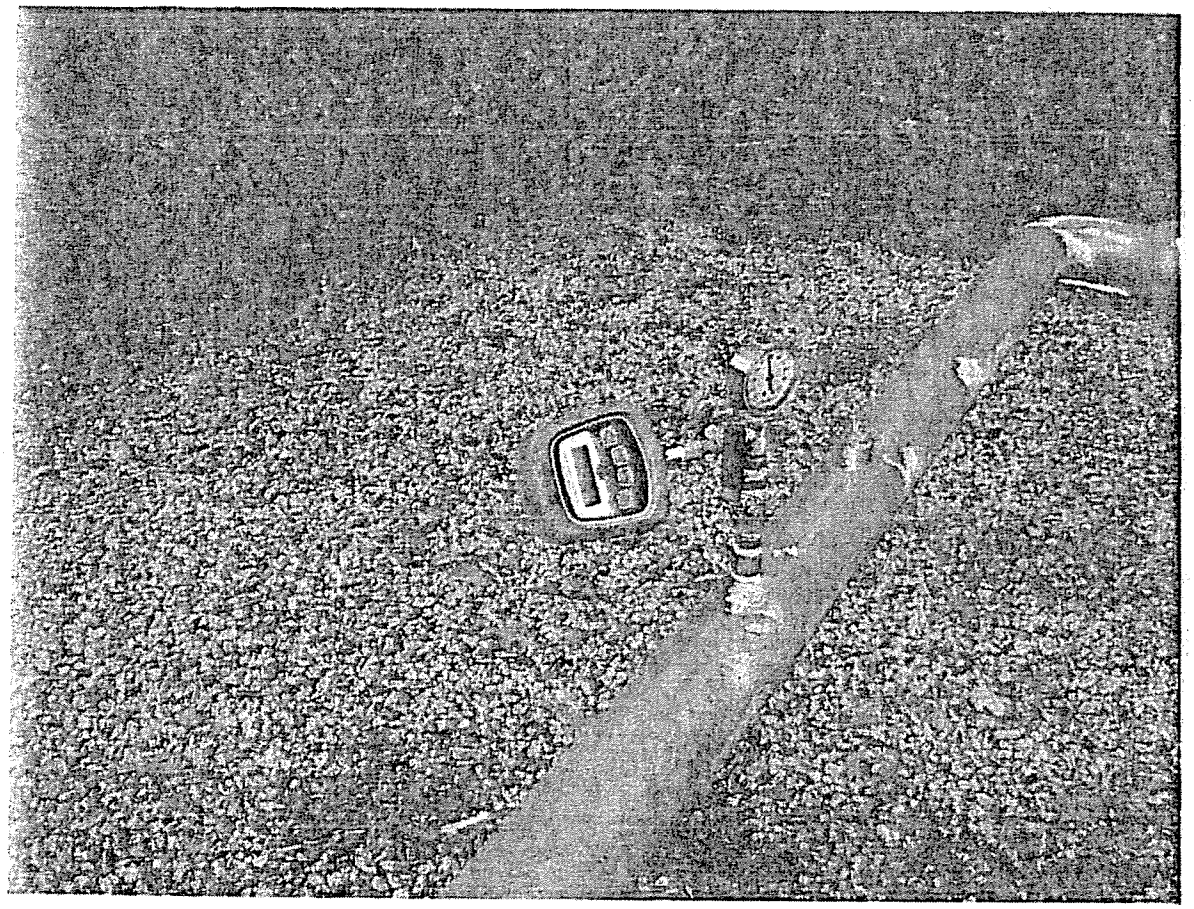
Mooney Dresser, Inc.
2822 S. 1030 W.
Salt Lake City, Utah 84119
Phone: 801.487.2225 Fax: 801.487.2587
www.mooneycontrols.com

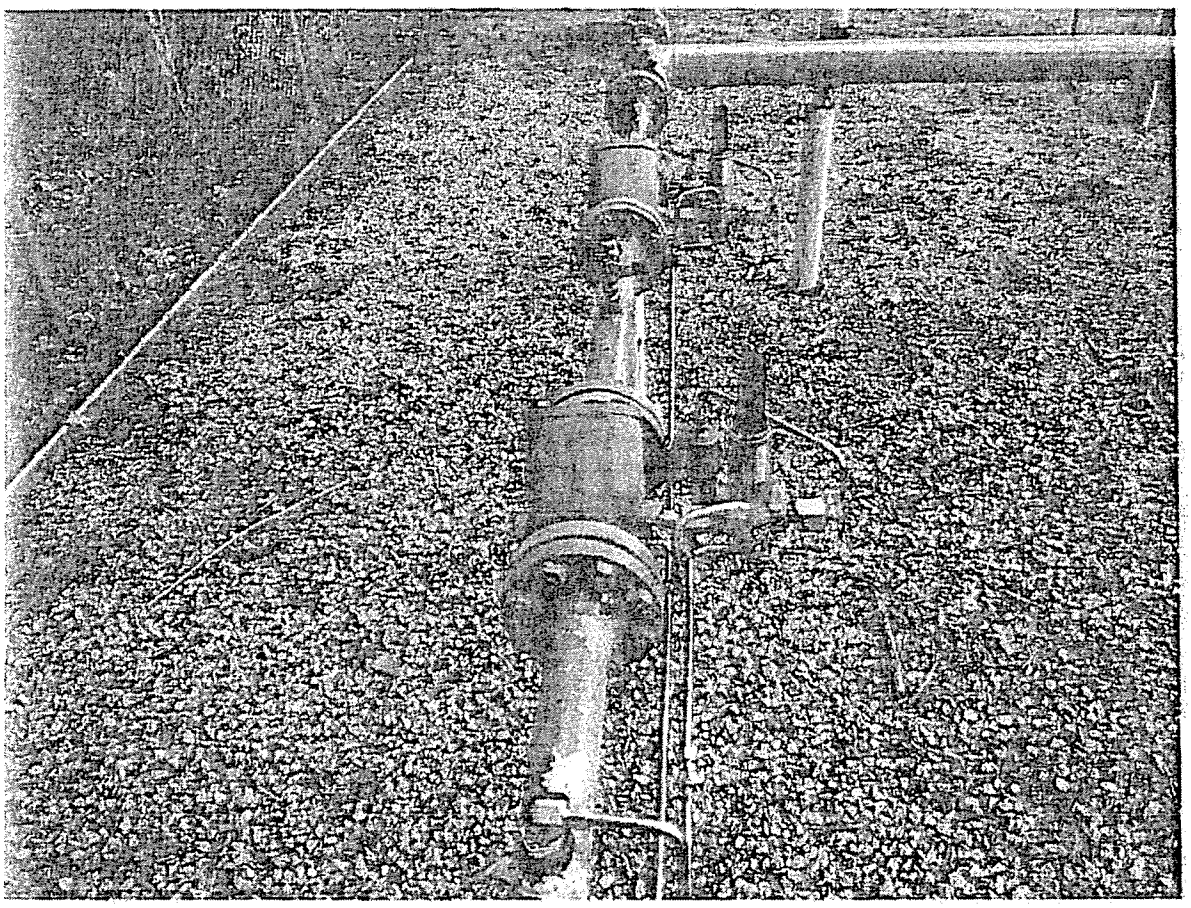
www.dresser.com

Att 1-1
Pease Photos, Pages 1 - 48

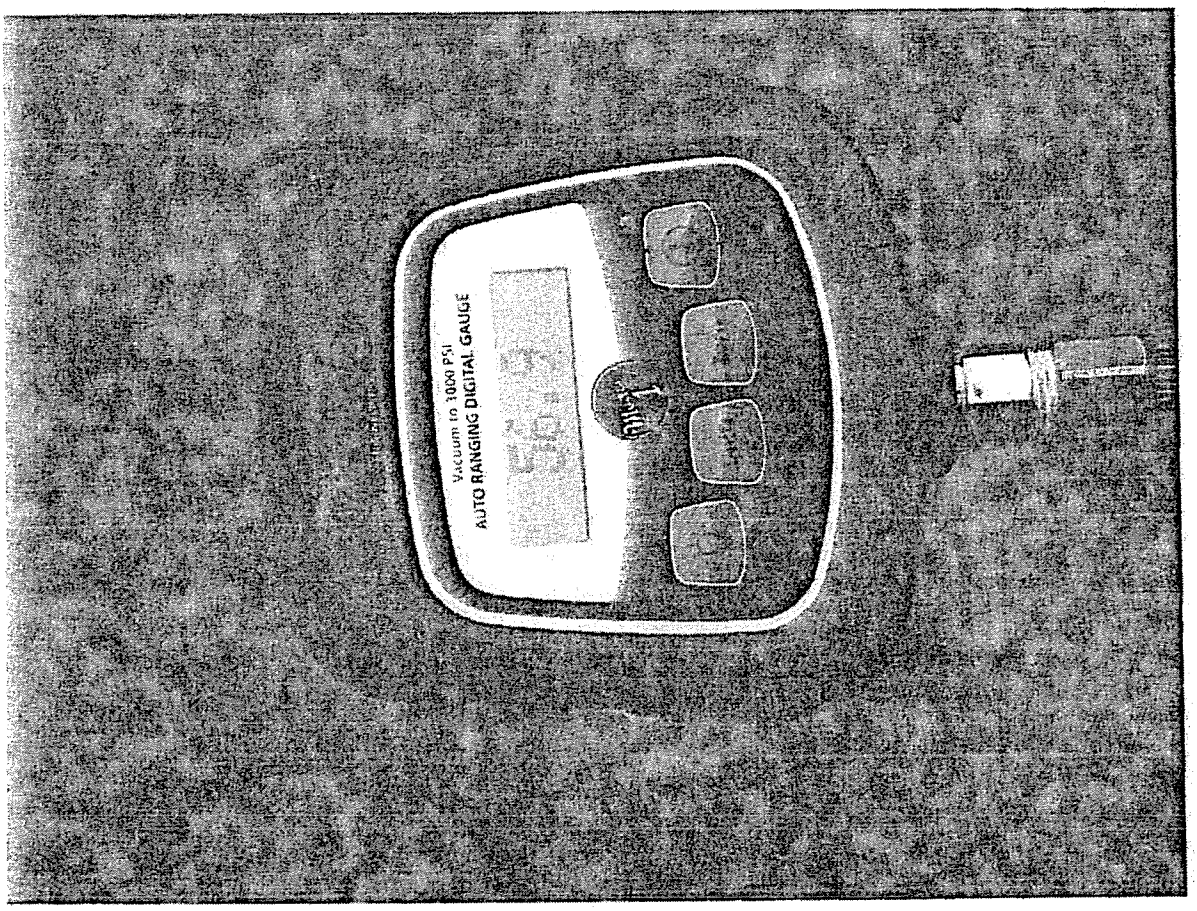


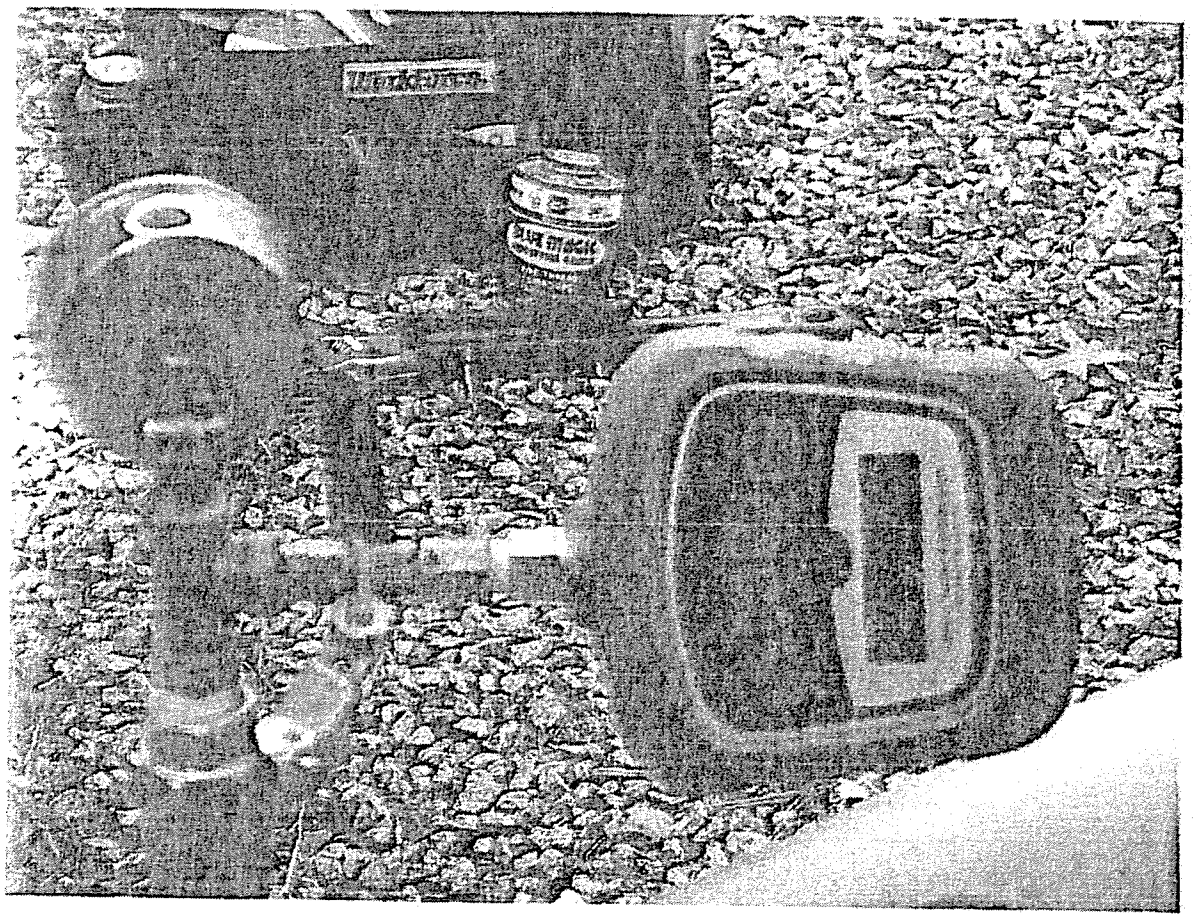







SPRING RANGE
RED
PLATED
BLUE


Vacuum to 1000 PSI
AUTO RANGING DIGITAL GAUGE



#17

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.3WC

Normal Set Pt: ~~53PSI~~

Date:	5-27-10
Time arrived:	1130
Time departed:	1140
Operator:	JS

	Arrival	Departure
Inlet Pressure:	53#	53#
Inermediate:		
Outlet Pressure:	10.2"wc	10.2"wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	W	M

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	+
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Annual test

Unitil
Northern Utilities, Inc.

ID# 57

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: Rutland ST
TOWN: Dover

Equipment Sequence#
MAOP Inlet:
Outlet:

Normal Set Pt:

Date:	3-31-2010
Time arrived:	08:10
Time departed:	08:40
Operator:	JAH

	Arrival	Departure
Inlet Pressure:	52 PSI	52 PSI
Inermediate:		
Outlet Pressure:	10" WC	10" WC

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	N	Y or N
Inspected:	Y	Y or N
Pumped:	Y	Y or N

Building Inspected:N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Reason for Inspection:	
General	A
Water / Vault	A
Pressure Adjustment	

Corrosion Inspection:	Y or N	
Heater Inspection:	Y or N	N/A

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: ~~53PSI~~ 10" WC

	Arrival	Departure
Inlet Pressure:	54 #	54 #
Inermediate:		
Outlet Pressure:	11.3" wc	11.3" wc

Date:	3-25-10	
Time arrived:	9:19	
Time departed:	9:25	
Operator:	RS	

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:		(Y) or N	W / M

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	(Y) or N

Heater Inspection:	Y or N	(N/A)

Building Inspected: N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Reason for Inspection:

General	
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:
odorant test

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 11

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	2-15-2013
Time arrived:	12:15
Time departed:	12:35
Operator:	3041

	Arrival	Departure	
Inlet Pressure:	52	52	PSI
Inermediate:			
Outlet Pressure:	10"	10"	WC

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	W	M

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	✓
Water / Vault	✓
Pressure Adjustment	

Abnormal Conditions:

Comments:

REGULATOR AND STATION INSPECTION REPORT
Fed. Reg. 192.739, 743, 749

Date: 2-26-2010 Arrival Time: 07:15 Departure Time: 07:45

Inspected By: JB

Location: Rutland ST Dam

MAOP:

	INLET	OUTLET
Pressure at arrival	52 PSI	10.25" WC
Pressure at departure	52 PSI	10.25" WC
Gauges		
Recorder	X	X
Telemetering		

Conditions of building _____ Fence _____ Other _____

Underground vault condition: Wet X Dry ____ Wet, no pumping required ___

Leak check: Structure _____ Piping _____

General condition: Good X Fair _____ Poor _____

Maintenance or changes needed/comments:

_____ Reasons for visit (check all that apply):

Pressure Change		Calibration	
Snow Removal		Change Chart	
Emergency Call		Yearly Inspection	
Pump Pit	X	5-Year Inspection	
General Maintenance		Periodic Inspection	
Pressure Check	X	LEL Test	

Other: _____

Time Spent on Job : 30 No. of Men Required: 1 Travel Time: 5

REGULATOR AND STATION INSPECTION REPORT 10
Fed. Reg. 192.739, 743, 749

Date: 1-26-15 Arrival Time: 12:15 Departure Time: 12:40

Inspected By: JB

Location: Rutland St. Dover, NH

MAOP: 13.8" W.C.

	INLET	OUTLET
Pressure at arrival	52 PSI	11" WC
Pressure at departure	52 PSI	11" WC
Gauges		
Recorder	X	X
Telemetering		

Conditions of building _____ Fence _____ Other _____

Underground vault condition: Wet X Dry ___ Wet, no pumping required ___

Leak check: Structure _____ Piping _____

General condition: Good X Fair _____ Poor _____

Maintenance or changes needed/comments:

_____ Reasons for visit (check all that apply):

Pressure Change		Calibration	
Snow Removal		Change Chart	X
Emergency Call		Yearly Inspection	
Pump Pit	X	5-Year Inspection	
General Maintenance		Periodic Inspection	
Pressure Check	X	LEL Test	

Other: _____

Time Spent on Job : 25 No. of Men Required: 1 Travel Time: 5

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	12-13-2010
Time arrived:	11:05
Time departed:	11:35
Operator:	3041

	Arrival	Departure
Inlet Pressure:	50 PSI	50 PSI
Inermediate:		
Outlet Pressure:	12" wc	12" wc

Inspected for leaks:	(Y) or N	
Leaks found:	Y or (N)	
Leaks repaired :	Y or (N)	

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:		(Y) or N	(W) (D)

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	(Y) or N

Heater Inspection:	Y or N	(N/A)

Building Inspected:N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Reason for Inspection:	
General	N
Water / Vault	Y
Pressure Adjustment	

Abnormal Conditions:

Comments:

REGULATOR AND STATION INSPECTION REPORT
Fed. Reg. 192.739, 743, 749

Date: 11-15-2010 Arrival Time: 0820 Departure Time: 09:20

Inspected By: JS - HB

Location: Rutland ST - Dover

MAOP:

	INLET	OUTLET
Pressure at arrival	51.2 PSI	
Pressure at departure	51.2 PSI	11.2"WC
Gauges	X	X
Recorder	X	X
Telemetering		

Conditions of building _____ Fence _____ Other _____

Underground vault condition: Wet X Dry ___ Wet, no pumping required ___

Leak check: Structure _____ Piping _____

General condition: Good X Fair _____ Poor _____

Maintenance or changes needed/comments:

_____ Reasons for visit (check all that apply):

Pressure Change		Calibration	
Snow Removal		Change Chart	
Emergency Call		Yearly Inspection	
Pump Fit	0	5-Year Inspection	
General Maintenance		Periodic Inspection	
Pressure Check	X	LEL Test	

Other: Checked vent - vault flooded

Time Spent on Job : 60 No. of Men Required: 2 Travel Time: 25

REGULATOR AND STATION INSPECTION REPORT
Fed. Reg. 192.739, 743, 749

Date: 1-27-2011 Arrival Time: 15:35 Departure Time: 15:50

Inspected By: JB

Location: Rutland ST - Dart

MAOP:

	INLET	OUTLET
Pressure at arrival	54 PSI	13 "WC
Pressure at departure	54 PSI	12 "WC
Gauges	X	X
Recorder	X	X
Telemetering		

Conditions of building _____ Fence _____ Other _____

Underground vault condition: Wet ___ Dry ___ Wet, no pumping required X

Leak check: Structure _____ Piping _____

General condition: Good X Fair _____ Poor _____

Maintenance or changes needed/comments:

_____ Reasons for visit (check all that apply):

Pressure Change	X	Calibration	
Snow Removal		Change Chart	
Emergency Call		Yearly Inspection	
Pump Pit		5-Year Inspection	
General Maintenance		Periodic Inspection	
Pressure Check	X	LEL Test	

Other: Odor Test - Passed

Time Spent on Job : 15 No. of Men Required: 1 Travel Time: 5

Unitil
Northern Utilities, Inc.

ID#

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: Rutland ST
TOWN: Dover

Equipment Sequence#
MAOP Inlet:
Outlet:

Normal Set Pt:

Date:	2-17-2011
Time arrived:	13:30
Time departed:	14:20
Operator:	2041

	Arrival	Departure
Inlet Pressure:	52 PSI	52 PSI
Inermediate:		
Outlet Pressure:	13.5" WC	13.5" WC

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	WP	MD

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Corrosion Inspection: Y or N

Heater Inspection:	Y or N	N/A

Abnormal Conditions:

Comments:

Clear around Pipe to ...

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	3-1-2011
Time arrived:	13:00
Time departed:	13:10
Operator:	SM

	Arrival	Departure
Inlet Pressure:	52 PSI	52 PSI
Inermediate:		
Outlet Pressure:	11.2 "wc	11.2 "wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	Y or N		
Inspected:	Y or N	Pumped 2-28 2011	
Pumped:	Y or N	W	M

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	✓
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 11

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.3WC

Normal Set Pt: 53PSI

Date:	4-17-2015
Time arrived:	13:00
Time departed:	13:25
Operator:	JGH

	Arrival	Departure
Inlet Pressure:	50 PSI	50 PSI
Inermediate:		
Outlet Pressure:	9.7"wc	9.7"wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	Y or N	
Inspected:	Y or N	
Pumped:	Y or N	W M

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:	
General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions:

Comments:

odor test - passed

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	10-21-2012
Time arrived:	13:35
Time departed:	13:50
Operator:	JOH

	Arrival	Departure
Inlet Pressure:	51 PSI	51 PSI
Inermediate:		
Outlet Pressure:	10"WC	10"WC

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:		Y or N	W M

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Building Inspected:N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Reason for Inspection:

General	A
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 11

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	10-12-12
Time arrived:	13:17
Time departed:	13:53
Operator:	3039

	Arrival	Departure
Inlet Pressure:	50 ±	50 ±
Inermediate:		
Outlet Pressure:	1.3"wc	9.3"wc

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:		(Y) or N	W M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Corrosion Inspection: (Y) or N

Heater Inspection: Y or N (N/A)

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	[illegible]
Time arrived:	11:27
Time departed:	11:27
Operator:	JOZ

	Arrival	Departure
Inlet Pressure:	52#	52#
Inermediate:		
Outlet Pressure:	9.6"wc	9.6"wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:		Y or N	W M

Building Inspected: N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	Y
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	8-04-12
Time arrived:	1854
Time departed:	1924
Operator:	3029

	Arrival	Departure
Inlet Pressure:	52#	52#
Inermediate:		
Outlet Pressure:	10"WC	10"WC

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	Y or N		
Inspected:	Y or N		
Pumped:	Y or N	W	M

Building Inspected:	N/A	Y or N
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	6-5-12
Time arrived:	9:59
Time departed:	10:19
Operator:	3029

	Arrival	Departure
Inlet Pressure:	52#	52#
Inermediate:		
Outlet Pressure:	11.2"wc	10.2"wc

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:		(Y) or N	W M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	(Y) or N

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	✓
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	5-12-12
Time arrived:	12:31
Time departed:	12:55
Operator:	3037

	Arrival	Departure
Inlet Pressure:	53#	53#
Inermediate:		
Outlet Pressure:	9.5"c	9.5"c

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	W	M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Reason for Inspection:

General	✓
Water / Vault	
Pressure Adjustment	

Corrosion Inspection: (Y) or N

Heater Inspection: Y or N (N/A)

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	1-30-2012
Time arrived:	14:05
Time departed:	14:35
Operator:	3041

	Arrival	Departure
Inlet Pressure:	55PSI	55PSI
Inermediate:		
Outlet Pressure:	13.6"WC	12.5WC

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:		Y or N	W M

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	7-21-15
Time arrived:	0732
Time departed:	07:00
Operator:	JDG

	Arrival	Departure
Inlet Pressure:	52#	52#
Inermediate:		
Outlet Pressure:	10" wc	10" wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	W	M

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Building Inspected: N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	+
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RUTLAND ST
TOWN: DOVER

Equipment Sequence# 30001
MAOP Inlet: 55PSI
Outlet: 13.8WC

Normal Set Pt: 53PSI

Date:	2-4-2013
Time arrived:	11:25
Time departed:	12:00
Operator:	3041

	Arrival	Departure
Inlet Pressure:	42 PSI	42 PSI
Inermediate:		
Outlet Pressure:	11.3 WC	11.3 WC

Inspected for leaks:	(Y) or N		
Leaks found:	Y or (N)		
Leaks repaired :	Y or (N)		
Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	(W)	(CP)
Recorder:	Downloaded	Y or N	
	Chart changed:	(Y) or N	
Corrosion Inspection:	(Y) or N		
Heater Inspection:	Y or N	(N/A)	

Building Inspected:N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 11

REGULATOR STATION INSPECTION FORM

LOCATION: Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	8-2-13
Time arrived:	10:22
Time departed:	10:31
Operator:	3027

	Arrival	Departure
Inlet Pressure:	52 #	52 #
Inermediate:		
Outlet Pressure:	9.9 iwc	9.9 iwc

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:		(Y) or N	W M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	(Y) or N

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 11

REGULATOR STATION INSPECTION FORM

LOCATION:Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	1-2-13
Time arrived:	12:13
Time departed:	12:35
Operator:	3029

	Arrival	Departure
Inlet Pressure:	52#	52#
Inermediate:		
Outlet Pressure:	9.9"wc	9.9"wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:		Y or N	W M

Building Inspected: N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION:Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	5-28-13
Time arrived:	11:30
Time departed:	12:00
Operator:	3027

	Arrival	Departure
Inlet Pressure:	51 #	51 #
Inermediate:		
Outlet Pressure:	10.3 wc	10.3 wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	W	M

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Building Inspected:	N/A Y or N
Condition:	
Fence:	Y or N
Condition:	

Reason for Inspection:	
General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION:Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	3-5-13
Time arrived:	11:06
Time departed:	11:14
Operator:	JOB

	Arrival	Departure
Inlet Pressure:	52#	52#
Inermediate:		
Outlet Pressure:	9"wc	9"wc

Inspected for leaks:	(Y) or N		
Leaks found:	Y or (N)		
Leaks repaired :	Y or (N)		
Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	Y or N	W	M
Recorder:	Downloaded	Y or N	
	Chart changed:	(Y) or N	
Corrosion Inspection:	(Y) or N		
Heater Inspection:	Y or N	(N/A)	
Building Inspected:	(N/A)	Y or N	
Condition:			
Fence:	Y or (N)		
Condition:			

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION:Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	5-18-14
Time arrived:	10:40
Time departed:	11:10
Operator:	JOZ

	Arrival	Departure
Inlet Pressure:	43#	43#
Inermediate:		
Outlet Pressure:	11"wc	11"wc

Inspected for leaks:	Y or N	
Leaks found:	Y or N	
Leaks repaired :	Y or N	

Vault:	Y or N		
Inspected:	Y or N		
Pumped:	Y or N	W	M

Building Inspected:	N/A	Y or N
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION:Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	6-23-14
Time arrived:	11:46
Time departed:	12:05
Operator:	3029

	Arrival	Departure
Inlet Pressure:	51 #	51 #
Inermediate:		
Outlet Pressure:	9.0"wc	9.0"wc

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	W	M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	(Y) or N

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	4-1-2013
Time arrived:	10:25
Time departed:	10:50
Operator:	SAEC

	Arrival	Departure
Inlet Pressure:	47 PSI	47 PSI
Inermediate:	—	
Outlet Pressure:	11" WC	11" WC

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	(W)	(M)

Building Inspected: N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	Y or (N)

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 11

REGULATOR STATION INSPECTION FORM

LOCATION:Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	2-24-2014
Time arrived:	13:35
Time departed:	13:55
Operator:	3041

	Arrival	Departure
Inlet Pressure:	44 PSI	44 PSI
Intermediate:	—	—
Outlet Pressure:	11.2" WC	11.2" WC

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:		Y or N	W M

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	X
Water / Vault	C
Pressure Adjustment	

Abnormal Conditions:

Comments:

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	3-18-15
Time arrived:	10:10
Time departed:	10:20
Operator:	3079

	Arrival	Departure
Inlet Pressure:	50 #	50 #
Inermediate:		
Outlet Pressure:	11 wc	11 wc

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:		(Y) or N	W M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Corrosion Inspection: (Y) or N

Heater Inspection: Y or N (N/A)

Abnormal Conditions:

Comments: pumped on 3-17
8" water

Unitil
Northern Utilities, Inc.

ID# 11

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION:Rutland St
TOWN: Dover

Equipment Sequence# 30001
MAOP Inlet: 55 PSI
Outlet: 13.8 WC

Normal Set Pt: 10.0 WC

Date:	1-19-15
Time arrived:	09:26
Time departed:	09:37
Operator:	3039

	Arrival	Departure
Inlet Pressure:	51 #	51 #
Inermediate:		
Outlet Pressure:	11.5 "wc	11.5 "wc

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:		(Y) or N	W M

Building Inspected	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Reason for Inspection:	
General	X
Water / Vault	
Pressure Adjustment	

Corrosion Inspection:	(Y) or N	
Heater Inspection:	Y or N	(N/A)

Abnormal Conditions:

Comments:

#18

Unitil
Northern Utilities, Inc.

ID# 9

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION:OAK ST
TOWN: DOVER

Equipment Sequence# 30091
MAOP Inlet: 56PSI
Outlet: 13.8WC

Normal Set Pt: 10WC

Date:	3-15-2015
Time arrived:	10:30
Time departed:	11:20
Operator:	3041

	Arrival	Departure	
Inlet Pressure:	51	51	PSI
Inermediate:			
Outlet Pressure:	12.5	10.25	"wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	W	M

Building Inspected:N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Reason for Inspection:	
General	✓
Water / Vault	YES
Pressure Adjustment	

Corrosion Inspection:	Y or N	
Heater Inspection:	Y or N	N/A

Abnormal Conditions:
Vault still flooded

Comments:
Pumped, flooded vent line - still dry

REGULATOR AND STATION INSPECTION REPORT 46
Fed. Reg. 192.739, 743, 749

Date: [illegible] Arrival Time: [illegible] Departure Time: [illegible]

Inspected By: [illegible]

Location: Rte 107 @ Andy's Mobile Home Seabrook, NH

MAOP: 56 PSI

	INLET	OUTLET
Pressure at arrival		
Pressure at departure		
Gauges	✓	✓
Recorder	✓	✓
Telemetering		

Conditions of building ____ Fence ____ Other ____

Underground vault condition: Wet ___ Dry ___ Wet, no pumping required ___

Leak check: Structure ____ Piping ____

General condition: Good ✓ Fair ____ Poor ____

Maintenance or changes needed/comments:

[illegible] Reasons for visit (check all that apply):

Pressure Change		Calibration	
Snow Removal	X	Change Chart	✓
Emergency Call		Yearly Inspection	
Pump Pit	X	5-Year Inspection	
General Maintenance		Periodic Inspection	
Pressure Check	✓	LEL Test	

Other: [illegible]

Time Spent on Job : ____ No. of Men Required: 1 Travel Time: ____

Unitil
Northern Utilities, Inc.

ID# 6

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: HAWTHORNE RD
TOWN: DOVER

Equipment Sequence# 30401
MAOP Inlet: 492PSI
Outlet: 99PSI

Normal Set Pt: 95PSI

Date:	5-30-2018
Time arrived:	08:00
Time departed:	09:00
Operator:	JMT

	Arrival	Departure	
Inlet Pressure:	346	346	PSI
Inermediate:	—		
Outlet Pressure:	95	95	PSI

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	Y or N		
Inspected:	Y or N		
Pumped:	Y or N	W	G

Building Inspected:N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	Y
Water / Vault	N
Pressure Adjustment	

Abnormal Conditions:

Comments: Clock under water → replaced

Unitil
Northern Utilities, Inc.

ID# 57

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: Oak ST
TOWN: Dover

Equipment Sequence#
MAOP Inlet:
Outlet:

Normal Set Pt:

Date:	3-31-2010
Time arrived:	11:45
Time departed:	12:50
Operator:	JOH

	Arrival	Departure
Inlet Pressure:	51 PSI	51 PSI
Inermediate:		
Outlet Pressure:	11.75" WC	10" WC

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	Y or N		
Inspected:	Y or N		
Pumped:	Y or N	W	M

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Building Inspected: N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Reason for Inspection:	
General	Y
Water / Vault	N
Pressure Adjustment	

Abnormal Conditions:

Comments: Charted water for sales

Unitil
Northern Utilities, Inc.

ID# 22

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION :WINDEMERE@EXETER RD
TOWN: EXETER

Equipment Sequence# 30371
MAOP Inlet: 171PSI
Outlet: 56PSI

Normal Set Pt: 53PSI

Date:	3-31-10
Time arrived:	10:28
Time departed:	11:10
Operator:	[illegible]

	Arrival	Departure
Inlet Pressure:	162#	162#
Inermediate:		
Outlet Pressure:	52#	52#

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	W	M

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:
[illegible] must be [illegible] leave, will return tomorrow
both vaults full to top gain - 3-31-10

REGULATOR AND STATION INSPECTION REPORT 24
Fed. Reg. 192.739, 743, 749

Date: 1-26-11 Arrival Time: 07:15 Departure Time: 08:00

Inspected By: JH

Location: Church St. @ Rte. 125 Gonic, NH

MAOP: 60 PSI

	INLET	OUTLET
Pressure at arrival	138 PSI	49 PSI
Pressure at departure	139 PSI	49 PSI
Gauges	Y	Y
Recorder	X	X
Telemetering		

Conditions of building _____ Fence _____ Other _____

Underground vault condition: Wet X Dry ___ Wet, no pumping required ___

Leak check: Structure _____ Piping _____

General condition: Good X Fair _____ Poor _____

Maintenance or changes needed/comments:

_____ Reasons for visit (check all that apply):

Pressure Change		Calibration	
Snow Removal		Change Chart	X
Emergency Call		Yearly Inspection	
Pump Pit	X	5-Year Inspection	
General Maintenance		Periodic Inspection	
Pressure Check	X	LEL Test	

Other: Removed vents + checked for water - were clear

Time Spent on Job : 34 No. of Men Required: 1 Travel Time: 5

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 6

REGULATOR STATION INSPECTION FORM

LOCATION: HAWTHORNE RD
TOWN: DOVER

Equipment Sequence# 30401
MAOP Inlet: 492PSI
Outlet: 99PSI

Date:	4-19-2021
Time arrived:	09:40
Time departed:	10:15
Operator:	BKH

Normal Set Pt: 95PSI

	Arrival	Departure
Inlet Pressure:	332 PSI	332 PSI
Intermediate:	—	
Outlet Pressure:	94 PSI	94 PSI

Inspected for leaks:	Y or N	
Leaks found:	Y or N	
Leaks repaired :	Y or N	

Vault:		Y or N	
Inspected:		Y or N	
Pumped:		Y or N	(W) (M)

Building Inspected: N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions:

Comments:

- flooded pumped exhaled pilot/vents for water
- Replaced clock
- dryed out recorder

Unitil
Northern Utilities, Inc.

ID# 24

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: FELKER ST
TOWN: GONIC

Equipment Sequence# 30361
MAOP Inlet: 150PSI
Outlet: 56PSI

Normal Set Pt: 50PSI

Date:	3/11/2011
Time arrived:	12:15
Time departed:	12:55
Operator:	3041

	Arrival	Departure
Inlet Pressure:	142 PSI	142 PSI
Inermediate:		
Outlet Pressure:	48 PSI	48 PSI

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	Y or N		
Inspected:	Y or N		
Pumped:	Y or N	W	NB

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Building Inspected:N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Reason for Inspection:	
General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions:

Comments:

Removed vent to check for water

Unitil
Northern Utilities, Inc.

ID# 52

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RTE 107@ANDY'S MOBILE
TOWN: SEABROOK

Equipment Sequence# 30351
MAOP Inlet: 125PSI
Outlet: 56PSI

Normal Set Pt: 50PSI

Date:	5-9-11
Time arrived:	12:54
Time departed:	13:00
Operator:	5029

	Arrival	Departure
Inlet Pressure:	119 ≠	119 ≠
Inermediate:		
Outlet Pressure:	50 ≠	50 ≠

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:	Y or N	W	M

Recorder:	Downloaded	Y or N
	Chart changed:	Y or (N)

Corrosion Inspection:	Y or (N)

Heater Inspection:	Y or N	(N/A)

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Reason for Inspection:

General X	
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:
Check water only 0"

Unitil
Northern Utilities, Inc.

ID# 31

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION:HOGS HILL FARM
TOWN: KENSINGTON

Equipment Sequence# 30431
MAOP Inlet: 125PSI
Outlet: 99PSI

Normal Set Pt: 50PSI

Date:	2-1-2012
Time arrived:	09:40
Time departed:	13:00
Operator:	SOM

	Arrival	Departure
Inlet Pressure:	125 PSI	120 PSI
Inermediate:		
Outlet Pressure:	48 PSI	48 PSI

Inspected for leaks:	Y or N	
Leaks found:	Y or N	
Leaks repaired :	Y or N	

Vault:	Y or N		
Inspected:	Y or N		
Pumped:	Y or N	W	N

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Reason for Inspection:	
General	X
Water / Vault	X
Pressure Adjustment	

Corrosion Inspection:	Y or N	
Heater Inspection:	Y or N	N/A

Abnormal Conditions:

Comments: Picked up 2nd sump pump to remain water

Unitil
Northern Utilities, Inc.

ID# 52

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RTE 107@ANDY'S MOBILE
TOWN: SEABROOK

Equipment Sequence# 30351
MAOP Inlet: 125PSI
Outlet: 56PSI

Normal Set Pt: 50PSI

Date:	12-17-2012
Time arrived:	11:00
Time departed:	12:15
Operator:	Sam

	Arrival	Departure
Inlet Pressure:	118 PSI	118 PSI
Inermediate:	—	
Outlet Pressure:	49 PSI	49 PSI

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	Y or N		
Inspected:	Y or N		
Pumped:	Y or N	W	M

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	S
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments: Vaults both flooded - removed recorder chart + removed vents at regs to check for water → both clear

Unitil
Northern Utilities, Inc.

ID# 52

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RTE 107@ANDY'S MOBILE
TOWN: SEABROOK

Equipment Sequence# 30351
MAOP Inlet: 125PSI
Outlet: 56PSI

Normal Set Pt: 50PSI

Date:	2-3-2014
Time arrived:	12:15
Time departed:	12:40
Operator:	3041

	Arrival	Departure
Inlet Pressure:	118 PSI	118 PSI
Intermediate:	—	—
Outlet Pressure:	50 PSI	50 PSI

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	(W)	(N)

Building Inspected: N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	(Y) or N

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions:

flooded upstream vault → vent was still free of water

Comments:

Unitil
Northern Utilities, Inc.

ID# 23

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION :CHURCH ST
TOWN: GONIC

Equipment Sequence# 30421
MAOP Inlet: 150PSI
Outlet: 56PSI

Normal Set Pt: 50PSI

Date:	2-24-2014
Time arrived:	12:25
Time departed:	13:10
Operator:	3041

	Arrival	Departure
Inlet Pressure:	139 PSI	139 PSI
Inermediate:		
Outlet Pressure:	48 PSI	48 PSI

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	W	M

Building Inspected: N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions:

Both vaults flooded - checked units

Comments:

needs new clock

Unitil
Northern Utilities, Inc.

ID# 24

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: FELKER ST
TOWN: GONIC

Equipment Sequence# 30361
MAOP Inlet: 150PSI
Outlet: 55PSI

Normal Set Pt: 50PSI

Date:	2-26-2014
Time arrived:	10:15
Time departed:	10:45
Operator:	JOEL

	Arrival	Departure
Inlet Pressure:	131 PSI BEFORE	
Inermediate:		
Outlet Pressure:	49 PSI	49 PSI

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:	Y or N		
Inspected:	Y or N		
Pumped:	Y or N	(W)	(M)

Building Inspected:N/A	Y or N	
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions: Plugged downstream vault choked vent

Comments: cleared ICE/SNOW

Unitil
Northern Utilities, Inc.

ID# 25

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: GEAR RD
TOWN: GONIC

Equipment Sequence# 30201
MAOP Inlet: 150PSI
Outlet: 56PSI

Normal Set Pt: 50PSI

Date:	2-26-2014
Time arrived:	10:50
Time departed:	12:00
Operator:	JAM

	Arrival	Departure
Inlet Pressure:	137 PSI	137 PSI
Inermediate:		
Outlet Pressure:	50 PSI	50 PSI

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	N	(M)

Building Inspected:N/A		Y or N
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	A
Water / Vault	V
Pressure Adjustment	

Abnormal Conditions:
flooded downstream vault 56 PSI system - checked vent at regulator

Comments:

Unitil
Northern Utilities, Inc.

ID# 52

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RTE 107@ANDY'S MOBILE
TOWN: SEABROOK

Equipment Sequence# 30351
MAOP Inlet: 125PSI
Outlet: 56PSI

Date:	11-20-2014
Time arrived:	13:10
Time departed:	13:40
Operator:	3041

Normal Set Pt: 50PSI

	Arrival	Departure
Inlet Pressure:	119 PSI	119 PSI
Inermediate:	—	—
Outlet Pressure:	49 PSI	49 PSI

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	(W)	(M)

Building Inspected:N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	Y or (N)

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	X
Water / Vault	X
Pressure Adjustment	

Abnormal Conditions:

Comments:

Cleared Storm drain

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 3

REGULATOR STATION INSPECTION FORM

LOCATION: CENTRAL AVE
TOWN: DOVER

Equipment Sequence# 30291
MAOP Inlet: 99PSI
Outlet: 55PSI

Normal Set Pt: 53PSI

Date:	3-18-15
Time arrived:	09:30
Time departed:	09:54
Operator:	3079

	Arrival	Departure
Inlet Pressure:	59 ≠	59 ≠
Inermediate:		
Outlet Pressure:	50 ≠	50 ≠

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:		(Y) or N	
Inspected:		(Y) or N	
Pumped:		(Y) or N	W M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	(Y) or N

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:
12" water

Unitil
Northern Utilities, Inc.

ID# 15

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: Court St
TOWN: Exeter

Equipment Sequence# 30491
MAOP Inlet: 171 PSI
Outlet: 56 PSI

Normal Set Pt: 53 PSI

Date:	2-26-14
Time arrived:	08:40
Time departed:	09:29
Operator:	JDB

		Arrival	Departure
Inlet Pressure:		158 #	158 #
Inermediate:			
Outlet Pressure:		52 #	52 #

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:		Y or N	W M

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Building Inspected: N/A	Y or N
Condition:	
Fence:	Y or N
Condition:	

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:
Vaults flooded - above recorder
Pump & clean check

Comments:

Unitil
Northern Utilities, Inc.

NEW HAMPSHIRE

ID# 22

REGULATOR STATION INSPECTION FORM

LOCATION :WINDEMERE@EXETER RD
TOWN: EXETER

Equipment Sequence# 30371
MAOP Inlet: 171PSI
Outlet: 56PSI

Normal Set Pt: 53PSI

Date:	4-14-15
Time arrived:	09:13
Time departed:	09:37
Operator:	3029

	Arrival	Departure
Inlet Pressure:	163 ≈	163 ≈
Inermediate:		
Outlet Pressure:	52 ≈	52 ≈

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	W	M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Reason for Inspection:		
	General	X
	Water / Vault	
	Pressure Adjustment	

Corrosion Inspection:	(Y) or N	
Heater Inspection:	Y or N	(N/A)

Abnormal Conditions:

Comments:
24" Water

Unitil
Northern Utilities, Inc.

ID# 41

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: ISLINGTON ST
TOWN: PORTSMOUTH

Equipment Sequence# 30141
MAOP Inlet: 56PSI
Outlet: 13.8WC

Normal Set Pt: 10.0WC

Date:	3-16-15
Time arrived:	09:50
Time departed:	09:11a
Operator:	3029

	Arrival	Departure
Inlet Pressure:	51 #	51 #
Inermediate:		
Outlet Pressure:	11.4"wc	11.4"wc

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	W	M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Corrosion Inspection:	(Y) or N	
Heater Inspection:	Y or N	(N/A)

Abnormal Conditions:

Comments:
14" water

Unitil
Northern Utilities, Inc.

ID# 43

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: MILLER AVE
TOWN: PORTSMOUTH

Equipment Sequence# 30331
MAOP Inlet: 56PSI
Outlet: 13.8WC

Normal Set Pt: 10.0WC

Date:	3-16-15
Time arrived:	09.32
Time departed:	09.48
Operator:	2029

	Arrival	Departure
Inlet Pressure:	49	49
Inermediate:		
Outlet Pressure:	10.3"wc	10.3"wc

Inspected for leaks:	Y or N
Leaks found:	Y or N
Leaks repaired :	Y or N

Vault:		Y or N	
Inspected:		Y or N	
Pumped:	Y or N	W	M

Building Inspected:	N/A	Y or N
Condition:		
Fence:	Y or N	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	Y or N

Corrosion Inspection:	Y or N

Heater Inspection:	Y or N	N/A

Reason for Inspection:

General	X
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:
12" water

Unitil
Northern Utilities, Inc.

ID# 59

NEW HAMPSHIRE

REGULATOR STATION INSPECTION FORM

LOCATION: RTE 108@VELCRO
TOWN: SOMERSWORTH

Equipment Sequence# 30391
MAOP Inlet: 150PSI
Outlet: 56PSI

Normal Set Pt: 53PSI

Date:	1-21-15
Time arrived:	11:06
Time departed:	11:19
Operator:	JOJ

	Arrival	Departure
Inlet Pressure:	140 #	140 #
Inermediate:		
Outlet Pressure:	52 #	52 #

Inspected for leaks:	(Y) or N
Leaks found:	Y or (N)
Leaks repaired :	Y or (N)

Vault:	(Y) or N		
Inspected:	(Y) or N		
Pumped:	(Y) or N	W	M

Building Inspected:	(N/A)	Y or N
Condition:		
Fence:	Y or (N)	
Condition:		

Recorder:	Downloaded	Y or N
	Chart changed:	(Y) or N

Corrosion Inspection:	(Y) or N

Heater Inspection:	Y or N	(N/A)

Reason for Inspection:

General	(Y)
Water / Vault	
Pressure Adjustment	

Abnormal Conditions:

Comments:

#19

LeBlanc, Christopher

From: Kilroy, Stacey
Sent: Tuesday, July 14, 2015 11:48 AM
To: LeBlanc, Christopher
Subject: nhdoverlp2015.xlsx
Attachments: nhdoverlp2015.xlsx

HI Chris,

The Dover LP has 1036 active services and 1921 meters associated with those customers.

I have attached spreadsheet with source data in case you need it.

Stacey

EX20

Pfister, Jonathan

From: Pfister, Jonathan
Sent: Wednesday, July 08, 2015 11:05 AM
To: LeBlanc, Christopher
Subject: New Hampshire Ave and Setpoints

New Hampshire Ave

- Dual run aboveground pressure regulating station
- Supplies a portion of the Portsmouth IP system (MAOP 56 psi)
- Each run consists of two 2" Grove 900TE pressure regulators set up in series in a worker / monitor configuration
- Upstream monitor regulator provides over pressure protection
- Station is supplied from the Granite State Gas Transmission Pipeline (MAOP 492 psi)
- Gas is preheated prior to metering and pressure regulation

Pressure Setpoint Philosophy

- For a system having a 56 psi MAOP, the worker regulators on the primary (active) run are typically set to deliver 53 psi to the downstream distribution system
- Worker regulator on the secondary (standby) run is set 2 to 3 psi lower than the worker regulator on the primary run
- Monitor regulators on both runs are set below the downstream system MAOP, typically 55 psi
- Monitor regulators are set below the MAOP to ensure that in the event of a worker regulator failure, the downstream system pressure will not exceed the system MAOP plus the allowable pressure buildup prior to the monitor taking control at its setpoint below the MAOP

#21

LeBlanc, Christopher

From: Bob Powell <bob.powell@powellcontrolsinc.com>
Sent: Monday, July 27, 2015 5:01 PM
To: Pfister, Jonathan; John Rafferty
Cc: Ahlin, Rick
Subject: RE: Mooney Series 20 Pilots

Then the answer is: "We check it three times during flowing conditions to ensure that the monitor comes in when it should."

Thanks and Best,

Bob
Robert Powell
Powell Controls, Inc.
3 Baldwin Green Common, Suite 201
Woburn, MA 01801
Office-781-939-6960
Fax-781-939-6962
Cell-617-285-0555

www.powellcontrolsinc.com

From: Pfister, Jonathan [mailto:Pfister@unitil.com]
Sent: Monday, July 27, 2015 3:13 PM
To: John Rafferty; Bob Powell
Cc: Ahlin, Rick
Subject: RE: Mooney Series 20 Pilots

The problem is that we need to answer the question: When you set the monitor to 55 on a 56 psi system, how do you ensure the downstream pressure does not exceed MAOP plus the allowable build up? It goes to the design of the facility and also the operation. I understand there are many variables, but there needs to be some assurance that the regulators will function properly.

From: John Rafferty [mailto:john.rafferty@powellcontrolsinc.com]
Sent: Monday, July 27, 2015 2:42 PM
To: Bob Powell; Pfister, Jonathan
Cc: Ahlin, Rick
Subject: RE: Mooney Series 20 Pilots

To overcome that, you COULD do the attached as we did at the Fitchburg Gate years ago to compensate for the large swing in inlet pressure.

John Rafferty
Powell Controls
Three Baldwin Green Common, Suite 201
Woburn, MA 01801
CH: 978-697-3239

#22

Northern Utilities, Inc.
Docket No. DG 15-121
PUC Staff Information Requests – Set 1

Received: July 27, 2015 Date of Response: August 6, 2015

Request No. NUNH-Staff 1-11 Witness: Christopher LeBlanc & Jonathan Pfister

Request:

Please provide the estimated hourly load demand and the regulator capacity of each regulator station at the time the pressure exceeded MAOP as alleged in NOV PS1501NU and NOV PS1502NU. Please provide the estimated average hourly load demands for spring, fall, and winter, the peak winter demand, and the pressures recorded or modeled to meet these load demands.

Response:

Please see the information provided below. Note that each of the incidents alleged in the NOVs occurred during the summer, and therefore the estimated hourly load demand at the time of each incident is assumed to be the average summer demand. In addition, the Company estimates that the average spring and fall demands will fall along the range between the estimated summer and winter demands.

New Hampshire Avenue

Estimated average summer demand: 97 Mcfh

Estimated average winter demand: 215 Mcfh

Estimated peak winter demand: 258 Mcfh at inlet pressure of 350 psig

Estimated regulator capacity: 617 Mcfh

Rutland Street

Estimated average summer demand: 5.5 Mcfh

Estimated average winter demand: 20.3 Mcfh

Estimated peak winter demand: 24.4 Mcfh at inlet pressure of 51 psig

Estimated regulator capacity: 46 Mcfh

#23

Northern Utilities, Inc.
Docket No. DG 15-121
PUC Staff Information Requests – Set 1

Received: July 27, 2015 Date of Response: August 6, 2015

Request No. NUNH-Staff 1-12 Witness: Jonathan Pfister & Christopher LeBlanc

Request:

Please provide the dollars expended after August 14, 2014, to alter the regulator vents and associated activity per location at any regulator station. Include company work order numbers and any documentation per location.

Response:

After August 14, 2014, Unitil expended $15,498 to extend regulator vents at the Rutland Street station. The company work order number is 4011-00144312. The Company has not tracked the minimal cost to install temporary above-ground vent extensions at four other locations.

Overpressure Event Investigation

Rutland St, Dover, NH

August 13, 2014

Event Discovery – SCADA Alarms and Times (Cindy Rivers)

Gas Control Actions (Cindy Rivers provided call logs)

Weather Conditions (can we get rainfall records?)

First Responder Observations and Actions – (Rick, Andy)

Results of First Responder Actions

Pressures at Other LP Stations (charts) – (Rick provided)

SCADA Pressure Records (Cindy Rivers)

Distribution / Service Follow-up Actions – Main survey that night; services next day – Joe Fitz to confirm

Facility Description and History – no history of water problems; no SCADA;

Site Conditions – sidewalk construction; not complete

Recommended Mitigation Methods to Prevent Reoccurrence – clean surface of drain as part of our maintenance

Dover Low Pressure System Overpressurization

August 13, 2014

Summary

On the evening of August 13, 2014, an overpressure event occurred on the Dover, NH low pressure distribution system. This report contains a discussion of the events that occurred, the results of the investigation into the cause of the overpressure event, recommendations to prevent reoccurrence and corrective action taken. At the time of the overpressure event, there were heavy rains in the Dover area. Extreme flooding of the below-ground vaults containing pressure regulators at the Rutland St. regulating station, blocking the pilot regulator vents, was determined to be the cause of the regulator failure and system overpressurization. The Company has not previously experienced similar flooding at this station. Unfinished sidewalk construction by the City of Dover in the vicinity of the regulator vaults, and a surface drain blocked by construction and other debris were significant contributing factors to the flooding of the vaults. Modification of the pilot regulator vent piping to raise the piping above grade has recently been completed at this station to prevent reoccurrence. The Company's remaining below-ground vaults have been inspected, evaluated and ranked for priority to receive similar modifications.

Overpressurization Event Discovery and Immediate Actions Taken

At approximately 19:34 on August 13, Gas Control in Portsmouth received a Hi pressure alarm at 13.5 in. W.C. and almost immediately received a HiHi pressure alarm at 14.2 in. W.C. on the Dover low pressure distribution system. Approximately two minutes later (19:36) Scott Lacouture, the Gas Dispatcher on duty, called Andy Brown, the Systems Operations technician to dispatch him to the area to investigate. At approximately19:42, the Gas Dispatcher acknowledged the initial alarms in the SCADA system. Between approximately19:44 and 19:52 Gas Control received additional Hi and HiHi pressure alarms.

The Systems Operations technician arrived at the Rutland St. pressure regulating station in Dover at approximately 19:55 and discovered that the street was flooded and the storm drain nearby was blocked by construction and other debris. The downstream below-ground regulator pit (control regulator) was covered by water approximately three to four inches over the cover. The upstream below-ground regulator pit was not covered by water but the pit was full. After checking with his Supervisor, the technician immediately closed the inlet and outlet valves, isolating the regulating station from the distribution system.

At 20:17 the technician notified Gas Control that the station had been shut down. At approximately 20:21 Gas Control received a Hi pressure alarm at 12.9 in W.C. and shortly thereafter received an OK pressure alarm at 11.5 in. W.C., indicating that the system had returned to within normal operating conditions.

The technician then cleared the storm drain and pumped the water from the vaults. The station remained shut in for the remainder of the night.

Pressure Data Review and Analysis

Pressure recorder charts from the Sixth St., Portland Ave. and Oak St. stations in Dover were removed after the system returned to normal operating conditions and were subsequently reviewed to determine the

extent of the overpressure condition on the system. The locations of the stations are indicated on the Dover low pressure system map (Exhibit 1). The recorder charts from all three locations indicate that the pressure exceeded the range of the chart, 20 in. W.C.

Tabular pressure data obtained from SCADA for the telemeter at Park St. (Exhibit 5) indicates that the highest pressure on the system occurred between 20:05:50 and 20:11:15 at 33.25 in. W.C.

Distribution Follow-up Actions

At approximately 21:03, the Distribution on-call Supervisor requested that Gas Control contact the on-call Distribution crew with instructions to report to the Portsmouth DOC to coordinate and initiate mobile leak surveys of the Dover low pressure system. The system was divided into north and south areas and maps and mobile survey documents were provided to each leak survey technician. Mobile surveys commenced at approximately 21:30 on August 13 and were completed at approximately 05:00 on August 14.

Surveys & Analysis was contacted on the morning of August 14 and requested to perform service line surveys on 21 bare steel and 23 coated steel services. Service line surveys were completed the same day.

An additional mobile survey of the entire Dover low pressure system was initiated on Monday, August 18 and completed on August 20.

There were no leaks found on mains or services during the surveys. There were also no customer complaints or odor calls related to the overpressure event.

System Operations Follow Up Actions

After leaving the station shut in on the night of the incident, System Operations personnel returned the following day and performed an inspection of the affected station. Although no water infiltration into the pressure regulation equipment was detected it was decided to perform do a complete rebuild of both regulators and pilots. All pressure recorders on the Dover LP system were also recalibrated.

Facility Description and History

The Rutland St. regulating station consists of two below-ground 4'x 6'concrete vaults with Syracuse Castings covers, each containing a single pilot-operated Grove 900TE pressure regulator. The downstream regulator has a 50% capacity cage installed and serves as the worker regulator. The upstream regulator has a 100% capacity cage installed and serves as the monitor regulator, providing overpressure protection for the downstream distribution system. The pilot regulators had "cane" vent lines installed for atmospheric pressure reference that extended to the underside of the vault covers. The centerline of the regulator run is approximately 24" from the vault floor, and the top of the vault is approximately 53" from the floor.

Annual regulator maintenance and inspection was conducted at the Rutland St. station on May 14, 2014. At that time, the Grove 900TE worker regulator was due for five-year maintenance and was rebuilt. The

Fisher 1098 monitor regulator installed at the time was replaced by the Grove 900TE with 100% capacity cage. The pressure regulating setpoints after annual maintenance for the worker and monitor were 9 in. W.C. and 13 in. W.C., respectively.

The station had no prior history of flooding, and the station is not within any FEMA-designated flood zone. Occasional pumping was performed to remove shallow water, but water had not previously accumulated to the height of the regulators in the vault during similar or even more substantial hurricanes and rain events. At all times, the "cane" lines on the pilot regulators (which extended to the underside of the vault covers) were more than adequate protection against water infiltration into the vaults.

Site Conditions

During the summer of 2014 the City of Dover constructed new sidewalks along Rutland St. as shown in Exhibits 6 and 7 as well as along Silver Street. Construction was not complete when the flooding and overpressure event occurred, as can be seen in the Exhibits. The incomplete sidewalk construction and existing roadway grading provided a path for stormwater to flow directly toward the two regulator vaults and the adjacent stormwater drain that can be seen in the foreground of Exhibit 6.

On the night of August 13, after heavy rains, estimated to be approximately 2.5 inches in a one-hour period in the Dover area, the stormwater drain was found to be clogged with construction and other debris and the area shown in Exhibit 7 was flooded. The responding technician reported that the downstream vault closest to the stormwater drain was covered by 3 to 4 inches of water and the upstream vault, while not covered by water, was full to the top.

Recommended Measures

As a result of the flooding experienced at Rutland St., consideration should be given to installation of aboveground pilot regulator vents at all belowground pressure regulating stations wherever feasible. A feasibility assessment should be made at all existing facilities within one year and installations should occur where feasible within the following three years. Installation priority should be based on an assessment of the susceptibility of each facility to flooding and prior history.

Designs for new and replacement belowground regulating stations should incorporate provisions for aboveground pilot regulator vents.

Where telemetry exists, the feasibility of incorporating water level switches and alarming in SCADA should also be investigated.

Immediate Measures Completed – Rutland St.

Due to the known susceptibility of the Rutland St. station to flooding as a result of the sidewalk construction and potential clogging of the storm drain, the Company assessed the risk of regulator station

flooding and its options for remediating the risk in accordance with DIMP protocols. The Company decided to install aboveground pilot regulator vents on the Rutland St. station, which was completed during the week of September 8. The new vent lines consist of two-inch steel-to-plastic transition fittings through the vault walls below grade, plastic piping to the vent location and an anodeless riser. The risers are located to minimize exposure to snow accumulation, vehicular traffic, and other recognizable risks, wherever possible. The top of the riser has a vent cap facing downward to prevent rainwater intrusion. Tubing from the pilot regulator vent is connected to the transition fitting with bushings and Swagelok couplings. Grading and paving in the vicinity of the vaults was also completed to provide improved drainage and reduce the potential for water intrusion. The completed installation is shown in Exhibits 8, 9 and 10.

Additional Measures – Other Regulator Stations

Site evaluations were conducted at all below-ground regulator stations to identify and prioritize appropriate modifications including, but not necessarily limited to, installation of external above-ground regulator vents at all below-ground facilities. Evaluation criteria included the following:

1) Physical location of below-ground structures
2) Surrounding topography and features
3) Water infiltration history based on pumping frequency
4) Susceptibility to future adjacent construction activity
5) General knowledge and operating and maintenance history of the facility

Implementation of identified modifications will be based on the priority assigned through the evaluation process.

Priority 1 locations have the highest exposure to potential flooding. There are 2 Priority 1 locations. Modifications to Priority 1locations will be completed in early 2015.

Priority 2 locations have a moderate exposure to potential flooding. There are 7 Priority 2 locations. Modifications to Priority 2 locations will be completed in 2015 and 2016.

Priority 3 locations have minimal exposure to flooding. There are 13 Priority 3 locations. Although the exposure to flooding at these locations is minimal, external above-ground vents will be installed by the end of 2018.

Locations where sufficient measures to prevent flooding are already in place were designated N/A. No additional actions will be taken at these locations.

A summary of the evaluation results and priorities appears as Exhibit 11.

Conclusions

The August 13, 2014 Dover low pressure system overpressurization resulted from the failure of both the worker and monitor regulators at the Rutland St., Dover regulating station due to extreme flooding at the location of the regulator vaults. This station not previously experienced water accumulation that reached the height of the regulators even during other similar or more extreme rain events. The "cane" vent lines that extended the pilot regulator vent to the underside of the vault covers have historically provided more than adequate protection against water infiltration into the vaults. On this occasion, however, flooding of the regulator vaults after heavy rain blocked the atmospheric reference vents on the pilot regulators, causing the failures. Although flooding at the Rutland St. station had not been a problem in the past, water diversion resulting from new sidewalk construction, combined with a clogged stormwater drain caused the vaults to flood.

Identification of the overpressure condition by Gas Control Dispatcher and quick response by the Systems Operations Technician limited the extent of the overpressurization. Immediate leak surveys conducted by Distribution Technicians confirmed that despite the overpressurization, system integrity was maintained and there was no danger to the public. Remediation efforts have been assessed and implemented.

Exhibit 1 – Dover Low Pressure System, Stations and Telemeter Locations

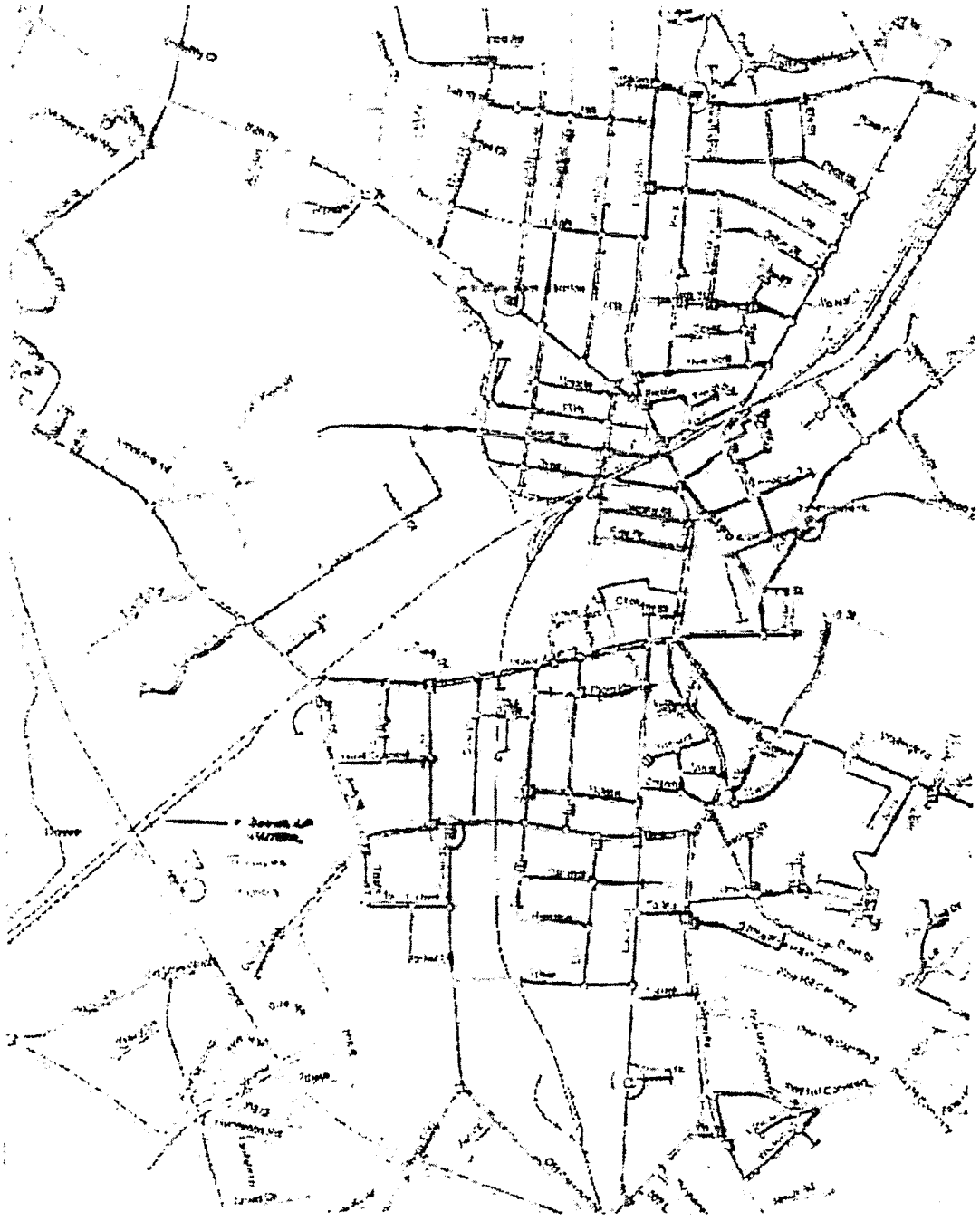


Exhibit 2 – Sixth St., Dover Pressure Recorder Chart

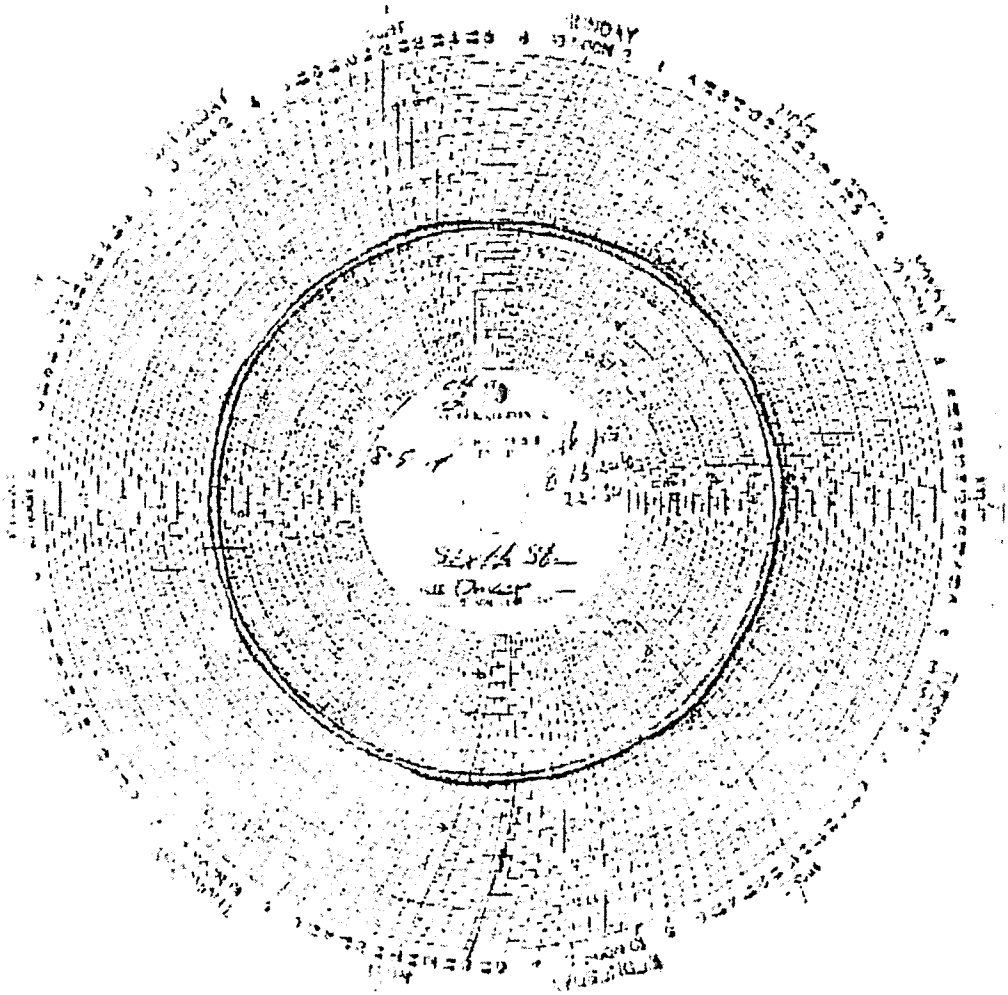


Exhibit 3 – Portland Ave., Dover Pressure Recorder Chart

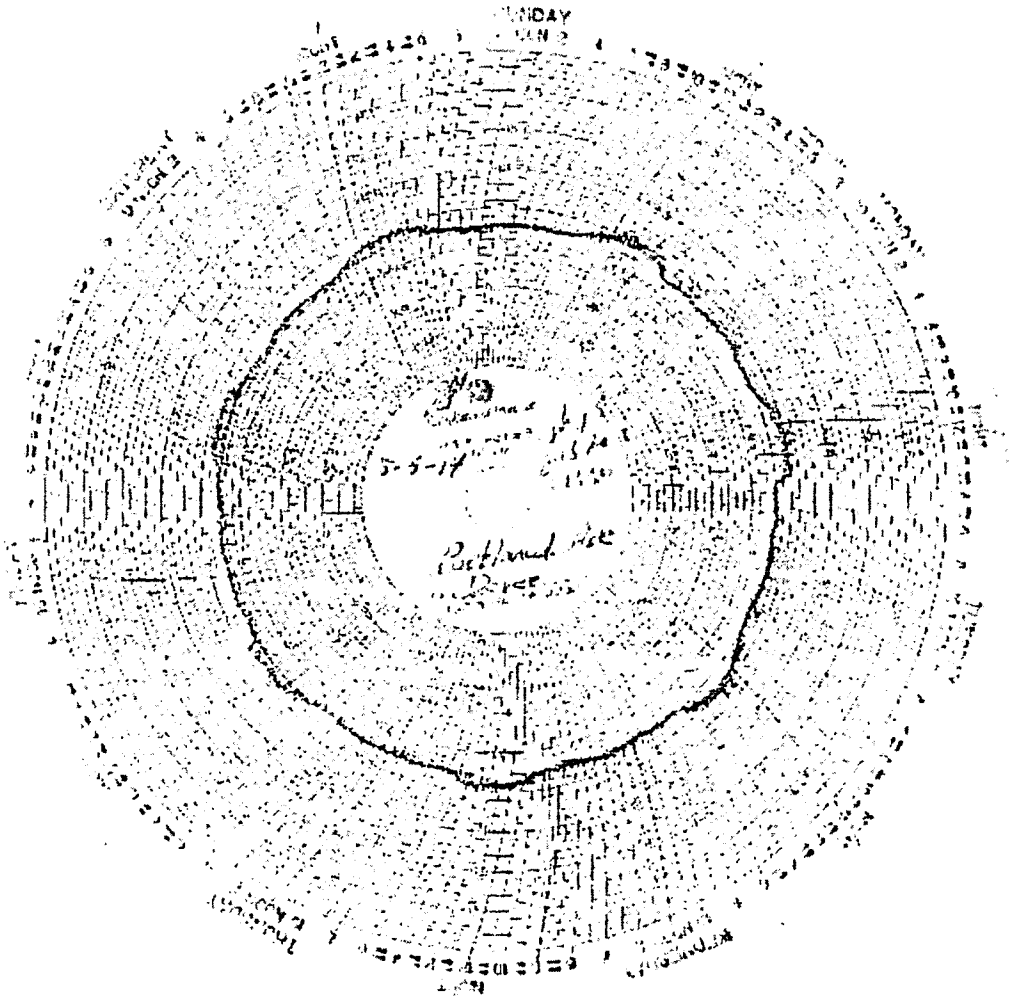


Exhibit 4 – Oak St., Dover Pressure Recorder Chart

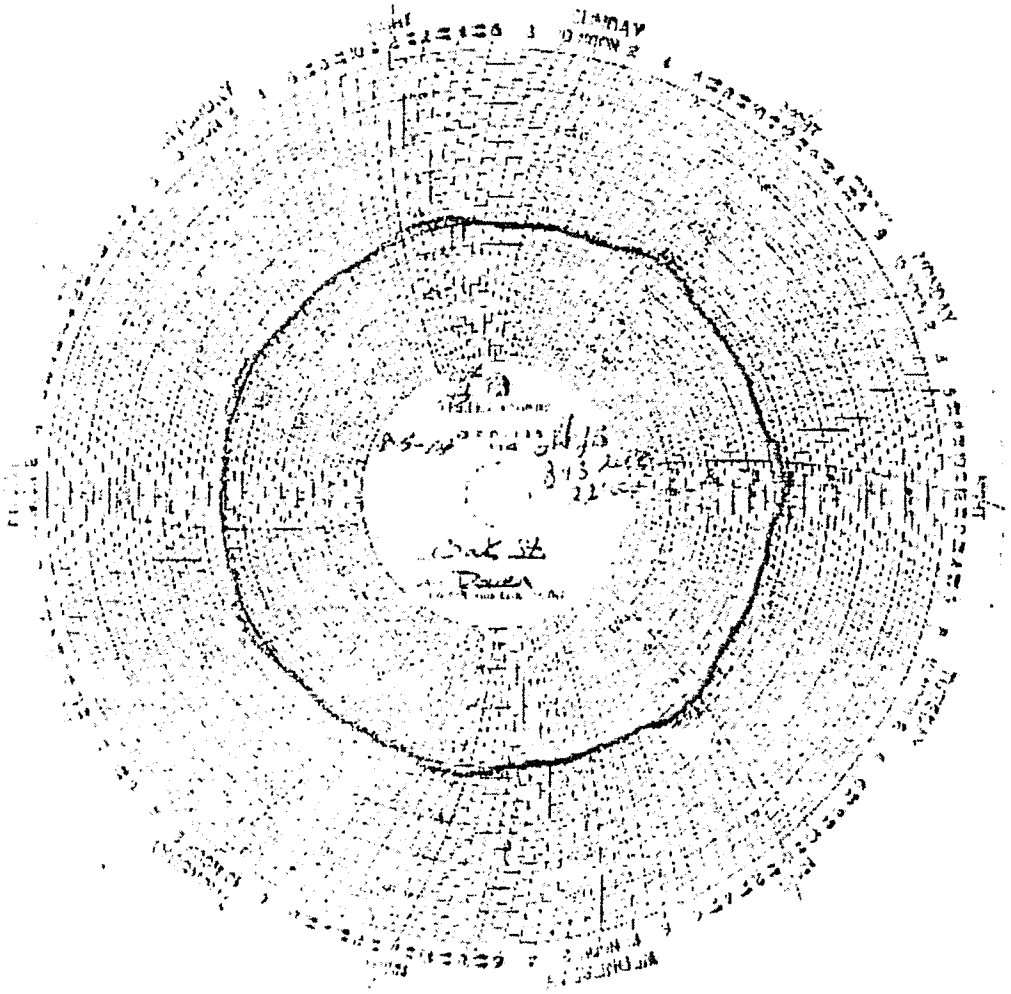


Exhibit 5 - Dover Low Pressure System - SCADA Telemeter (Park St.)

Start Time 8/13/2014 17:00 8/13/2014 22:00

UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV

Tagname	Timestamp	Value	Quality
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 17:07:30	8.6953125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 17:22:30	9.015625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 17:37:30	8.65625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 17:52:30	8.78125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 18:07:30	8.609375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 18:22:30	8.6328125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 18:37:30	8.71875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 18:52:30	8.5234375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:07:30	8.828125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:22:30	8.84375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:31:45	8.84375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:31:50	9.375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:33:15	9.375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:33:20	10.0546875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:34:00	10.0546875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:34:05	11.2109375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:34:20	12.421875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:34:45	12.421875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:34:50	13.5078125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:35:05	14.2265625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:35:45	14.2265625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:35:50	14.9296875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:39:15	14.9296875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:39:20	14.2890625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:43:00	14.2890625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:43:05	13.71875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:51:00	14.2265625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:51:05	13.65625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:53:00	13.65625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:53:05	14.2265625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:56:15	14.2265625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:56:20	15.0546875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:56:45	15.0546875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:57:20	17.1015625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:57:50	17.671875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:58:20	18.90625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:58:45	18.90625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:59:20	21.0390625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 19:59:45	21.0390625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:00:20	23.609375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:00:45	23.609375	Good

Exhibit 5 - Dover Low Pressure System - SCADA Telemeter (Park St.) - con't.

Tagname	Timestamp	Value	Quality
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:00:50	24.734375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:01:20	26.5	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:01:45	26.5	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:02:05	28.5	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:02:20	29.4140625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:02:45	29.4140625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:03:05	31.03125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:03:45	31.03125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:03:50	31.8828125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:04:15	31.8828125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:04:20	32.609375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:05:45	32.609375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:05:50	33.25	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:11:15	33.25	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:11:20	32.5859375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:12:45	32.5859375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:12:50	31.9296875	Good
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UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:18:45	24.1640625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:18:50	22.734375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:19:20	19.8203125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:19:45	19.8203125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:19:50	18.421875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:20:20	15.6328125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:20:45	15.6328125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:20:50	14.2265625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:21:20	11.546875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:21:45	11.546875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:21:50	10.1640625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:22:20	8.078125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:26:00	8.078125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:26:05	8.609375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:41:05	8.7421875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:55:45	8.7421875	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:57:15	9.25	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 20:57:20	8.609375	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 21:12:20	8.78125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 21:27:20	8.9765625	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 21:42:20	8.78125	Good
UNITIL.NH_PRTS_DOVERLO_PRESS.F_CV	13-Aug-14 21:57:20	9.140625	Good

Exhibit 6 – Rutland St. Sidewalk Construction

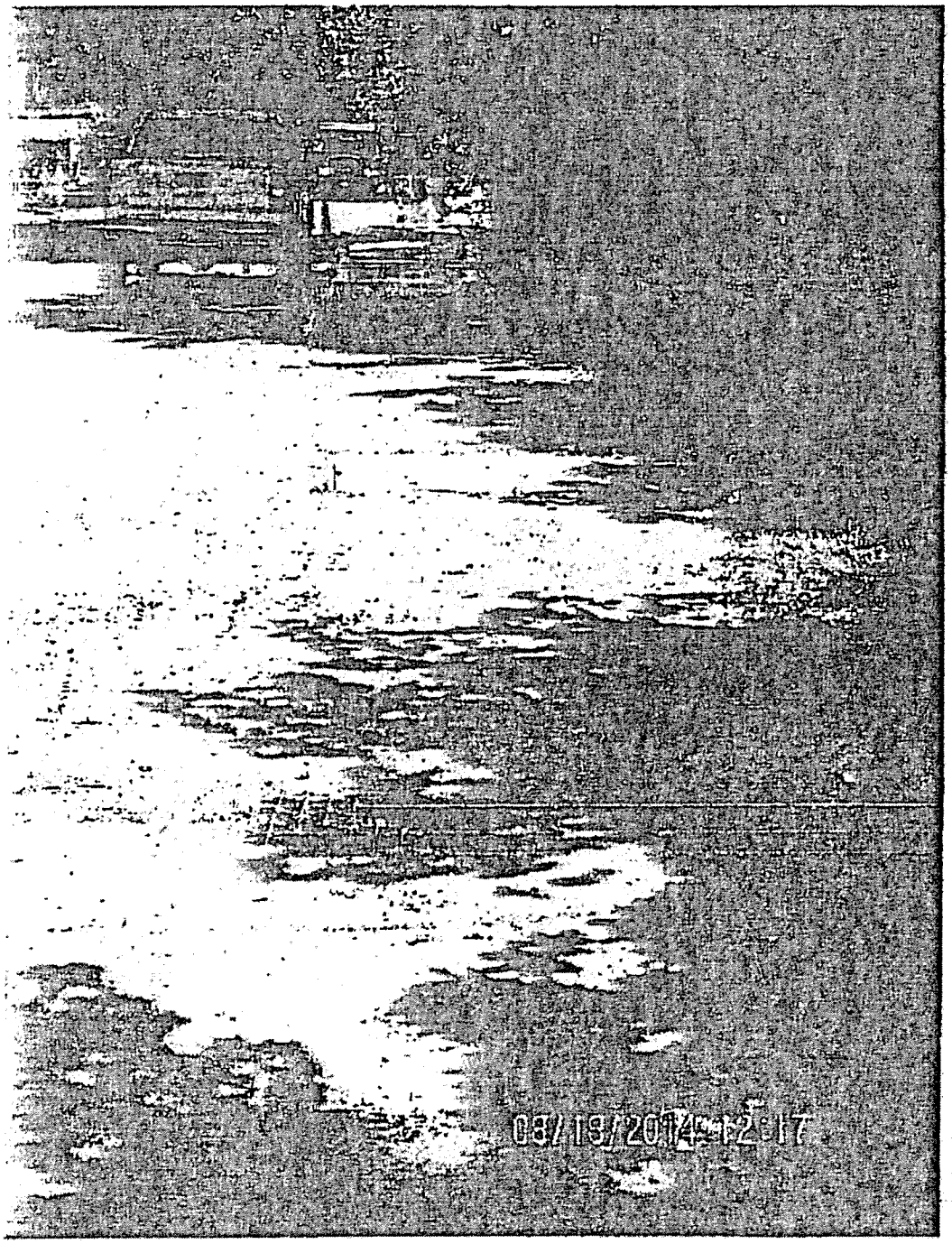

Exhibit 7 – Rutland St. Sidewalk Construction

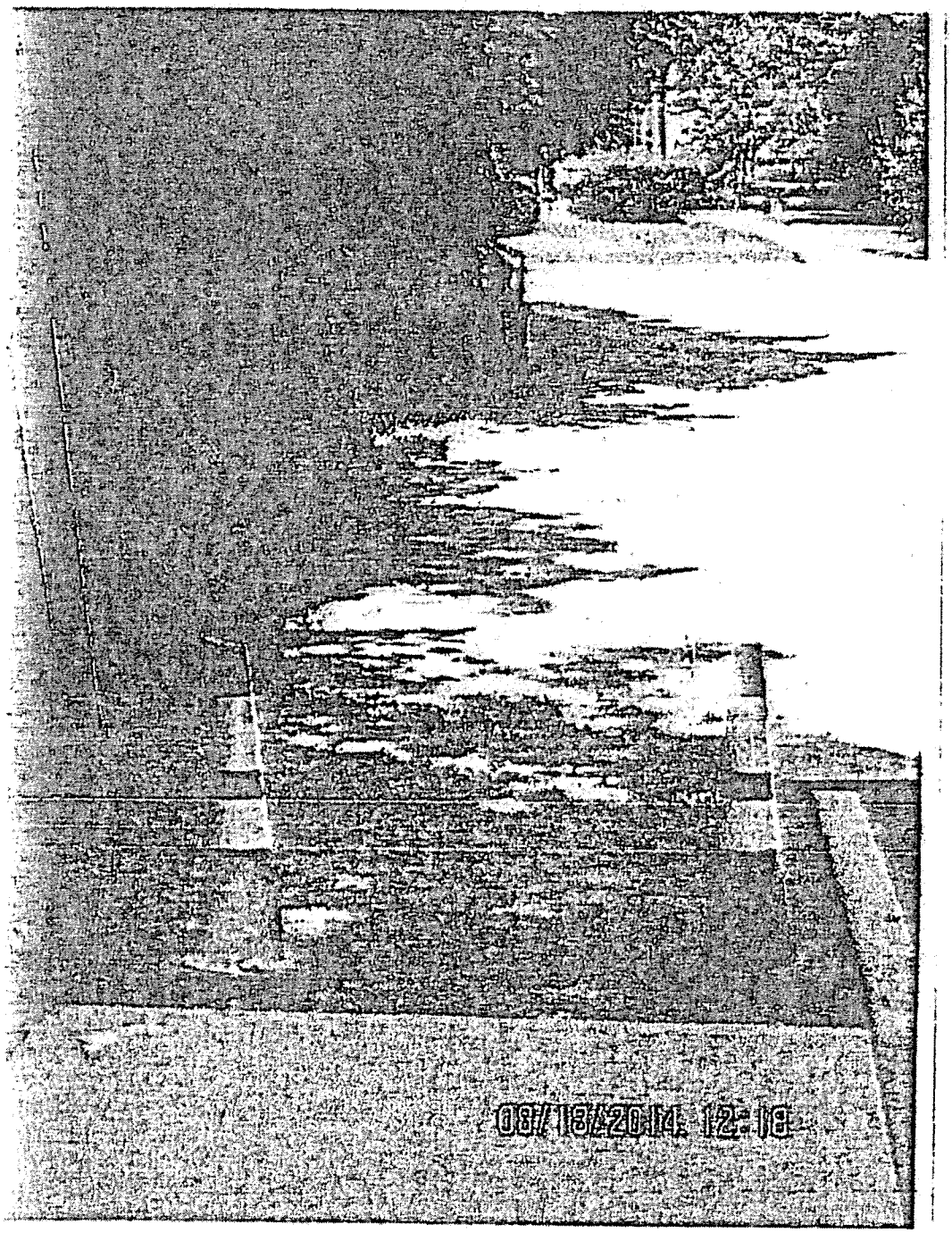

Exhibit 8 – Rutland St. Aboveground Vents and Paving

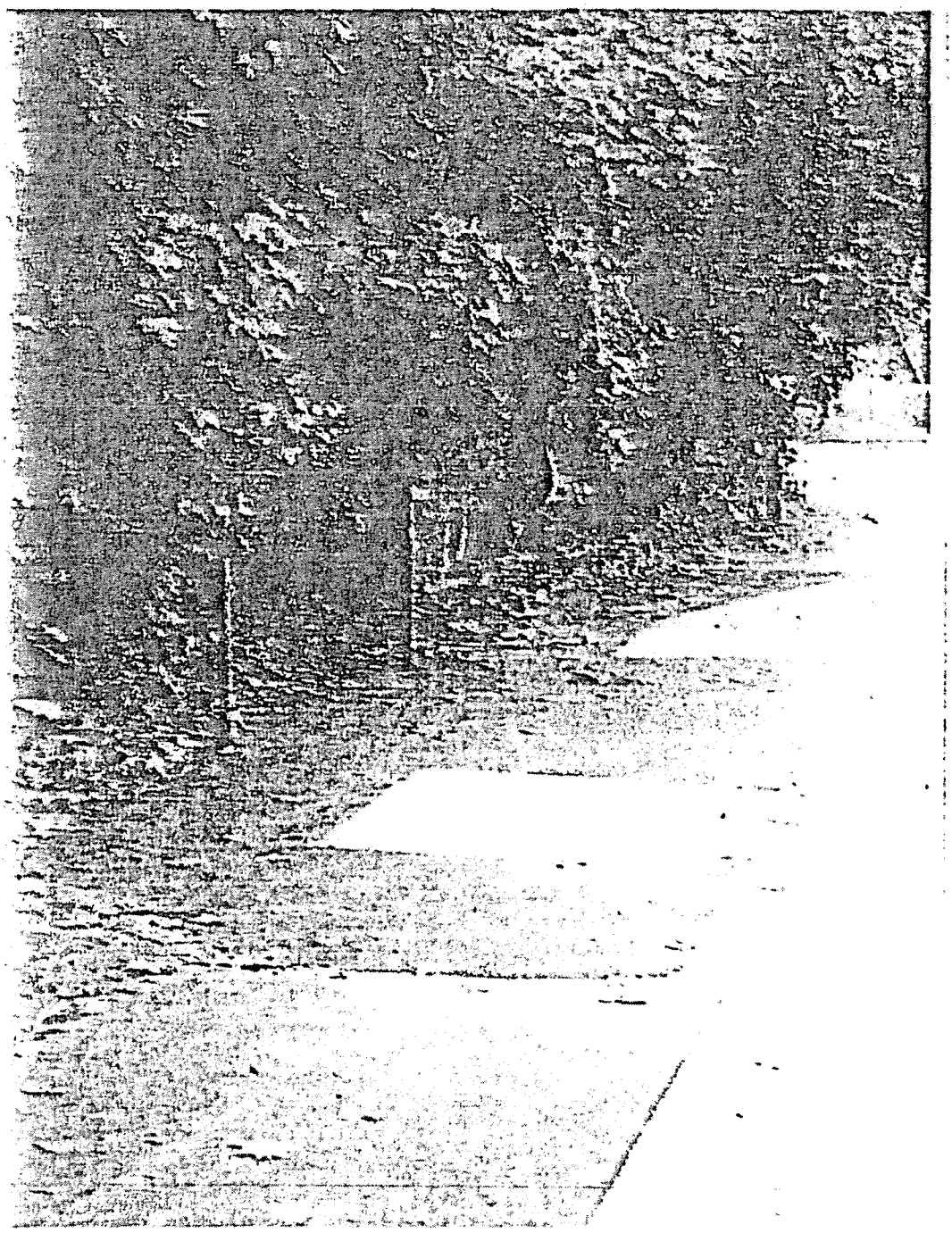

Exhibit 9 – Rutland St. Aboveground Vents and Paving

Exhibit 10 – Rutland St. Aboveground Vents and Paving

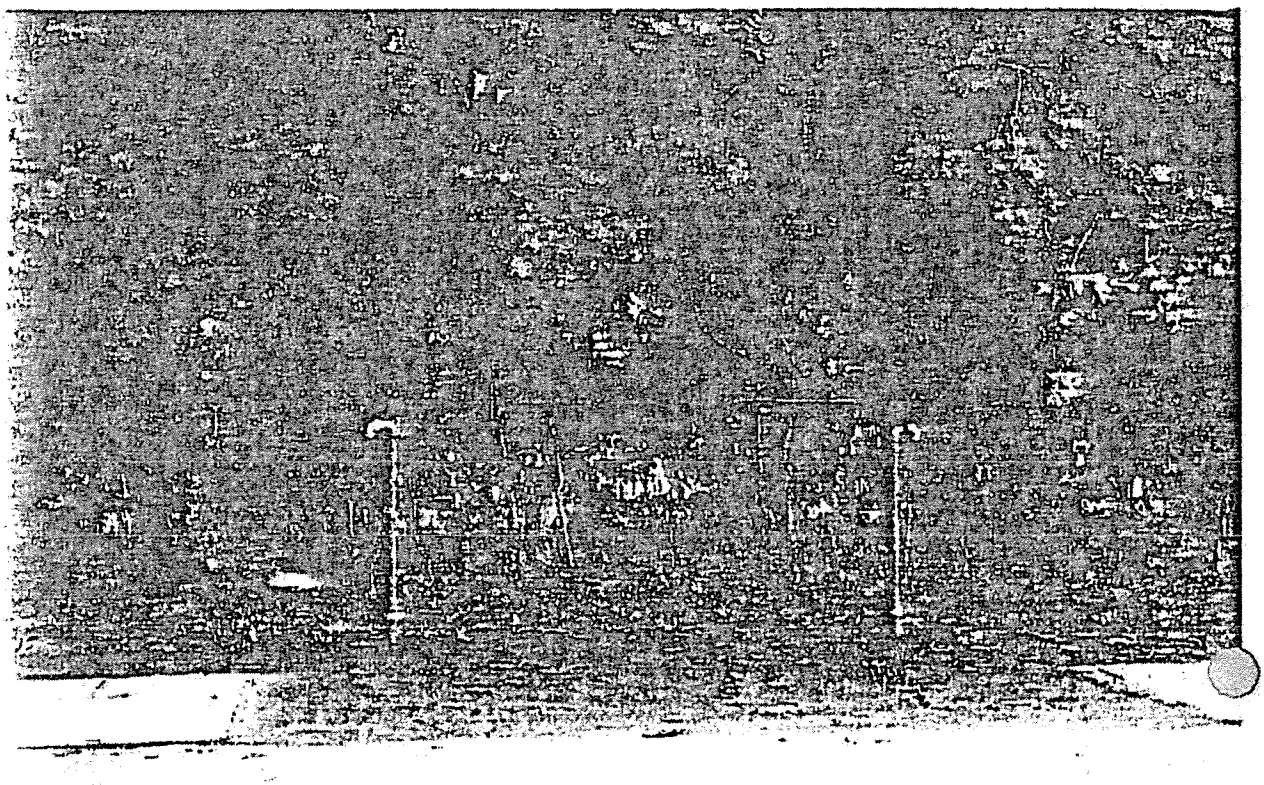

Exhibit 11 – Site Evaluation Summary

NUNH Regulator Stations with Vaults

	Station	Town	Vaults	Alarmed	Priority	Vented
1	Bellamy Rd.	Dover	2		3	
2	Central Ave	Dover	2		3	
3	Hawthorn Rd.	Dover	2	Y	2	
4	Oak St.	Dover	2		3	
5	Rutland St.	Dover	2		N/A	Y
6	Sixth St.	Dover	2		3	
7	Mill Rd.	Durham	2		3	
8	Court St.	Exeter	2		3	
9	Guinea Rd.	Exeter	2		3	
10	Rte. 88	Exeter	2		2	
11	Windmere @ Exeter	Exeter	2		2	
12	Church St.	Gonic	2		1	
13	Felker St.	Gonic	2		2	
14	Gear Rd.	Gonic	2		1	
15	Brox System	Gonic	2	Y	N/A	Y
16	Exeter Rd.	Hampton	2		2	
17	Liberty Ln.	Hampton	2		3	
18	Hog's Hill Farm	Kensington	2		3	
19	Islington St.	Portsmouth	2		2	
20	Miller Av.	Portsmouth	2		3	
21	New Zealand Rd.	Seabrook	2		2	
22	Rte. 107 @ Andy's Mobile	Seabrook	2		1	
23	Rte. 107 Dog Track	Seabrook	2		3	
24	Rte. 108	Somersworth	2		3	
25	Rte. 108 @ Velcro	Somersworth	2		3	

Unitil d/b/a Northern Utilities, Inc.

DG 15-121
Hearing on Notices of Violations

#25

Northern Utilities Data
Requests - Set 1

Date Request Received: 4/28/15
Request No. Staff 1-2

Date of Response: 7/20/15
Respondent: J. Vercellotti

REQUEST:

Staff alleges on page 2 of NOV PS1501NU ("NOV 1") that "Unitil did not adequately design the district regulator station equipment to be able to operate under submerged conditions within an underground vault."

(a) Please identify every fact upon which you rely to support the allegation that design of the district regulator station was inadequate.

(b) Please identify every fact upon which to rely to support the allegation the district regulator equipment was unable to operate under submerged conditions.

(c) Please describe Staff's understanding of the pilot vent extension design used at the regulator station on or about August 13, 2014.

RESPONSE:

a)

As of August 12, 2014, Unitil had two underground vaults at Rutland Street, each with similar design and pipeline components. Unitil had a pilot operated pressure limiting device in each vault that was capable of meeting the pressure and load requirements, even when submerged, so long as the water did not impede its serviceability. In each vault there was a stainless steel vent tube that was connected to the pilot operated pressure limiting device. The vent tubes rose approximately 24 inches above the port of the pilot operated pressure limiting device, which was approximately 12 inches below the top of each vault. If the underground vaults filled with water, the pilot operated regulators and the stainless steel vent tubes would be submerged.

The pressure chart provided by Unitil indicated that on August 13, 2014, the Dover Low Pressure distribution system operated for approximately 50 minutes at pressures in excess of the system MAOP. Unitil recorded 32 inches of w.c. on the Dover Low Pressure distribution system. The MAOP of the Dover Low Pressure system provided by Unitil was 13.8 inches water column based on vault photos of tags of the Rutland St Regulator Station. Puc 504.03(a) and (b) require low pressure systems to be no more than 13.8 inches of water column. Accidental Overpressurization occurred when 32 inches water column for the Dover Low Pressure System was recorded by Unitil on a pressure chart.

According to DES's Stormwater Design Manual, Appendix A (available at

des.nh.gov/organization/divisions/water/stormwater/manual.htm), an expected one year rainfall event for Dover is 2.5 inches of water in a 24 hour period, and every two years an expected rainfall event for Dover is 3.0 inches of water in a 24 hour period. Weather data recorded at the Rochester Airport on August 13, 2014, recorded 2.49 inches over a 24 hour period (referenced weather data is included as Attachment 1-2). This was used as a proxy for Dover rainfall. The rainfall intensity recorded on August 13, 2014, was a normal event.

Designs are considered inadequate if they do not succeed in preventing accidental overpressurization as stated in 192.195.

b)

During an August 14, 2014, site visit, Staff observed that the pilot vent appeared to consist of stainless steel tubing that terminated in an inverted "U" shape approximately 1 foot below the underground vault cover. The 4 basic vault components (gas piping, underground concrete vault, pilot operated pressure limiting device, and the vent for the pilot operated pressure limiting device), when configured as a whole, did not operate in a manner that is consistent with what the design function requirement was, *i.e.*, to protect downstream piping and components from experiencing pressures above the MAOP. The pressure chart provided by Unitil indicated the Dover Low Pressure distribution system operated on August 13, 2014, for approximately 50 minutes at pressures in excess of the system MAOP. Accidental overpressurization occurred when 13.8 inches water column was exceeded and reached level of 32 inches water column for the Dover Low Pressure System. This was recorded by Unitil on a pressure chart.

c)

Staff understands that the pilot vent extensions were comprised of stainless steel tubing, diameter unknown. Staff understands that it is not unusual for the vault to collect water -- Unitil statements are that they routinely pump out water. The design of the pilot vent extension was to vent gas into the vault, not outside of the vault. The pilot vent extension design did not prevent water from impeding the vent termination on August 13, 2014. Staff believes the possibility of water levels rising above the height of termination to be a design variable that should have been accounted for. Staff believes the vent extensions for the monitor and for the worker were approximately the same heights, so that similar water accumulation would affect each regulator in the same way.

#26

Date Request Received: 4/28/15
Request No. Staff 1-11

Date of Response: 7/20/15
Respondent: R Knepper, Dave Burnell

REQUEST:

Staff alleges on page 2 of NOV 1 that: The Safety Division's visit to the Rutland Street vault revealed that the gas pressure regulator's vents were not extended outside the vault as is customarily done by other operators in New Hampshire.

(a) Please identify the "other operators" referenced in this portion of NOV 1.

(b) For each operator identified in (a), please provide the following:

i. the total number of regulators that operator currently has in service in New Hampshire;
ii. the number of regulators that operator has in service in New Hampshire that are installed in below-ground vaults; and
iii. the number of below ground regulators that operator has in service that are vented above ground.

(c) If you do not have the information requested in (b)(i) – (iii), please explain the basis for Staff's statement that "other operators in New Hampshire" "customarily" extend pressure regulator vents outside the vault.

RESPONSE:

a) Liberty Utilities. Staff acknowledges the NOV should have stated *"another operator"* rather than *"other operators."*

b) i) Approximately 45,962 service regulators and approximately 71 regulator stations totaling approximately 46,064 regulators in New Hampshire.

ii) Approximately 102 regulators.

iii) Approximately 102 regulators.

c) Staff is not aware of vaults in the Liberty system that do not extend pressure regulator vents outside the vault.

Unitil d/b/a Northern Utilities, Inc.

DG 15-121
Hearing on Notices of Violations

#37

Northern Utilities Data Requests - Set 1

Date Request Received: 4/28/15
Request No. Staff 1-25

Date of Response: 7/20/15
Respondent: R Knepper

REQUEST:

Please identify every fact upon which you rely to support the allegation on page 1 of NOV 2 that "Unitil did not adequately design" the district regulator station.

RESPONSE:

Unitil had a pilot operated pressure limiting device that was capable of meeting the pressure and load requirements. Unitil had an above-ground gate station that received supply from Granite State Gas Transmission and reduced the operating pressures for the Portsmouth IP distribution system. The Portsmouth IP distribution system is fed from multiple locations. The photographs of the gate station indicate that the pressure at the inlet to the worker system operated on June 25, 2014, was at approximately 335 psig. The worker regulator was set at 52 psig on the primary run. The monitor regulator was at 55 psig on the primary run. The worker regulator was set at 50 psig on the secondary run. The monitor regulator was set at 55 psig on the secondary run. The Portsmouth IP system maximum allowable operating pressure (MAOP) is 56 psig according to Unitil system maps and statements made by Unitil. Both the worker and monitor regulators were 2" diameter RED Q Flexflo MDL 900 Top Entry (TE) models. Both the worker and monitor regulators were controlled with Mooney pilots with identification tags labeled as 20H/20S/20HS pilots.

There were dual runs; (i.e., 4 regulators total, 2 regulators per run). The run that was in control of downstream was dependent on the set pressures of each of the worker regulators on both the primary and secondary run. The downstream system was in "operations" mode and gas was flowing. Upon arrival the outlet pressure of the worker regulator on the primary run was 51.2 psig and steady without noticeable variations. A Until technician adjusted the worker regulator on the primary run to operate at a pressure higher than the set pressure of the monitor.

On the primary run the worker pressure rose to 56.9 psig and the monitor had not yet taken over control. This condition is approximately 1 psig above the MAOP. Since the regulator had not taken control, Dave Burnell had them stop adjusting at that step of the procedure for the primary run. On the secondary run a similar scenario was performed and the monitor took over at 57.2 psig. On the secondary run, once 56 psig was exceeded the PUC Inspector said that Unitil could stop adjusting.

Accidental Overpressurization occurred when pressures exceeded 56 psig for the Portsmouth Intermediate Pressure System and was visually observed by Unitil, the PUC inspector, and a PHMSA representative on a pressure gauge. Designs are considered inadequate if they do not succeed in preventing accidental overpressurization as stated in 192.195. Unitil is responsible for selecting the equipment and components used in the district regulating station, selecting the set

points of each regulator, knowing the performance parameters of the components chosen, and selecting the configuration of the components. The resultant combination of these components, configuration, and integration of the selections did not prevent the overpressurization from occurring.

Ex. 28

STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION
21 S. Fruit St., Suite 10
Concord, N.H. 03301-2429

TDD Access: Relay NH
1-800-735-2964

Tel. (603) 271-2431

FAX No. 271-3878

Website:
www.puc.nh.gov

March 26, 2015

Mr. Thomas Meissner
Chief Operating Officer
Northern Utilities
6 Liberty Lane
Hampton, NH 03842

RE: Northern Utilities, New Hampshire Gas Division
Notice of Violations of Natural Gas Pipeline Safety Act and
NH Code of Administrative Rules Part 500
Control# PS1501NU
Pipelines Affected:
1) Dover Low Pressure System (13.5 in w.c MAOP)

Dear Mr. Meissner:

Pursuant to the Natural Gas Pipeline Safety Act, 49 U.S.C. §60101 *et seq.*, applicable state law as set forth at RSA 370:2, and the relevant regulations of the New Hampshire Public Utilities Commission (Commission), N.H. Code Admin. Rules Part Puc 511, the Commission hereby serves upon Northern Utilities (Unitil) this formal Notice of Violation (NOV) pursuant to Puc 511.08 for conditions relating to operations that exceeded the maximum allowable operating pressure (MAOP) for a single gas pipeline distribution system. The gas pipeline system was identified as the Dover Low Pressure system that transports natural gas from five district regulator stations in Dover to an undisclosed number of customers located within the downtown Dover area. This system was inadequately designed and caused operations of the system not in accordance with minimum federal and state standards as a result of subsequent local flooding.

Records indicate that an annual regulator station inspection was performed on May 14, 2014, by Unitil crews. This NOV arises from the August 13, 2014, notification by Unitil to the Safety Division of a single occurrence when Unitil exceeded the MAOP for the entire Dover Low Pressure distribution system. The Unitil notifications were made in accordance with Puc 504.05 (c), *Emergency Notifications*. The Safety Division alleges that Unitil violated 49 CFR §192.619 and §192.195 for operating pipeline segments for approximately 50 minutes on August 13, 2014, in excess of identified and previously established Unitil MAOP for the system. Digital pressure recording devices confirmed that the 13.5 inch water column (w.c.) (MAOP) Dover Low Pressure system was raised above the maximum allowable operating pressure to a recorded level of approximately 32 inches w.c. The recorded pressure of 32 inches w.c represents a 237% over pressurization.

The Safety Division alleges that Unitil did not adequately design the district regulator station equipment to be able to operate under submerged conditions within an underground vault, and thus subjected the system to potential pressures exceeding the MAOP which were subsequently realized. This caused a violation of operating a system above the MAOP as limited by CFR §192.619 and Puc 504.03. Please note that this NOV alleges a series of violations.

Violation No. 1 **49 CFR §192.619. No person may operate a segment of steel or plastic pipeline at a pressure that exceeds a maximum allowable operating pressure determined under subparagraph (c) or (d) of this section, or the lowest of four criteria listed in subparagraph (a), (b), (c) or (d).**

The Safety Division alleges that Unitil allowed downstream piping to be subject to pressures above the MAOP. The federal code in 49 CFR §192.619 and 49 CFR §192.621 does not allow for the operation of a pipeline above the MAOP, including accidental overpressurizations. The Safety Division's position is that Unitil was *"operating"* because customers were connected to distribution gas piping and system loads caused flow through the pipeline. *"Operations"* are being conducted because gas is being *"transported"*. *See* CFR §192.3. Puc 504.03 also precludes low pressure systems from operating above 13.5 in w.c.

Violation No.2 **49 CFR §192.195. Failure to incorporate into Design of Pipeline Components pressure regulation devices having capability of meeting the pressure, load, and other service conditions that will be experienced in normal operation of the system, and that could be activated in the event of failure of some portion of the system; and be designed so as to prevent accidental overpressuring.**

The Safety Division alleges that Unitil constructed and installed an underground vault that contained pipeline components that when configured make up a district regulating station. This vault was in place for many years and was located on Rutland Street in Dover. Rutland Street was being reconstructed with new drainage structures, sidewalks, and other roadway changes. This location and vault was subsequently subjected to a thunderstorm on August 13, 2014, which occurred over a brief period of time from approximately 4 p.m. to 8 p.m., and delivered a substantial amount of water over that period of time. Weather data recorded 2.49 inches of precipitation occurring over the 24 hour period with the majority of it falling after 4 p.m. Safety Division research showed that the flash flooding that occurred was well below that of a 10 year flood level, 25 year flood level, 50 year flood level, or 100 year flood level that are typical standards used in civil engineering projects for this region for rainfall intensities. The Safety Division's visit to the Rutland Street vault revealed that the gas pressure regulator's vents were not extended outside the vault as is customarily done by other operators in New Hampshire. The vents became filled with water which then resulted in the pressure regulators not operating correctly.

The Safety Division alleges the distribution system over pressurization was avoidable with a proper design which can allow equipment being used in a submerged state. This is a design variable that should have been planned as a "service condition that could be experienced."

The Safety Division alleges that Unitil could not exclude the possibility of negative impacts of water. Its distribution system could be subject to intense natural precipitation, flooding due to broken water mains, flooding due to opened hydrants, flooding due to motor vehicle accidents involving hydrants, water trucks that roll over because of traffic accidents, etc. These considerations needed to be designed into equipment selection because both accidental and environmental conditions should be routinely considered within design parameters. Unitil's designs of equipment and component selection should take into consideration those factors that may be encountered in the geographic area in which they are required to safely supply natural gas service.

Results of the Informal Conference

An informal conference was conducted pursuant to Puc 511.07 at the Commission offices on March 24, 2015 during which Unitil provided a self-written copy of "*Overview of Issues related to Maximum Allowable Operating Pressure and Notices of Probable Violation issued by the Safety Staff of the New Hampshire Public Utilities Commission*" (Overview). This contained 11 attachments:

Overview of MAOP Issues Related to NOPVs
1) Granite States Gas M&R Station Schematic
2) Copy of CFR Part 192.619 and 192.620
3) Highlighted copy of 192.195 Protection against accidental overpressuring
4) Copy of CFR Part 192.189 through 192.199
5) Highlighted Copy of CFR Part 192.199
6) Highlighted Copy of CFR Part 192. 201 and copy of 192.203
7) Copy of Unitil Sept 5, 2014 letter to Jeff Wiese of PHMSA
8) Copy of PHMSA Inspection Guidance 192.617, 192.619 pages 68-80
9a) PHMSA Interpretation 192.619 1 Oct 20 1971
9b) PHMSA Interpretation 192.619 48 March 31, 1983
9c) PHMSA Interpretation 192.605 9 Oct 24, 1994
9d) Interpretation 192.195 6 May 30 1974
10) Copy of 192.601, 192.603, and highlighted copy of 192.605
11) Unitil Internal Report Aug 13, 2014 of Dover Low Pressure System Overpressurization

Unitil went over the Probable Violation as written and did not have any questions about the basis of the notice of probable violation. Unitil went on to explain its rationale for why the Probable Violations are not cited properly by reviewing many of the documents of the Overview.

Unitil stated the pertinent section of the Overview began on page 7. On page 7 Unitil "denies that there was any violation of Sections 192.619 or 192.195. Overpressure protection

was designed to withstand a single failure event, and the Company experienced a double-failure. Moreover, the Company has never experienced similar flooding of this regulator station (even in hurricane conditions), and had no reason to believe that this specific rain event would cause the vaults to flood. Since the occurrence, the Company has evaluated this risk pursuant to DIMP and has developed a remediation plan to retrofit stations with above-ground venting."

Unitil emphasized the design was "reasonable" in that it took into account previous history of rain events and that the adjacent storm drain (catch basin) was not working properly which led to the underground vault being flooded. Unitil focused on a narrow cause such a clogged catch basin as a contributing factor which led to high flood levels. Unitil stated the vault was installed in 1996.

The Safety Division disagreed with Unitil's assertion that flooding of underground vaults resulting in completely submerging pressure regulating equipment could not be predicted or "considered" as Section 192.195 requires. The Safety Division believes it is incumbent on the operator (Unitil) to incorporate within its design the possibility of the vault completely filling with water and that it would not be unusual to find many vaults within New Hampshire that have venting of pressure regulating equipment that extends above ground. The Safety Division stated it is unreasonable to expect an underground vault which is a concrete box below surface without floor drain installed to not fill with water.

The Safety Division believes that when the MAOP[1] is exceeded by 237% a violation occurs of Part 192.619. The Safety Division stated that Part 192 is a performance based code and when the performance of the gas system falls below the standards then then Unitil is out of compliance.

The Safety Division emphasized that DIMP (distributed integrity management plan) is not the driving requirement to investigate failures, but rather Part 192.617 requires it. In fact Unitil's O&M Procedure 1E which references 192.617 requires a failure investigation report be created to determine the cause although it inexplicitly fails to mention the secondary portion of 192.617 that the purpose of determining a cause is to minimize the possibility of reoccurrence within the system. The Safety Division believes a fundamental tenant of Integrity Management is that it is not acceptable to only identify threats that have occurred historically but the operator is required to consider threats that may occur and develop mitigation strategies.

The Safety Division did agree that DIMP plans should be modified by results learned from failures.

The Safety Division stated that they were familiar with and had previously reviewed the pertinent sections of the code as well as applicable interpretations provided by Unitil and had considered them prior to issuing the NOPVs. The Safety Division was not convinced by Unitil's assertions.

[1] Staff notes that NOPV incorrectly listed Puc 504.03 limit as 13.5 in w.c, when it should be 13.8 in w.c which equates to 232% overpressuring

In all other respects there was no agreement on the probable violations as written by the Safety Division.

The Safety Division could have alleged violations of other applicable parts of the pipeline safety regulations, including but not limited to 49 CFR§§192.13, 192.603, 192.479, 192.481, 192.623 and 192.739 and Puc 504.03.

Safety Division proposed conditions in addition to civil penalties

In researching Unitil's O&M about exceeding MAOP, the Safety Division would also impose the lone following condition:

1) Section 2 L, subsection 6, of Unitil's Operating and Maintenance Manual shall be amended within 30 days to specifically preclude setting of pressures of monitor regulators so that MAOP is not exceeded. Although Unitil's practice is to set monitor regulators so that they are below the MAOP, the manual should be clarified to specifically preclude the possible interpretation of the current language that a 10% buildup is allowable over the MAOP. Unitil shall notify the Safety Division of the amended language once completed, noting where the previous language and amended language has been modified.

Civil Penalties[2]

RSA 374:7-a, III and Puc 511.08(b) (2) require the Commission's Safety Division to set forth the factors relied upon by the Safety Division in making its determination of civil penalties. The factors are essentially identical to the factors of the federal Office of Pipeline Safety has long relied upon in assessing similar penalties under the National Gas Pipeline Safety Act. *See* 49 CFR §190.225. The Safety Division considered the severity of not appropriately applying the most minimal of federal safety regulations, possible affects upon the integrity of Unitil's pipeline. Consideration was given to the effects and proximity to customers along the pipeline and potential impacts to non-customers, associated safety hazards of not operating gas distribution pipelines in accordance with the pipeline safety regulations. It became apparent at the informal conference that Unitil does not agree with these basic code requirements as cited. The Safety Division also considered the prior history of offenses; the nature and circumstances of the above violations, Unitil's response to the offenses, as well as the effect the associated imposition of civil penalties will have on Unitil's ability to continue operations.

Respondent is fully culpable for this violation. In light of these factors, the Safety Division imposes civil penalties as follows:

Violation No. 1 **$ 10,000**
(Non-compliance with 49 CFR §192.619, Maximum allowable operating pressure - Steel or plastic pipelines).

[2] Staff notes that Probable Violation incorrectly listed factors listed to determine civil penalties as Puc 511.08 b (2) when it should have been Puc 511.05 (c) (5) which has identical language.

Violation No. 2 **$ 7,500**
(Non-compliance with 49 CFR §192.195, Inadequate design of pipeline components).

TOTAL CIVIL PENALTIES **$17,500**

Pursuant to RSA 374:7-a, the company has the right to seek compromise of these penalties. Puc 511.09 requires the company to take one of the following steps within 10 days from receipt of the NOV:

(a) Sign a consent agreement and remit the civil penalty; or

(b) File a request in writing for a hearing before the commission:

Enclosed is a Consent Agreement that would resolve the civil penalty without need for a hearing. Unitil may execute the Consent Agreement and remit a check or money order payable to the State of New Hampshire, in the amount of $17,500. Responses and payments relevant to this notice should reference the PS1501NU Dover Overpressurization, and be directed to the Safety Division Director at the Public Utilities Commission.

Alternately, Unitil may file with the Executive Director a request for a hearing before the Commission, within 10 days of receipt of this Notice of Violation in accordance with Puc 511.09.

Sincerely,

Randall S. Knepper

Randall S. Knepper
Director, Safety Division

cc: Chris Leblanc, Unitil
William Hewitt, Roach Hewitt Ruprecht Sanchez & Bischoff P.C.

enclosure

Consent Agreement
Notice of Violation
Control # PS1501NU
March 26, 2015

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

NOV CONSENT AGREEMENT

WHEREAS, the New Hampshire Public Utilities Commission (Commission) filed a Notice of Probable Violation (NOPV) on January 23, 2015, against Northern Utilities (Respondent), alleging that on August 13, 2014 the Respondent committed a probable violation of the Natural Gas Pipeline Safety Act 49 U.S.C. and New Hampshire state law with respect to over-pressurized the Dover low pressure system and not adequately designing of the Pipeline Components pressure regulation devices controlling the Dover low pressure system.

WHEREAS, the Respondent is afforded the opportunity to refute the NOPV and request an informal conference or accept and pay the civil penalties determined by the Commission Safety Division; and

WHEREAS, the Commission Safety Division determined after holding an informal conference pursuant to N.H. Administrative Rule, Puc 511 that the Respondent violated minimum federal and state safety standards and issued Notice of Violation (NOV) Number PS1501NU, on March 26, 2015 setting forth the Violation.

NOW, THEREFORE, the Commission and the Respondent hereby agree as follows:

1. A violation of New Hampshire and Federal Pipeline Safety Regulations occurred as described in the Notice of Violation Number NOV#PS1501NU.

2. A civil penalty of $17,500 is imposed on the Respondent for the above violation.

3. Respondent shall also take actions as outlined in NOV PS1501NU section *Safety Division proposed conditions in addition to civil penalties.*

4. The Commission shall pursue no further action against the Respondent except as provided in paragraph 7, and in order to enforce this Agreement.

5. This Agreement shall not release the Respondent from any claims of liability made by other parties under applicable New Hampshire law.

6. This Agreement shall not constitute a waiver of the Respondent's right to pursue any other party or person for any claims based on facts in the NOV.

7. This Agreement shall be considered by the Commission in assessing any civil penalties for future violations, if any, of RSA 374:7-a *et seq.*, pursuant to Puc 511.

8. This Agreement shall be construed in accordance with the laws of the State of New Hampshire and the Rules of the New Hampshire Public Utilities Commission.

Dated:_____ By: Randall S. Knepper
For the New Hampshire Public Utilities Commission

Dated:_____ By: _____
For the Respondent

SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.

Executive.Director@puc.nh.gov
david.burnell@puc.nh.gov
epler@unitil.com
joseph.vercellotti@puc.nh.gov
michael.sheehan@puc.nh.gov
ocalitigation@oca.nh.gov
randy.knepper@puc.nh.gov
robert.wyatt@puc.nh.gov
whewitt@roachhewitt.com

Docket #: 15-121-1 Printed: May 28, 2015

FILING INSTRUCTIONS:

a) **Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:**

DEBRA A HOWLAND
EXECUTIVE DIRECTOR
NHPUC
21 S. FRUIT ST, SUITE 10
CONCORD NH 03301-2429

b) **Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.**

c) **Serve a written copy on each person on the service list not able to receive electronic mail.**

Ex. 29

STATE OF NEW HAMPSHIRE

TDD Access: Relay NH
1-800-735-2964

Tel. (603) 271-2431

FAX No. 271-3878

Website:
www.puc.nh.gov

PUBLIC UTILITIES COMMISSION
21 S. Fruit St., Suite 10
Concord, N.H. 03301-2429

March 26, 2015

Mr. Thomas Meissner
Chief Operating Officer
Northern Utilities
6 Liberty Lane
Hampton, NH 03842

RE: Northern Utilities, New Hampshire Gas Division
Notice of Violations of Natural Gas Pipeline Safety Act and
NH Code of Administrative Rules Part 500
Control# PS1502NU
Pipelines Affected:
1) Portsmouth Intermediate Pressure System (56 psig MAOP)

Dear Mr. Meissner:

Pursuant to the Natural Gas Pipeline Safety Act, 49 U.S.C. §60101 *et seq.*, applicable state law as set forth at RSA 370:2, and the relevant regulations of the New Hampshire Public Utilities Commission (Commission), N.H. Code Admin. Rules Part Puc 511, the Commission hereby serves upon Northern Utilities (Unitil) this formal Notice of Violation (NOV) pursuant to Puc 511.08 for conditions relating to operations that exceeded the maximum allowable operating pressure (MAOP) for a single gas pipeline distribution system. The gas pipeline system was identified as the Portsmouth Intermediate Pressure System that transports natural gas from district regulator stations in Portsmouth to multiple customers located within the Pease area. This system was improperly designed and improperly operated during an inspection in accordance with minimum federal and state standards.

Records indicate that the annual regulator station inspection was performed on May 14, 2014, by Unitil crews. This NOV arises from the June 25, 2014, inspection of Unitil by the Safety Division during which Unitil exceeded the MAOP for the Portsmouth Intermediate pressure distribution system. The Safety Division alleges that Unitil violated 49 CFR §192.619 and §192.195 for operating pipeline segments for approximately 1 to 2 minutes in excess of identified and previously established Unitil MAOP for the system. Digital pressure devices confirmed that the Portsmouth Intermediate pressure system was raised above its MAOP of 56 pounds per square inch gauge (psig) to a recorded level of approximately 57.2 psig. The recorded pressure of 57.2 psig represents a 2% over pressurization. A PHMSA representative and a Safety Division inspector were present when this occurred.

The Safety Division alleges that Unitil did not adequately design the district regulator station equipment when it selected and set its equipment in such a manner that it could be operated under

conditions that allowed the MAOP to be exceeded. While this over pressurization is small by percentage, the Safety Division is concerned more about the philosophy of ever allowing the MAOP to be exceeded. Unitil's conduct caused an operating system violation by allowing its system to operate above the MAOP as limited by CFR §192.619. Please note that this NOV alleges a series of violations.

Violation No. 1 — **49 CFR §192.619. No person may operate a segment of steel or plastic pipeline at a pressure that exceeds a maximum allowable operating pressure determined under subparagraph (c) or (d) of this section, or the lowest of four criteria listed in subparagraph (a), (b), (c) or (d).**

The Safety Division alleges that Unitil allowed downstream piping to be subject to pressures above the MAOP. The federal code in 49 CFR §192.619 and 49 CFR §192.621 does not allow for the operation of a pipeline above the MAOP, including accidental over pressurizations. The Safety Division's position is that Unitil was "operating" when customers are connected to distribution gas piping and system loads cause flow through the pipeline. "Operations" are being conducted because gas is being "transported". See CFR §192.3.

Violation No.2 — **49 CFR §192.195. Failure to incorporate into Design of Pipeline Components pressure regulation devices having capability of meeting the pressure, load, and other service conditions that will be experienced in normal operation of the system, and that could be activated in the event of failure of some portion of the system; and be designed so as to prevent accidental overpressuring.**

The Safety Division alleges that Unitil designed, operated, and maintained an above ground gate station that contained pipe line components that, when configured, make up a district regulating station. This gate station was in place for many years and was located on New Hampshire Avenue in Portsmouth. It is referred to as the Pease Regulating Station. The Safety Division's inspection of the Pease Regulating Station revealed that the gas pressure regulator's control settings were set too close to the MAOP and did not account for pressure buildup that can be expected when monitor and worker regulators are configured in close proximity. Manufacturers often disclose the pressure buildup that can be expected.

The Safety Division alleges the distribution system over pressurization was avoidable with a proper design and settings that account for pressure buildup. This is a design variable that should have been planned "to prevent accidental overpressuring."

Results of the Informal Conference

An informal conference was conducted pursuant to Puc 511.07 at the Commission offices on March 24, 2015 during which Unitil provided a self-written copy of *"Overview of Issues related to Maximum Allowable Operating Pressure and Notices of Probable Violation issued by the Safety Staff of the New Hampshire Public Utilities Commission"* (Overview), which contained 11 attachments:

Overview of MAOP Issues Related to NOPVs
1) Granite State's Gas M&R Station Schematic
2) Copy of CFR Part 192.619 and 192.620
3) Highlighted copy of 192.195 Protection against accidental overpressuring
4) Copy of CFR Part 192.189 through 192.199
5) Highlighted Copy of CFR Part 192.199
6) Highlighted Copy of CFR Part 192. 201 and a copy of 192.203
7) Copy of Unitil Sept 5, 2014 letter to Jeff Wiese of PHMSA
8) Copy of PHMSA Inspection Guidance 192.617, 192.619 pages 68-80
9a) PHMSA Interpretation 192.619 1 Oct 20 1971
9b) PHMSA Interpretation 192.619 48 March 31, 1983
9c) PHMSA Interpretation 192.605 9 Oct 24, 1994
9d) Interpretation 192.195 6 May 30 1974
10) Copy of 192.601, 192.603 and highlighted copy of 192.605
11) Unitil Internal Report Aug 13, 2014 of Dover Low Pressure System Overpressurization

Unitil went over the Probable Violation as written and had few questions about the basis of the notice of probable violation. Unitil explained its rationale for why the Probable Violations were not cited properly by reviewing many of the documents in the Overview.

Unitil stated that attachment 11 and pages 7 through 10 of the Overview were not applicable to the NOPV.

Unitil stated the pertinent section of the Overview began on page 1.

On pages 1 and 2 Unitil asserts "When the failure of the worker regulator was simulated, the station's monitor regulator assumed control of system pressure regulation within the expected operating parameters of the regulator. The temporary 'build-up' pressure during the failure simulation did slightly exceed MAOP at the station for a short duration, but that was not a violation of the Code. The monitor regulator at the Pease Station is a pressure limiting device as defined in Section 192.195 and 192.201, and at no time did the monitor allow system pressure to exceed the limits established by Section 192.201. Accordingly, there was no violation of either Section 192.619 or Section 192.195. Unitil's interpretation of the Code is supported by the plain language of the regulations, as well as interpretations by the federal agency with primary responsibility for federal pipeline safety regulations, the Pipeline and Hazardous Materials Safety Administration ('PHMSA'). Unitil has pending before PHMSA a request for formal interpretation of the applicable code provisions to obtain PHMSA's interpretation of its Code, and has been told by PHMSA that a response should be issued by the end of March, 2015."

Unitil went through the Overview to explain the summary listed above.

The Safety Division stated that they were aware of Unitil's September 5, 2014, letter to PHMSA for interpretation and is not waiting for a PHMSA response. The Safety Division believes that the letter will not give any meaningful interpretation because of the wording of the statements made within the letter. The Safety Division noted within the NOPV many of its observations made

regarding the letter about Unitil's statements. The Safety Division also noted that PHMSA has no deadline as to when they respond to inquiries and interpretation requests in the past have taken up to 6 years to respond. The enforcement of the code is granted by the Safety Division's annual certification and that PHMSA within recent years encourages states to exercise strict adherence to the code.

The Safety Division disagreed with Unitil's assertions that MAOP exceedance is governed by 192.201. The Safety Division asserted it is clearly governed by 192.619 and Unitil is misapplying the section of the Code. The Safety Division disagreed with "*the plain language of the regulations*" as made by Unitil. The Safety Division stated they had sent three individuals to PHMSA's Training and Qualification course regarding pressure regulation over a period of time and taught on different dates by a different team of instructors, and PHMSA has never represented that MAOP can be exceeded.

The Safety Division emphasized again that Until is substituting Operations subparts of the code (Part 192) with Maintenance subparts of the code (Part 192) and misapplying it with sections with Design subpart of the code. The Safety Division understands it takes a thorough reading of the code to understand this nuance but regardless it is the Operator's responsibility to be in full compliance with the code.

The Safety Division stated that they were familiar with and had previously reviewed the pertinent sections of the code as well as applicable interpretations provided by Unitil and had considered them prior to issuing the NOPVs. The Safety Division was not convinced by Unitil's assertions.

In all other respects there was no agreement on the probable violations as written by the Safety Division.

The Safety Division could have alleged violations of other applicable parts of the pipeline safety regulations, including but not limited to 49 CFR§§192.13, and 192.603.

Safety Division proposed conditions in addition to civil penalties

In researching Unitil's O&M about exceeding MAOP, the Safety Division would also impose the lone following condition:

1) Section 2 L, subsection 6, of Unitil's Operating and Maintenance Manual shall be amended within 30 days to specifically preclude setting of pressures of monitor regulators so that MAOP is not exceeded. Although Unitil's practice is to set monitor regulators so that they are below the MAOP, the manual should be clarified to specifically preclude the possible interpretation of the current language that a 10% buildup is allowable over the MAOP. Unitil shall notify the Safety Division of the amended language once completed, noting where the previous language and amended language has been modified.

Civil Penalties[1]

RSA 374:7-a, III and Puc 511.08(b) (2) require the Commission's Safety Division to set forth the factors relied upon by the Safety Division in making its determination of civil penalties. The factors are essentially identical to the factors of the federal Office of Pipeline Safety has long relied upon in assessing similar penalties under the National Gas Pipeline Safety Act. *See* 49 CFR §190.225. The Safety Division considered the severity of not appropriately applying the most minimal of federal safety regulations, possible affects upon the integrity of Unitil's pipeline. Consideration was given to the effects and proximity to customers along the pipeline and potential impacts to non-customers, associated safety hazards of not operating gas distribution pipelines in accordance with the pipeline safety regulations. It became apparent at the informal conference that Unitil does not agree with these basic code requirements as cited. The Safety Division also considered the prior history of offenses, the nature and circumstances of the above violations, Unitil's response to the offenses, as well as the effect the associated imposition of civil penalties will have on Unitil's ability to continue operations.

Respondent is fully culpable for this violation. In light of these factors, the Safety Division imposes civil penalties as follows:

Violation No. 1 **$ 7,500**
(Non-compliance with 49 CFR §192.619, Maximum allowable operating pressure - Steel or plastic pipelines).

Violation No. 2 **$ 5000**
(Non-compliance with 49 CFR §192.195, Inadequate design of pipeline components).

TOTAL CIVIL PENALTIES **$12,500**

Pursuant to RSA 374:7-a, the company has the right to seek compromise of these penalties. Puc 511.09 requires the company to take one of the following steps within 10 days from receipt of the NOV:

(a) Sign a consent agreement and remit the civil penalty; or

(b) File a request in writing for a hearing before the commission:

Enclosed is a Consent Agreement that would resolve the civil penalty without need for a hearing. Unitil may execute the Consent Agreement and remit a check or money order payable to the State of New Hampshire, in the amount of $12,500. Responses and payments relevant to this notice should reference the PS1502NU Pease Overpressurization, and be directed to the Safety Division Director at the Public Utilities Commission.

[1] Staff notes that Probable Violation incorrectly listed factors listed to determine civil penalties as Puc 511.08 b (2) when it should have been Puc 511.05 (c) (5) which has identical language.

Alternately, Unitil may file with the Executive Director a request for a hearing before the Commission, within 10 days of receipt of this Notice of Violation in accordance with Puc 511.09.

Sincerely,

Randall S. Knepper

Randall S. Knepper
Director, Safety Division

cc: Chris Leblanc, Unitil
William Hewitt, Roach Hewitt Ruprecht Sanchez & Bischoff P.C.

enclosure

Consent Agreement
Notice of Violation
Control # PS1502NU
March 26, 2015

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

NOV CONSENT AGREEMENT

WHEREAS, the New Hampshire Public Utilities Commission (Commission) filed a Notice of Probable Violation (NOPV) on January 23, 2015, against Northern Utilities (Respondent), alleging that on June 25, 2014 the Respondent committed a probable violation of the Natural Gas Pipeline Safety Act 49 U.S.C. and New Hampshire state law with respect to over-pressurized the Portsmouth Intermediate Pressure System and not adequately designing of the Pipeline Components pressure regulation devices controlling the Portsmouth Intermediate Pressure System.

WHEREAS, the Respondent is afforded the opportunity to refute the NOPV and request an informal conference or accept and pay the civil penalties determined by the Commission Safety Division; and

WHEREAS, the Commission Safety Division determined after holding an informal conference pursuant to N.H. Administrative Rule, Puc 511 that the Respondent violated minimum federal and state safety standards and issued Notice of Violation (NOV) Number PS1502NU, on March 26, 2015 setting forth the Violation.

NOW, THEREFORE, the Commission and the Respondent hereby agree as follows:

1. A violation of New Hampshire and Federal Pipeline Safety Regulations occurred as described in the Notice of Violation Number NOV#PS1502NU.

2. A civil penalty of $12,500 is imposed on the Respondent for the above violation.

3. Respondent shall also take actions as outlined in NOV PS1502NU section *Safety Division proposed conditions in addition to civil penalties.*

4. The Commission shall pursue no further action against the Respondent except as provided in paragraph 7, and in order to enforce this Agreement.

5. This Agreement shall not release the Respondent from any claims of liability made by other parties under applicable New Hampshire law.

6. This Agreement shall not constitute a waiver of the Respondent's right to pursue any other party or person for any claims based on facts in the NOV.

7. This Agreement shall be considered by the Commission in assessing any civil penalties for future violations, if any, of RSA 374:7-a *et seq.*, pursuant to Puc 511.

8. This Agreement shall be construed in accordance with the laws of the State of New Hampshire and the Rules of the New Hampshire Public Utilities Commission.

Dated:_____ By: Randall S. Knepper
For the New Hampshire Public Utilities Commission

Dated:_____ By: _____
For the Respondent