

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 11, 2017

AT (OFFICE): NHPUC

FROM: Robert J. Wyatt *RJW*
Assistant Director, Safety Division

NHPUC 11DEC17PM4:29

SUBJECT: Unitil's NH Gas Division, Northern Utilities, Inc.
DG 17-134 Motion for Waiver of Puc 505.07(a)
Staff Recommendation

TO: Debra A. Howland, Executive Director, NHPUC

cc: Randall Knepper, Director, Safety Division
Stephen Frink, Assistant Director, Gas and Water Division
David Shulock, Director, Legal Division

On August 25, 2017, Unitil (Unitil or the Company) filed a letter on behalf of its NH Gas Division, Northern Utilities, Inc. (Unitil/Northern NH), seeking a waiver of Puc 505.07(a) for a period of four years. Puc 505.07(a) requires that the Company "maintain the equipment and facilities necessary for accurately testing each type and size of meter employed for the measurement of gas it its customers, unless arrangements approved by the commission, pursuant to Puc 201.05, have been made to have such testing done elsewhere." This request for waiver is similar to previous requests made by Unitil/Northern NH in DG 10-245 and DG 14-222, which were conditionally approved by the commission for three and four year terms¹ respectively, in secretarial letters dated October 18, 2010 and April 1, 2015.

The secretarial letter conditionally approving Unitil/Northern NH's waiver request in DG 14-222, dated April 1, 2015, required the Company to file annual reports of its reconciliation of the Unitil ME/NH/MA Gas Divisions' outsourced meter testing program costs. The annual reporting provides a cost-benefit analysis that compares Unitil's ME/NH/MA gas divisions outsourced annual meter testing program costs to updated cost estimates for bringing the gas meter testing and servicing operation back in-house. Table 1 shows that Unitil was in compliance with its annual reporting filing requirements of DG 14-222.

Table 1.

Meter Testing Year	PUC Report Filing Deadline	Actual Report Filing Date	Compliance with PUC Secretarial Letter
2014	July 1, 2015	June 26, 2015	Yes
2015	March 31, 2016	March 31, 2016	Yes

¹ Commission approval of Northern's waiver request in DG 14-222 was for three forward-looking years plus one retroactive year, beginning on October 28, 2013, extending for the four year period through October 2017.

2016	March 31, 2017	March 3, 2017	Yes
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Background

Unitil owns and operates three gas divisions in New England: Northern Utilities (Maine Division); Northern Utilities (New Hampshire Division); and Fitchburg Gas and Electric (Massachusetts). In its filing, Unitil provided cost analysis that compares the outsourcing option to the in-house option. Unitil asserts the analysis demonstrates sufficient support for outsourcing its meter testing and servicing function². Unitil/Northern NH has received three consecutive commission approved waivers of Puc 505.07(a) since 2009³. The Company has contracted with out-of-state third party vendors for its entire meter testing and servicing requirements since 2009. In 2016 the Company shipped 3,362 gas meters from its combined gas divisions to its meter testing vendor, Utilities & Industries. Utilities & Industries is based in Reynoldsville, PA and has contracted with Northern for these services since 2011. The Unitil combined ME/NH/MA Gas Divisions total 2016 expenditure for the outsourced the meter testing and servicing function was \$64,371⁴. See Table 2 for a summary comparison of the 2014, 2015 and 2016 results. Also see Staff Attachment 1 for detailed 2014, 2015 and 2016 cost per meter tested, by meter class and by Unitil Division. Based on the results of its cost analysis, Unitil/Northern NH would like to continue participating in Unitil's outsourced meter testing and servicing program. In order to continue with this outsourced meter testing program, Unitil/Northern NH needs commission approval of a waiver of Puc 505.07(a),

In the latest Unitil/Northern NH August 25, 2017 waiver request filing, Unitil estimates it would cost \$411,348 to renovate the old Fitchburg meter repair shop to be able to perform all of its gas meter testing and repair services. If it were to expand its Unitil/Northern NH operations center in Portsmouth to meet its meter servicing requirements, the Company estimates it would cost \$1,003,669. The Company estimates an additional capital expense for equipment requirements of \$257,661.

To facilitate an in-house meter testing and servicing capability, Unitil estimates annual operating costs of \$175,767, which would include 2 FTEs with benefits, utility expenses and tool replacement costs. Unitil's three gas divisions tested an average of approximately 3,300 meters annually over the past three years. The Company's NH Division tested approximately 1,350 meters annually over the same three year period.

Staff Review and Analysis

Staff has completed its review of Northern's Request for Waiver of Puc 505.07(a), filed on August 25, 2017. Staff also reviewed other pertinent reports and documents filed by Unitil, including: Annual Reports of Gas Meter Testing costs for 2014, 2015 and 2016⁵;

² DG 17-134, August 25, 2017, filing by Unitil, Cover Letter.

³ Re. DG 09-073, DG 10-245 and DG 14-222.

⁴ Re. DG 17-134, August 25, 2017 filing by Northern, Unitil-Northern Gas meter Testing Cost Analysis 2016 section, paragraph 2.

⁵ Re. Condition #6 in Commission Secretarial Letter dated April 1, 2015, approving the Northern Utilities request for a waiver of Puc 505.07(a), in DG 14-222.

E-7 Annual Reports of Gas Meter (Accuracy) Tests for 2014, 2015 and 2016⁶; and prior requests in related dockets for waiver of Puc 505.07(a)⁷.

Staff compared the most recent three years of actual outsourced costs from Annual Reporting of Gas Meter Testing results as reported in Until's 2014, 2015 and 2016 filings to the NH commission in DG 14-222. Staff reviewed and compared average "cost per meter tested" values for both the Unutil/Northern NH meter testing and those of Unutil's combined ME/NH/MA Gas Divisions. Table 2 provides a summary of the Unutil/Northern NH aggregate cost per meter test results provided in Table 2. The aggregate cost per meter test results for the combined Unutil ME/NH/MA Gas Divisions is provided in Table 3.

Table 2.

Actual Outsourced Meter Testing Program Cost Analysis				
Northern Utilities - NH Division				
	2014	2015	2016	Average
Annual Outsourcing Costs - NH Div.	\$31,598	\$36,129	\$32,521	\$33,416
Number of NH Div. Meters Tested	1,492	1,460	1,119	1,357
Average Cost per Meter Test - NH Div.	\$21.18	\$24.75	\$29.06	\$24.63

The results in Table 2 show an upward trend in the Unutil/Northern NH aggregate average cost per meter test. Staff notes that this upward cost trend appears to be primarily influenced by increased testing of rotary meters in the NH division, triggered by a higher percentage of accuracy issues tied to this type of meter. Rotary meters, used for large volume commercial and industrial customers, are significantly more expensive meters to test and service.

Table 3.

Actual Outsourced Meter Testing Program Cost Analysis				
Unutil - All Gas Divisions				
	2014	2015	2016	Average
Annual Outsourcing Costs - All Div.	\$61,096	\$66,149	\$64,449	\$63,898
Number of NH Div. Meters Tested	3,314	3,450	3,362	3,375
Average Cost per Meter Test - All Div.	\$18.44	\$19.17	\$19.17	\$18.93

The results in Table 3 show that overall costs for the outsourced meter testing program have remained stable.

Staff expects that the Company, along with its vendor, have been working to resolve the current accuracy issues related to rotary meters and will report back to the commission on their findings. As reported in the 2016 E-6 Annual Report of Gas Meter Tests, the Unutil/Northern NH has a total of 1,023 rotary meters in its inventory and 661 rotary meters have been tested and serviced over the past three years. Staff recommends that Unutil/Northern be directed to file a detailed update on this rotary meter accuracy issue as

⁶ Re. Puc509.09 E-7 Annual Report of Gas Meter Tests, reporting requirement related to meter accuracy test results.

⁷ Re. DG 10-245 and DG 14-222

part of its Annual Report of Gas Meter Testing costs for 2017, which must be filed with the commission on or before March 31, 2018.

Even though the NH Division cost per meter test has increased over the past three years, actual aggregate average cost per meter test is significantly lower than Unitil's estimated cost for bringing the meter testing program back in-house. See Staff's three meter test scenarios of estimated 2016 in-house operating cost per meter test provided in Table 3, using the Company's 2016 estimated annual operating cost figure. Staff did not attempt to verify and validate the Company's estimates of in- House Operating Costs because of the significant difference with the outsourcing option.

Table 4.

In-House Cost Estimate for 2016 Gas Meter Testing Using three estimated meter test volume scenarios for all Gas Divisions' Annual Testing			
Average Cost per meter test - Scenarios 1, 2 and 3	1	2	3
Assumed Annual In-House Operating Cost Estimate /1	\$175,767	\$175,767	\$175,767
Annual "n" volume of meters tested in-house	3,375	6,000	9,000
Average cost per meter tested in-house	\$52.08	\$29.29	\$19.53
1. This estimate was provided in the UES/Norther 2016 Annual Report filed on March 2, 2017 to DG 14-222.			
The estimate includes two FTEs w/benefits + utility expenses + tool replacement expenses.			

Unitil's latest in-house operating cost estimate includes the cost of two FTEs with benefits plus other less significant miscellaneous expenses to perform the combined gas divisions meter testing requirements. In Table 4 Staff uses Unitil's in-house operating cost estimate to achieve a hypothetical average "cost per meter test" under three different meters tested quantity scenarios. Excluding facility and equipment capital costs, these hypothetical examples show that the approximate average cost per meter tested would be \$52.08 based on Unitil's current average annual volume of 3,375 meter tests, \$29.29 based on a volume of 6,000 meters, and \$19.53 based on a volume of 9,000 meters tested per year. As reflected in Table 3 above, the three-year average cost per meter tested by Unitil's third party vendor was approximately \$19 per meter. Table 4 shows Unitil's three gas divisions may only be able to achieve similar annual in-house costs if its annual meter tests approach 9,000 meters per year.

Based on the current cost figures provided by Unitil, Staff concludes that the Company will continue to save operating costs across its three gas operations divisions by outsourcing its meter testing function. Again, Staff did not attempt to validate Unitil's assertions for cost assumptions used in performing meter tests in-house. Staff's review of the Company's meter testing program costs for 2014, 2015 and 2016 suggest it may be difficult for the Company to bring this operation back in-house until such time that 1.) the operation could become more automated, and performed by one FTE, or 2.) the number of meters tested and serviced on an annual basis increases to approximately 9,000.

In previous waiver request dockets, Unitil/Northern NH provided assurance to Staff that it does have a process in place to meet the requirements of Puc 505.05, customer-witnessed meter tests. The Company's third party vendor would provide testing services from a mobile van that is equipped with a prover that can be used for testing meters.

These tests were able to be arranged and scheduled so that customers can witness the procedures at Unitil/Northern NH's Portsmouth facility. Staff will recommend that Unitil/Northern NH address this issue by confirming its capability to meet the requirements of Puc 505.05 as a condition of commission approval of the waiver request.

Conclusion and Staff Recommendation

Unitil/Northern NH's current waiver period expiration date was on October 27, 2017. Staff suggests the new waiver period be effective with a start date to begin on the first day of November 2017 and an end date on the last day of the month of October 2020, resulting in a three-year waiver period. Any meter testing account activity that may have occurred during the final four days of October 2017 should be included in the October 2017 final accounting reconciliation.

Unitil/Northern NH did not address the requirements of Puc 505.05, related to how it would meet customer requested tests, which may be witnessed locally by the customer, the customer's agent, or by commission Staff.

Additionally, based on its review of the Unitil/Northern waiver request of Puc 505.07(a) and Unitil/Northern's Annual Reporting of Gas Meter Testing costs for 2014, 2015 and 2016, Staff recommends the Commission approve the request for a waiver of Puc 505.07(a) with the following conditions:

1. Unitil/Northern NH be directed by the commission to confirm its capability to meet the requirements of Puc 505.05 as a condition of commission approval of the waiver request.
2. The new waiver of Puc 505.07(a), be for a period of three years, commencing retroactively on November 1, 2017 with an expiration date of October 31, 2020.
3. Subsequent waiver requests of Puc 505.07(a), if necessary, should be filed by the Company at least 60 days prior to the expiration date of an effective waiver.
4. This waiver should not be assignable or otherwise transferrable to another entity as a result of a change of control, or ownership of Northern Utilities.
5. In the event Northern anticipates or experiences any significant change in its third party vendor's testing capabilities or practices, including costs, it should immediately notify the commission by letter, with reference to this docket number.
6. The commission should reserve the right to reassess, revise, or otherwise revisit the waiver in the event of changes in statute or regulatory requirement, or other relevant developments related to meters and meter testing.
7. Throughout the term of this waiver, the Unitil shall file Annual Reports of Gas Meter Testing Costs, with sufficient detail to allow commission Staff to evaluate

the effectiveness of the outsourcing option over alternative in-house options. The annual reporting shall include:

- a. A written narrative summarizing overall meter testing program results with observations related to year over year average cost per meter test variances by class;
- b. a reconciliation of actual outsourced gas meter testing program costs to identified costs in its third party vendor's purchase order agreement(s);
- c. a cost benefit analysis that compares sufficiently detailed actual costs of outsourcing its meter testing program for each of Unitil's three gas divisions' to updated cost estimates to bring the meter testing and servicing operation back in-house;
- d. for any group of meters that have been flagged with accuracy rates of 87% or less, an updated status of what steps have been taken by the Company, or its meter testing program vendor, to determine the defect responsible for failure.

All Annual Reports of Gas Meter Testing Costs should be due on March 31 of each year throughout the term of the waiver.

8. The 2017 Annual Report of Gas Meter Testing Costs shall include:
 - a. a detailed analysis and explanation of what is causing the higher occurrence of accuracy issues of rotary meters being used in the Unitil/Northern NH Division⁸
 - b. an explanation of how Unitil's other gas divisions seem to be insulated from this issue
 - c. when this first became an issue with rotary meters
 - d. what steps the Company and its vendor have taken to address this issue.

Attachment

⁸ NHPUC Annual Reports of Gas Meter Tests indicate rotary meter accuracy rates of 87% in 2014, and 88% in 2015 and 2016.

2014

Staff Summary of all Unitil Gas Divisions' Meter Testing Program results for 2014, 2015 and 2016.

Unitil ME/NH/MA Gas Divisions - Meters Tested in 2014								
Description of Test/Repair	Meter Size	NH	ME + MA	Total	Unit Cost	NH Cost	ME + MA Cost	Total Cost
Class A Repair	Domestic	61	254	315	\$22.25	\$1,357.25	\$5,651.50	\$7,008.75
Class A Repair	400	5	12	17	\$22.12	\$110.60	\$265.44	\$376.04
Class A Repair	700	0	0	0	\$58.79	\$0.00	\$0.00	\$0.00
Class A Repair	800/1000	0	0	0	\$75.67	\$0.00	\$0.00	\$0.00
Class A Repair	Rotary (All)	0	0	0	\$72.00	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	Domestic	1,058	1,355	2,413	\$9.81	\$10,378.98	\$13,292.55	\$23,671.53
Intest/Condemn; or Class B & C Test Only	400	92	86	178	\$9.81	\$902.52	\$843.66	\$1,746.18
Intest/Condemn; or Class B & C Test Only	700-1000	104	43	147	\$57.46	\$5,975.84	\$2,470.78	\$8,446.62
Intest/Condemn; or Class B & C Test Only	1400	0	0	0	\$64.99	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	2300	0	0	0	\$70.32	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	5000	0	0	0	\$76.99	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	1.5M-7M Rotary	162	69	231	\$69.86	\$11,317.32	\$4,820.34	\$16,137.66
Intest/Condemn; or Class B & C Test Only	11M Rotary	8	3	11	\$72.53	\$580.24	\$217.59	\$797.83
Intest/Condemn; or Class B & C Test Only	16M Rotary	2	0	2	\$75.19	\$150.38	\$0.00	\$150.38
Intest/Condemn; or Class B & C Test Only	23M Rotary	0	0	0	\$80.53	\$0.00	\$0.00	\$0.00
Sub Totals for Meter Testing		1,492	1,822	3,314		\$30,773.13	\$27,561.86	\$58,334.99
Shipping Total Costs						\$825.23	\$1,936.18	\$2,761.41
Shipping Unit Costs						\$0.55	\$1.06	\$0.83
Total Costs		1,492	1,822	3,314		\$31,598.36	\$29,498.04	\$61,096.40
Average unit costs						\$21.18	\$16.19	\$18.44

2015

Unitil ME/NH/MA Gas Divisions - Meters Tested in 2015								
Description of Test/Repair	Meter Size	NH	ME + MA	Total	Unit Cost	NH Cost	ME + MA Cost	Total Cost
Class A Repair	Domestic	85	268	353	\$22.50	\$1,912.50	\$6,030.00	\$7,942.50
Class A Repair	400	6	11	17	\$22.12	\$132.72	\$243.32	\$376.04
Class A Repair	700	0	0	0	\$58.79	\$0.00	\$0.00	\$0.00
Class A Repair	800/1000	0	0	0	\$75.67	\$0.00	\$0.00	\$0.00
Class A Repair	Rotary (All)	0	0	0	\$72.00	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	Domestic	953	1,472	2,425	\$9.81	\$9,348.93	\$14,440.32	\$23,789.25
Intest/Condemn; or Class B & C Test Only	400	65	133	198	\$9.81	\$637.65	\$1,304.73	\$1,942.38
Intest/Condemn; or Class B & C Test Only	700-1000	93	65	158	\$57.46	\$5,343.78	\$3,734.90	\$9,078.68
Intest/Condemn; or Class B & C Test Only	1400	0	0	0	\$64.99	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	2300	0	0	0	\$70.32	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	5000	0	0	0	\$76.99	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	1.5M-7M Rotary	247	37	284	\$69.86	\$17,255.42	\$2,584.82	\$19,840.24
Intest/Condemn; or Class B & C Test Only	11M Rotary	7	4	11	\$72.53	\$507.71	\$290.12	\$797.83
Intest/Condemn; or Class B & C Test Only	16M Rotary	4	0	4	\$75.19	\$300.76	\$0.00	\$300.76
Intest/Condemn; or Class B & C Test Only	23M Rotary	0	0	0	\$80.53	\$0.00	\$0.00	\$0.00
Sub Totals for Meter Testing		1,460	1,990	3,450		\$35,439.47	\$28,628.21	\$64,067.68
Shipping Total Costs						\$690.01	\$1,391.49	\$2,081.50
Shipping Unit Costs						\$0.47	\$0.70	\$0.60
Total Costs		1,460	1,990	3,450		\$36,129.48	\$30,019.70	\$66,149.18
Average unit costs						\$24.75	\$15.09	\$19.17

2016

Unitil ME/NH/MA Gas Divisions - Meters Tested in 2016								
Description of Test/Repair	Meter Size	NH	ME + MA	Total	Unit Cost	NH Cost	ME + MA Cost	Total Cost
Class A Repair	Domestic	43	162	205	\$22.50	\$967.50	\$3,645.00	\$4,612.50
Class A Repair	400	3	3	6	\$22.12	\$66.36	\$66.36	\$132.72
Class A Repair	700	0	0	0	\$58.79	\$0.00	\$0.00	\$0.00
Class A Repair	800/1000	2	0	2	\$75.67	\$151.34	\$0.00	\$151.34
Class A Repair	Rotary (All)	0	0	0	\$72.00	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	Domestic	654	1,871	2,525	\$9.81	\$6,415.74	\$18,354.51	\$24,770.25
Intest/Condemn; or Class B & C Test Only	400	56	84	140	\$9.81	\$549.36	\$824.04	\$1,373.40
Intest/Condemn; or Class B & C Test Only	700-1000	97	40	137	\$57.46	\$5,573.62	\$2,298.40	\$7,872.02
Intest/Condemn; or Class B & C Test Only	1400	0	0	0	\$64.99	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	2300	1	0	1	\$70.32	\$70.32	\$0.00	\$70.32
Intest/Condemn; or Class B & C Test Only	5000	0	0	0	\$76.99	\$0.00	\$0.00	\$0.00
Intest/Condemn; or Class B & C Test Only	1.5M-7M Rotary	252	81	333	\$69.86	\$17,604.72	\$5,658.66	\$23,263.38
Intest/Condemn; or Class B & C Test Only	11M Rotary	6	1	7	\$72.53	\$435.18	\$72.53	\$507.71
Intest/Condemn; or Class B & C Test Only	16M Rotary	5	1	6	\$75.19	\$375.95	\$75.19	\$451.14
Intest/Condemn; or Class B & C Test Only	23M Rotary	0	0	0	\$80.53	\$0.00	\$0.00	\$0.00
Sub Totals for Meter Testing		1,119	2,243	3,362		\$32,210.09	\$30,994.69	\$63,204.78
Shipping Total Costs						\$310.51	\$934.17	\$1,244.68
Shipping Unit Costs						\$0.28	\$0.42	\$0.37
Total Costs		1,119	2,243	3,362		\$32,520.60	\$31,928.86	\$64,449.46
Average unit costs						\$29.06	\$14.23	\$19.17

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.

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