

May 8, 2014

NORTHERN UTILITIES, INC. d/b/a UNITIL
Request for Waiver of Chapter 420 and 49
C.F.R., Part 192 for the Documentation of
Maximum Allowable Operating Pressure
(MAOP)

ORDER AMENDING ORDER

WELCH, Chairman; LITTELL and VANNOY, Commissioners

I. SUMMARY

By this Order we amend our October 18, 2013 Order Granting Waiver to incorporate into that Order the modifications suggested by the federal Pipeline and Hazardous Materials Safety Administration (PHMSA) in its letter dated April 15, 2014.

II. BACKGROUND

On October 18, 2013, the Commission issued an Order granting a waiver to Northern Utilities, Inc. d/b/a Unitil (Unitil) of certain provisions of Chapter 420 of the Commission's Rules and 49 C.F.R. §§ 192.619(a)(1) and 192.621(e)(1) with regard to the maximum allowable operating pressure (MAOP) of portions of Unitil's natural gas distribution system. The waiver encompassed forty of Unitil's forty-six distribution systems in Maine, for which deficiencies in the MAOP documentation were found.

The Commission approved the waivers requested by Unitil, with certain additional conditions designed to ensure the safe operation of Unitil's distribution system. Those conditions are expressed in Part V of the Order Granting Waiver and in the Ordering Paragraphs of that Order.

After approval of Unitil's waiver request, the Commission submitted its Order Approving Waiver to PHMSA pursuant to 49 U.S.C. § 60118(d).¹ By letter dated April 15, 2014, and pursuant to its authority under Section 60118, PHMSA conditioned its non-objection to the Commission's Order on the Commission incorporating certain additional conditions into its Order. On that same day, the Commission provided notice of PHMSA's conditions for non-objection to Unitil and all parties to this proceeding. No party filed any comments regarding PHMSA's conditions.

¹ Under Section 60118, state commissions must provide PHMSA with at least sixty days to review any waiver of federal pipeline safety regulations; if PHMSA does not object to the state commission's waiver, the waiver goes into effect at the end of the sixty day period.

III. PHMSA CONDITIONS

PHMSA's conditions for non-objection are as follows:

1. Unitil must develop and implement procedures for conducting and documenting field investigations and material assessments for 40 pipeline systems with a §§ 192.619(a)(I) or 192.62I(a)(1) waiver as noted in Attachment A. These procedures must include a documented review and confirmation by engineering and onsite operational assessments of the material condition to either support the MAOP or to lower the MAOP based upon the findings from the material assessment.
 - a. The Unitil Integrity Management (IM) Plan must identify missing, inadequate, or incomplete material and pressure test records to determine MAOP, which constitutes an integrity "threat" in accordance with § 192.1007(b). In such cases, Unitil must provide a process and procedures to gain knowledge, identify threats, conduct assessments, evaluate, identify and implement measures to address integrity, field inspection, and records findings, conduct pressure tests, verify MAOPs, remediate defects, monitor results, and report results in accordance with §§ 192.1005, 192.1007, 192.1011, and 192.1013 and Paragraphs 1 through 9. Unitil must review its field data acquisition forms (Forms) to ensure they capture the information identified in the IM Plan in accordance with § 192.1007(a)(3) and make necessary revisions to Forms to ensure adequate gathering of the needed information. Following the implementation of the revised Forms, Unitil must provide training to staff regarding their responsibilities to complete Forms and communicate to staff the importance of gathering accurate and complete data and information for IM and MAOP determination.
 - b. The process and procedures required in Paragraph 1(a) above must include but are not limited to: verification of pipeline materials during field assessments, assessments and verification of transitions from carbon steel to plastic pipe, obtaining and evaluation of all available records, tests for slow crack growth resistance, verification of wall thickness, and performance of material properties tests.
 - c. If material records are not available for line pipe, valves, flanges, and components operating above 124 psi MAOP, and are greater than 6-inch nominal diameter and are greater than Grade B yield strength (35,000 psi), Unitil must take the following actions to determine and verify material physical characteristics:
 - i. For aboveground locations: Unitil must develop and implement procedures for conducting non-destructive or destructive tests, examinations, and assessments for line pipe, flanges, fittings, or other pipeline components during future repairs, replacements, or maintenance activities.

- ii. For buried pipeline facilities: Unitil must develop and implement procedures for conducting non-destructive or destructive tests, examinations, and assessments for buried line pipe, flanges, fittings, or other components during future excavations associated with replacements, relocations, anomaly direct examinations, in situ evaluations, repairs, remediations, maintenance, or any other reason for which the pipe segment is exposed, except for segments exposed during excavation activities that are in compliance with § 192.614, until completion of the minimum number of excavations have been conducted as noted in (d) below.
- iii. For carbon steel line pipe: Unitil must develop and implement procedures for documenting line pipe diameter, wall thickness, grade (yield strength), coating type, and seam type, as applicable. If a seam factor (§ 192.113) of 0.6 or 0.8 for unknown seam type is used in MAOP determination calculations, seam type does not require verification. Distribution systems with carbon steel pipe (Grade B or A, or 6-inch nominal diameter or less) do not require a field verification for grade (yield strength)
- iv. For pipeline valves, flanges, fitting, and other pipeline components other than line pipe: Unitil must develop and implement procedures for establishing and documenting the pressure rating or material grade, as applicable for the pipeline segments installed and in-service to confirm MAOP. Distribution systems with carbon steel flanges, fittings, or other components (Grade B or A, or 6-inch nominal diameter or less) do not require a field verification for grade (yield strength)
- d. Procedures for conducting destructive or non-destructive tests, examinations and assessments in accordance with Paragraphs (1)(a), 1(b) and 1(c) above for buried distribution systems (mains), when excavated, replaced, repaired, or maintained must be conducted at intervals of no less than: (i) 1- location for pipeline facilities less than 1-mile in length; (ii) 1-location per mile for pipeline facilities 1-mile or longer up to a maximum total of 20 test locations, subject to a minimum of one test location for each type of carbon steel line pipe material in the system and at each aboveground pipeline facility for mains; (iii) Material assessments or test locations must be proportionally spaced throughout the pipeline system. Test locations must be spaced at a defined spacing interval so that representative samples can be tested along the pipeline system; and (iv) All mains and service lines of all material types must be inspected for material documentation (see Paragraphs (1)(a) and 1(b) above) to verify MAOP when excavated or when above ground facilities are maintained by Unitil.
- e. High and medium density polyethylene (plastic), wrought iron, and any unknown pipe type must have procedures for MAOP verification, integrity

verification, and remediation when assessed in accordance with Paragraphs 1(a) and 1(b) (§§ 192.1005, and 192.1007) for materials confirmation to meet §§ 192.619(a)(1), 192.621(a)(1), and MPUC waiver conditions.

- i. Plastic pipe must have tests to determine properties (diameter, wall thickness and tolerances, tensile strength, hydrostatic burst pressure, hydrostatic design pressure, chemical resistance, ultraviolet (UV) degradation, slow crack growth resistance, and any other tests required for integrity confirmation) including an ultraviolet (UV) degradation test (ASTM D2513-99, "Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings"), slow crack growth resistance test (ASTM F1473-13, "Standard Test Method for Notch Tensile Test to Measure the Resistance to Slow Crack Growth of Polyethylene Pipes and Resins"), and tensile strength test (ASTM D638-03 "Standard Test Method for Tensile Properties of Plastics") whenever a section of pipe with historically known issues or any unknown or undocumented plastic pipe has a section cut-out. Examples of plastic pipe with historically known integrity issues are identified in PHMSA Advisory Bulletins (ADB 99-01, 99-02, 02-07, and 07-01) and National Transportation Safety Board Special Investigative Report (NTSB Number: SIR-98/01 "Brittle-like cracking in Plastic Pipe for Gas Service").
 - ii. Plastic pipe assessment and test results must have engineering and operational reviews for distribution system integrity, MAOP, susceptibility to premature brittle-like failures due to stress intensification, transitions from plastic pipe to carbon steel pipe, re-evaluation intervals, operational procedures updated including squeeze-off practices, and evaluations for any needed pipe replacements such as replacement of pipe with historically known issues that is in-service.
 - iii. Wrought iron and any unknown pipe type must have procedures for assessment, evaluation, and remediation or replacement based upon integrity and MAOP findings. Re-evaluation intervals must be established based upon integrity findings, leakage results, and remediation or replacement methods used.
- f. Assessment findings must be reviewed to confirm the MAOP as a step in the assessment procedure. If pipe segments are found with wall thickness, grade, seam or any other properties or conditions that would make it necessary that the MAOP be lowered, procedures must be in place by Unitil for notification to MPUC and the lowering of pipe segment MAOP, remediation of pipe segment, or replacement of the pipe segment.

2. Distribution System 46 cannot have its MAOP raised above its past MAOP of 99 psi without documentation of the following: (a) Uprating procedure and pipeline segment assessment that meets 49 CFR Part 192 Subpart K (§§ 192.553 and 192.557); (b) Subpart J pressure test to a minimum of 1.5 times MAOP; (c) Material properties assessment in accordance with Paragraph 1 above; and (d) Field direct assessment of all above and below ground pipeline facilities, overpressure protection, patrols, and leakage surveys must be implemented in accordance with MPUC Waiver (Docket NO. 2011-00360 Order), Paragraph 3(a) criteria for leak surveys.
3. All pressure test medium, pressures, and test durations must meet the applicable sections of 49CFR Part 192, Subpart J, and applicable provisions of Chapter 420 of MPUC Rules and the following: (a) All pressure tests (static and non-static) must be documented in accordance with § 192.517 for the life of the pipeline segment; (b) Prior to the pressure testing of any distribution system, Unitil must implement the conditions of §§ 192.557(a), (b) and (c) (A leak survey must be conducted within five days before the pressure test and all leaks must be repaired prior to the pressure test as required in § 192.557(b)); (c) Pressure tests must be at a minimum of 1.5 times MAOP; and (d) Attachment A lists "proposed future MAOP" for each distribution system.
4. The test segment isolation valves must be manned during pressure test to be able to immediately isolate the test segment, if there are safety concerns.
5. All bare pipeline segments and wrought iron segments in Unitil distribution systems must be replaced as follows: (a) All buried bare pipeline segments in distribution systems (21, 39, 41, and 43) must be replaced by December 31, 2024. MPUC Waiver (Docket No. 2011-00360 Order), Paragraph 3 safety measures must be implemented and maintained until these pipeline systems are replaced. By December 31, 2020, 50 percent of the bare pipeline segment mileage must be replaced; (b) All wrought iron in distributions systems must be replaced by December 31, 2020; and (c) If Unitil finds any additional buried bare pipeline segments or wrought iron segments in the distribution systems listed in Attachment A, these segment assessment findings must be reported to the MPUC within five working days of the finding and must be replaced by Unitil within five years of the finding.
6. The MPUC waiver must require all procedures and records developed by Unitil for MAOP determination including purchase order, drawings, specifications, material properties (including specification, grade or mechanical properties, and pressure rating), field assessment, pressure test, remediation measures, and MAOP records to be kept for the life of the pipeline system.
7. MPUC may use pressure reduction as an alternative measure for MAOP determination: Reduce the pipeline segment MAOP to no greater than the highest actual operating pressure sustained by the pipeline during the past 18 months divided by the greater of either: 1.50 or the applicable class location factors in § 192.619(a)(2)(H) or pressure test factor in § 192.513. The highest

actual sustained pressure must have been reached for a minimum cumulative duration of eight hours during a continuous 30-day period. The reduced MAOP must account for differences between upstream and downstream pressure on the pipeline by use of either the lowest operating pressure for the entire segment or using an appropriate operating pressure gradient that must be maintained and not exceeded for the pipeline (i.e., location specific operating pressure)

8. The Unitil waiver must have a condition for the MPUC to be able to revoke, suspend, modify, or enforce a waiver (special permit) in accordance with both § 190.341(h) and Chapter 420 of MPUC Rules, Paragraph 8 (Enforcement Procedures).
9. The MPUC waiver must require the following:
 - a. a) Within six months of this waiver, Unitil must develop and implement procedures as required by this waiver and include these procedures into its Operations and Maintenance Manual (Plan) in accordance with § 192.605 and provide MPUC notification of the completion of this requirement by an Executive Vice President, President, or CEO of Unitil.
 - b. A periodic review consisting of an annual report from Unitil to the MPUC of assessment findings, patrols, surveys, and remedial measures implemented by Unitil and the annual report must be signed by an Executive Vice President, President, or CEO of Unitil.
 - c. Unitil distribution system MAOP's must be at or below the MAOP's documented in "Attachment A: Unitil Distribution Systems, dated 03/20/2014."
 - d. MPUC must approve of the material documentation assessments as required by these waiver conditions as being completed prior to Unitil discontinuing this annual review process and removing procedures developed for this waiver from its Operations and Maintenance Manual. This process (MPUC waiver conditions and Paragraphs 1 through 9 above) conducted by Unitil must meet all of the following requirements:
 - i. conducted until all of Paragraphs 9(d)(ii), (iii), and (iv) below are met or a minimum of five years, whichever is longer;
 - ii. conducted assessments in accordance with the MPUC waiver and Paragraphs 1 through 9;
 - iii. confirmed material integrity and MAOP to be acceptable, pipe remediated, or MAOPs lowered, as applicable, and
 - iv. receipt of a "no objection" from the MPUC to Unitil regarding material confirmation findings, assessments, pressure tests, and completion of waiver conditions.

10. Any integrity issues found during direct assessments, inspections, surveys, or pressure tests with any of the Unitil pipeline systems in Attachment A that require additional measures for MAOP determination and public safety that are beyond the MPUC waiver, MPUC must notify PHMSA's Associate Administrator for Pipeline Safety prior to implementing any additional measures for MAOP determination.

IV. LEGAL STANDARD

Pursuant to 35-A M.R.S. § 1321, the Commission may at any time rescind, alter, or amend an order relating to matters within the Commission's jurisdiction upon notice to the affected utility and all parties to the original proceeding.

V. DISCUSSION AND DECISION

While we believe that the waiver conditions established in our October 18, 2013 Order were sufficient to ensure safety, we acknowledge that with respect to these elements of pipeline safety we have the obligation to enforce PHMSA's rules and policies. In addition, the conditions requested by PHMSA will provide an additional degree of safety without imparting disproportionate burdens. All parties to this proceeding were provided with an opportunity to examine PHMSA's requested conditions, and no party chose to provide comment. Accordingly, we approve the conditions described above and amend our October 18, 2013 Order Granting Waiver to incorporate those conditions therein.

VI. ORDERING PARAGRAPH

In light of the foregoing, we

O R D E R

That the Commission's October 18, 2013 Order Granting Waiver be amended to incorporate into that Order the conditions requested by the federal Pipeline and Hazardous Materials Safety Administration in their April 15, 2014 letter, and as described in Part III of this Order.

Dated at Hallowell, Maine this 8th Day of May, 2014

BY ORDER OF THE COMMISSION

/s/ Harry Lanphear

Harry Lanphear
Administrative Director

COMMISSIONERS VOTING FOR: Welch
Littell
Vannoy

NOTICE OF RIGHTS TO REVIEW OR APPEAL

5 M.R.S. § 9061 requires the Public Utilities Commission to give each party to an adjudicatory proceeding written notice of the party's rights to review or appeal of its decision made at the conclusion of the adjudicatory proceeding. The methods of review or appeal of PUC decisions at the conclusion of an adjudicatory proceeding are as follows:

1. Reconsideration of the Commission's Order may be requested under Section 11(D) of the Commission's Rules of Practice and Procedure (65-407 C.M.R.ch. 110) within **20** days of the date of the Order by filing a petition with the Commission stating the grounds upon which reconsideration is sought. Any petition not granted within **20** days from the date of filing is denied.
2. Appeal of a final decision of the Commission may be taken to the Law Court by filing, within **21** days of the date of the Order, a Notice of Appeal with the Administrative Director of the Commission, pursuant to 35-A M.R.S. § 1320(1)-(4) and the Maine Rules of Appellate Procedure.
3. Additional court review of constitutional issues or issues involving the justness or reasonableness of rates may be had by the filing of an appeal with the Law Court, pursuant to 35-A M.R.S. § 1320(5).

Note: The attachment of this Notice to a document does not indicate the Commission's view that the particular document may be subject to review or appeal. Similarly, the failure of the Commission to attach a copy of this Notice to a document does not indicate the Commission's view that the document is not subject to review or appeal.