

STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

DOCKET DE 20-020

IN THE MATTER OF: Unitil Energy Systems, Inc.
 2020 Least Cost Integrated Resource Plan.

DIRECT TESTIMONY

OF

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September 23, 2020

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1 **I. INTRODUCTION**

2 **Q. Please state your full name.**

3 A. Kurt Demmer.

4 **Q. By whom are you employed and what is your business address?**

5 A. I am employed as a Utility Analyst in the Electric Division of the New Hampshire Public
6 Utilities Commission (Commission or PUC). My business address is 21 South Fruit St.,
7 Suite 10, Concord, NH, 03301.

8 **Q. Please summarize your education and professional work experience.**

9 A. I graduated from Merrimack College in North Andover, Massachusetts with a Bachelor of
10 Science degree in Electrical Engineering in 1987. In 2002, I received a Master's degree in
11 Electrical Engineering and Power Systems Management from Worcester Polytechnic
12 Institute in Worcester, Massachusetts. Since 1996, I have been a registered professional
13 engineer in the State of New Hampshire.

14 In June 1988, I joined Massachusetts Electric Company as an Operations Field
15 Engineer. In 1996, I became a Senior Engineer for Massachusetts Electric Company. In
16 1999, my area of responsibility expanded to include distribution planning engineering. In
17 2000, I accepted a position as Area Supervisor for the Salem NH area of National Grid USA
18 and was responsible for all distribution engineering, distribution
19 overhead/underground/substation construction, substation operations, and warehousing in the
20 Salem/Pelham area. In 2002, I was the Superintendent of Electric Operations in the
21 Salem/Beverly/Cape Ann Massachusetts area. As Superintendent, I was responsible for
22 distribution engineering immediate oversight, distribution overhead/underground/substation
23 construction, substation operations, and warehousing. From 2003 to 2004, I was a project

1 manager for a 14-mile, \$19 million subtransmission 34.5kV underground distribution project
2 consisting of manhole and duct construction housing (1) 34.5kV distribution supply circuit
3 and (1) 34.5kV distribution circuit connecting East Beverly substation to a downtown
4 Gloucester distribution substation. In 2005, as Superintendent of electric overhead
5 distribution operations, I was assigned to the Merrimack Valley district area in
6 Massachusetts. In 2008, I was the Manager of Electric Operations in New Hampshire for
7 National Grid, responsible for the operations, construction, and maintenance functions for the
8 electric distribution organization. In 2012, I became Director of Electrical Operations in
9 New Hampshire for Liberty Utilities (Liberty). My continued areas of responsibility were to
10 oversee the construction, maintenance, and operation of the electric distribution system.
11 Since 2017, I have been employed as a Utility Analyst in the Electric Division for the
12 Commission.

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

14 A. My testimony in this proceeding will review and evaluate the Unitil Energy Systems (Unitil)
15 Least Cost Integrated Resource Plan (LCIRP) submittal as required in Order No. 26,098.
16 This evaluation will determine whether Unitil's LCIRP is consistent with the provisions of
17 RSA 378:38, and recommend next steps to the Commission for the Company's 2024 full
18 LCIRP submittal.

19 **Q. What is your general conclusion regarding the Unitil LCIRP?**

20 A. I have concluded that Unitil's March 2020 LCIRP generally meets the requirements set forth
21 in RSA 378:37, 378:38, and 378:39. However, there are some minor concerns that Staff has
22 in the Company's available distribution data that may lead to premature equipment
23 replacement due to the lack of real-time distribution system data. Having real-time

1 distribution system data may allow either deferral of an asset replacement, or a lesser asset
2 expenditure, in order to mitigate the criteria exceedance. I also make several other
3 recommendations regarding distribution system planning and certain planned capital projects.

4

5 **II. LCIRP ANALYSIS**

6 **Q. What does RSA 378:38 require Unutil to include in its LCIRP?**

7 A. RSA 378:38 requires LCIRPs to include, *as applicable*, the following:

- 8 I. A forecast of future demand for the utility's service area.
- 9 II. An assessment of demand-side energy management programs, including
10 conservation, efficiency, and load management programs.
- 11 III. An assessment of supply options including owned capacity, market
12 procurements, renewable energy, and distributed energy resources.
- 13 IV. An assessment of distribution and transmission requirements, including an
14 assessment of the benefits and costs of "smart grid" technologies, and the
15 institution or extension of electric utility programs designed to ensure a more
16 reliable and resilient grid to prevent or minimize power outages, including but
17 not limited to, infrastructure automation and technologies.
- 18 V. An assessment of plan integration and impact on state compliance with the
19 Clean Air Act of 1990, as amended, and other environmental laws that may
20 impact a utility's assets or customers.
- 21 VI. An assessment of the plan's long- and short-term environmental, economic,
22 and energy price and supply impact on the state.
- 23 VII. An assessment of plan integration and consistency with the state energy
24 strategy under RSA 4-E:1.

25 RSA 378:38.

26 **Q. Are all of these requirements still applicable?**

27 A. The least cost planning statute was written and amended at a time when New Hampshire's
28 largest utility still owned large-scale electric generating facilities.¹ New Hampshire recently
29 completed its decades-long journey toward electric utility restructuring. This new context
30 means the Commission must review LCIRP filings using a different lens, one that recognizes

¹ The statute appears to have been enacted in 1990 and was most recently amended in 2015.

1 the waning applicability of some of the factors required in the statute. The statute recognizes
2 the potential evolution of least cost planning in New Hampshire, and qualifies the above
3 enumerated requirements by stating “Each such plan shall include, but not be limited to, the
4 [above enumerated factors], *as applicable*.” RSA 378:38 (emphasis added). In light of this
5 evolution, it would be an efficient allocation of resource for the Commission to shift the
6 focus of its LCIRP analyses to distribution planning processes and planned distribution
7 system investments.²

8 **Q. Are you suggesting the provisions of RSA 378:38 focusing on energy supply options are**
9 **no longer relevant to the Commission’s review of LCIRPs?**

10 A. No. While RSA 378:38, III and IV are clearly intended to authorize the Commission’s
11 review of the supply portfolio of a vertically integrated utility, there are some scenarios
12 where they might still bear relevance for restructured utilities. For example, RSA 374-G
13 allows for company ownership of distributed energy resources which, if deployed, might bear
14 relevance to RSA 378:38, III and IV. Similarly, the New Hampshire Supreme Court recently
15 found that the “functional separation” of generation services from transmission and
16 distribution services should not be elevated above the other interdependent policy principles
17 in the restructuring statute. *Appeal of Algonquin Gas Transmission, LLC*, 170 N.H. 763, 774,
18 186 A.3d 865, 874 (2018). It is conceivable that this interpretation of the restructuring
19 statute might lead to electric distribution company investments which, if deployed, might
20 bear relevance to RSA 378:38, III and IV.

21 In the instant case, no such scenarios are presented for the Commission to evaluate, so
22 RSA 378:38, III and IV are not applicable. Therefore, Staff’s analysis of Unitil’s LCIRP

² The Commission proposed a full framework for least cost integrated resource planning in Order No. 26,358, which at the time of this testimony’s writing is suspended.

1 focuses on the other factors within the statute. Staff recommends that Unitil’s next LCIRP
2 should have a similar focus, unless facing a scenario where the aforementioned provisions
3 are somehow applicable. Staff also recommends that Unitil should participate in the
4 processes set forth by the Commission in Order No. 26,358 to develop its next LCIRP, and
5 that the substance of that LCIRP should align with the expectations expressed by the
6 Commission in Order No. 26,358.

7

8 **RSA 378:38, I – Demand Forecast**

9 **Q. Does Unitil’s LCIRP include a forecast of future demand for the utility's service area?**

10 A. Unitil’s system planning, which includes the Company’s 34.5kV subtransmission supply
11 lines, is a 10-year timeframe forecast using historical load, versus temperature and humidity,
12 to establish a correlation for future forecasting. A Monte Carlo simulation creates the
13 random peak estimates from which three different probabilistic forecasts can be derived. The
14 average peak load which is based on a 50/50 probability (1 in 2 year probability), the peak
15 design load which is based on a 90/10 probability (1 in 10 year likelihood), and an extreme
16 peak load forecast which is based on a 96/4 probability (1 in a 25 year likelihood).
17 Contingency analysis utilizes the peak design load to calculate the asset loading.³

18 Unitil does not own any generating facilities, distributed energy resources (DERs)
19 within either of its NH operating systems. Therefore, the Company removes beneficial load
20 contribution from its largest non-utility generating facility, the largest DER, and one
21 additional DER, and models them “offline” for peak system contingency analysis.

³ Docket No. DE 20-002, Report on LCIRP at 9-11, 115-117. Note: The references throughout this testimony are to the Bates pages, which are displayed in the center of each page, rather than the other number included in the footer on the right side of each page.

1 The distribution circuit forecast is based on the previous historical five-year peak load. The
2 future loading uses a trend line from the previous five years. A significantly increased, or
3 decreased, load forecast is “tempered” using the system load-growth rate as a proxy.⁴

4 **Q. Do you have any general concerns about how the company evaluates load on its**
5 **circuits?**

6 A. Yes. In two instances where the Company was planning a load-related distribution system
7 upgrade, Staff asked for the power factor on the circuit.⁵ The Company responded that it
8 uses an assumed power factor of on the circuits at issue, with the assumption being 0.985 in
9 one case and 0.95 in the other. This is because the Company only owns monitors that it can
10 use to record interval current loading of the transformer or circuit. In some cases this could
11 be a drag hand meter,⁶ also known as a thermal amp meter. The Company does not own load
12 monitoring equipment that can be temporarily applied to distribution circuits or transformers
13 to record real (kW) and reactive (kVAR) power or power factor.

14 This is problematic because a low power factor can cause the peak demand on a
15 circuit to be higher than it would be if the power factor were closer to unity.⁷ On circuits
16 where the Company has identified an upgrade necessitated by peak loading, but the Company
17 does not know the actual power factor on that circuit, it is possible that a small investment in

⁴ Docket No. DE 20-002, Report on LCIRP at 9-11, 115-117.

⁵ Attachment KFD-1, Power Factor and Power Monitoring Equipment, Docket No. DE 20-02, Staff Data Request Responses Staff 3-7 and Staff 3-16.

⁶ Thermal amp meters are also called drag hand meters which may denote instantaneous amp readings along with a maximum amp reading for the circuit. Unlike a SCADA monitored system with real time data and various power quality measurements. Thermal amp meters require multiple assumptions of power factor, kW, kVAR, and line voltage if those parameters are not measured coincident with the load.

⁷ Unity power factor is defined as $kW/kVA = 1$ or the real power (kW) is equal to the apparent power (kVA). Since Amperage (current) is derived from kVA, under a unity power factor scenario, the current is at its minimum draw.

1 a capacitor bank that would improve power factor could defer or alleviate the need for a
2 much more expensive transformer or reconductor/line upgrade. In such a case, the
3 Company's investment in temporary equipment it can deploy on a given circuit to measure
4 power factor would benefit ratepayers. Other New Hampshire utilities have similar
5 equipment. The Company has suggested that it plans to review types, and the availability of,
6 power monitoring equipment (with real and reactive power measurements) that can be
7 temporarily applied to distribution circuits⁸ These can be installed either during estimated
8 peak times or for a short duration that closely represents the same weather/load pattern. For
9 the reasons given above, Staff recommends that the Company invest in this equipment
10 immediately.

11

12 **RSA 378:38, II – Demand Side Management**

13 **Q. Does Unitil's LCIRP include an assessment of demand-side energy management**
14 **programs, including conservation, efficiency, and load management programs?**

15 A. The Company has offered energy efficiency (EE) and other demand side management (DSM)
16 programs to its customers for several years. In the latest LCIRP submittal, Unitil has
17 provided extensive information regarding the Company's ratepayer funded EE programs, a
18 recent EE baseline/potential study, and a description of Active Demand Reduction (ADR)
19 offerings embraced by several of its Commercial and Industrial customers. *Id.* at 20-33.

20 **Q. Do you have anything else to add regarding targeted DSM and non-wire solutions?**

⁸ Attachment KFD-1, Power Factor and Power Monitoring Equipment, Docket No. DE 20-02, Staff Data Request Response Staff 4-21.

1 A. Yes. The Company solicited bids for potential non-wire solutions for a pending distribution
2 system need on its distribution “37 Line.” Future efforts at targeted DSM could be improved
3 by using this solicitation as a learning process.

4 While the Company did provide an initial assessment of large customers on that circuit
5 who had participated in the energy efficiency programs, it did not consider active demand
6 reduction offerings for that same need due to the timing and size of the need, and the fact that
7 the one large customer in the area already participates in the Company’s ADR offerings.⁹
8 This issue is discussed further below when addressing the planned capital projects, but Staff
9 recommends that the Company’s targeted DSM efforts more fully embrace targeted ADR.¹⁰

10 The Company provided a copy of its non-wire solution solicitation and a copy of a
11 similar solicitation from a New York utility.¹¹ Unlike the New York solicitation, Unitil’s
12 RFI did not include detailed information relating to the hourly loading on the circuit, or the
13 costs and benefits that would be considered, as part of the proposal evaluation. Staff
14 recommends that future non-wire solution solicitations include details on hourly circuit
15 loading, and the costs and benefits that will be considered in scoring the proposals. This
16 information should better inform potential bidders and likely result in successful responses to
17 these solicitations. Peak loading granular power quality data may be provided from the
18 power monitoring equipment that is stated in the aforementioned recommendation.

⁹ Attachment KFD-2, Targeted DSM and Non-Wire Solutions, Docket No. DE 20-02, Staff Data Request Response Staff 1-1.

¹⁰ Some states have encouraged an embrace of targeted DSM, including ADR, through the use incentive the utility may earn based on a percent of a shared savings that accrue to ratepayers from such strategies.

¹¹ Attachment KFD-2, Targeted DSM and Non-Wire Solutions, Docket No. DE 20-02, Staff Data Request Response Staff 1-1 Attachment 1 and Staff 1-1 Attachment 3(a).

1 It is also worth noting that the Company does not include overheads/burdens in its
2 assessment of capital project costs that might be avoided by a non-wire solution.¹² On
3 average, the Company suggest overheads/burdens can increase the cost of capital projects by
4 about 60%. There is some logic to this approach because those overheads/burdens would
5 have to be paid by ratepayers regardless of whether the Company pursues a non-wire solution
6 or a traditional capital project to satisfy a distribution system need. It is worth noting
7 however, that the Company only assigns overheads/burdens to capital projects and would not
8 likely assign overheads/burdens to most non-wire solutions, which would likely be booked as
9 expenses. Staff makes no recommendations regarding this issue, but sees it as helpful to
10 observe this nuance.

11

12 **RSA 378:38, III – Supply Options**

13 **Q. Does Unitil’s LCIRP include an assessment of supply options including owned capacity,**
14 **market procurements, renewable energy, and distributed energy resources?**

15 A. As stated earlier, Unitil presently does not own any generating assets in its NH service
16 territory. The Company addresses the DER growth in their system planning applying 5-year
17 historical data to project small 5-year DER load growth. Medium to large DERs are
18 considered on a case by case method similar to any new added large commercial load on a
19 circuit. In addition to DER load projections, the Company is also in the process of
20 developing a hosting capacity map and heat maps in order to optimize placement for 3rd party
21 DER providers.¹³

¹² Attachment KFD-2, Targeted DSM and Non-Wire Solutions, Docket No. DE 20-02, Staff Data Request Response Staff 4-20...

¹³ Docket No. DE 20-02, Report on LCIRP at 19-20.

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RSA 378:38, IV – Distribution and Transmission Requirements

Q. Does Until’s LCIRP include an assessment of distribution and transmission requirements?¹⁴

A. Yes. The LCIRP includes an assessment of distribution and transmission requirements, described in further detail below.

Transmission

Since Until does not own any transmission assets in their NH service territory, the Company participates in joint system planning process to establish an integrated least cost plan of wholesale delivery facilities that affect both utilities’ systems. The Company also attends meetings of the ISO – NE Reliability Committee, which advises ISO New England about design and oversight of reliability standards for the New England bulk power system.¹⁵

Distribution

Until’s LCIRP describes, in comprehensive detail, the Company’s planning process which includes distribution system, distribution circuit, and distribution/supply substation planning, including contingency analysis and least cost options for resolving criteria violation(s). Until’s service territory consists of two electric distribution systems: the Capital system which serves the Concord area, and the Seacoast system which serves the Hampton area. The two systems are geographically separate and operate independently of

¹⁴ As noted above, the statute requires specifies that the assessment should include, as applicable, an assessment of the benefits and costs of "smart grid" technologies, and the institution or extension of electric utility programs designed to ensure a more reliable and resilient grid to prevent or minimize power outages, including but not limited to, infrastructure automation and technologies. RSA 378, IV.

¹⁵ Docket No. DE 20-02, Report on LCIRP at 17.

1 each other. Unitil includes a separate ten-year system planning study for each system in its
2 LCIRP filing.¹⁶

3 **A. Distribution Planning Guide Changes**

4 **Q. Did Unitil make any changes to its distribution planning criteria since its last LCIRP?**

5 A. Yes. The company made several changes, a few of which are worth noting.¹⁷ First, the
6 Company updated its substation loading criteria and protective device loading criteria.
7 Second, the Company lowered the threshold at which it evaluates load-related distribution
8 system needs from 90% to 80% of a piece of equipment's seasonal normal rating. Third, the
9 Company revised its planning assumption to differentiate between customer-owned DERs
10 and company-owned DERs, and how the two are treated within the Company's planning
11 assumptions. I make no recommendations regarding these changes, but see it as helpful to
12 observe them in my testimony.

13 **B. Smart Grid Technology**

14 **Q. Has the Company invested in smart grid technology in recent years?**

15 A. The Company has been actively investing in smart grid technology in Massachusetts which
16 will cross into NH as the IT infrastructure is upgraded or modified in order to accommodate
17 additional Smart Grid technology. The Company has submitted in its LCIRP plans for more
18 Advanced Metering Infrastructure (AMI) with outage prediction software to reduce false
19 positives and identify locations of nested outages.¹⁸ Since the Outage Management System

¹⁶ Docket No. DE 20-02, Report on LCIRP at Appendices F and G.

¹⁷ Attachment KFD-3, Distribution Planning Guide Changes, Docket No. DE 20-02, Staff Data Request Response Staff 3-3 Attachment 2.

¹⁸ Docket No. DE 20-02, Report on LCIRP at 28.

1 (OMS) and Customer Information System (CIS) are a system architectural application, any
2 upgrades in the application(s) will affect both Unitil Energy Systems in NH and Fitchburg
3 Gas and Electric in Massachusetts.¹⁹ The Company also has increased its supervisory control
4 and data acquisition (SCADA) capability to some of its NH substations, with further plans to
5 increase that coverage to include all of the substations in NH. Unitil is the only investor
6 owned electric utility in NH that has AMI meters.

7 This functionality will allow for more real time data availability due to the automatic
8 retrieval of load data at the customer level on a more frequent basis.

9 **C. Planned Investments**

10 **Q. Did you conduct an assessment of the planned distribution system investments**
11 **described in Unitil's LCIRP?**

12 A. While it would be impractical to evaluate all of the planned distribution system identified in
13 the LCIRP, Staff conducted a preliminary assessment or issued discovery regarding several
14 of the Company's investments. These include the: (1) the 3348, 3350, and 3359 Line Right
15 of Way (ROW) Rebuild; (2) the Concord Downtown Conversion; (3) the Company's
16 Seacoast Facility; and (4) the 37 Line Reconductoring project.

17 **1. 3348, 3350, and 3359 Line ROW Rebuild**

18 **Q. Do you have any recommendations related to the 3348, 3350, and 3359 Line ROW**
19 **Rebuild?**

20 A. Yes, attached are several discovery responses related to this issue in this testimony.²⁰ During
21 the course of this docket, it became clear that the Company should evaluate the costs and

¹⁹ Attachment KFD-4, Smart Grid Technology Investments, Docket No. DE 20-02, Staff Data Request Response Staff 1-8.

²⁰ Attachment KFD-5, 3348,3350, and 3359 Line ROW Rebuild, Docket No. DE 20-02, Staff Data Request Response Staff 1-5 ; Staff 1-5 Attachment 1 ; Staff 1-5 Attachment 2 ; Staff 1-7 ; Staff 1-7 Attachment 1 ; Staff 1-7

1 benefits of repairing the ROW, in addition to the costs and benefits associated with
2 rebuilding the ROW. The former is estimated by the Company to cost approximately \$2.2-
3 2.5 million, and the latter is estimated by the Company to cost approximately \$7 million.
4 The Company has offered to revise the scope of work it has developed for the consultant who
5 will provide recommendations for the ROW to include a full assessment of the repair option,
6 rather than just the repair option. The Company has further offered to collaborate with the
7 parties to this proceeding to further develop the revised scope of work for its consultant.
8 Staff looks forward to working with the Company on this issue and has no further
9 recommendations related to the 3348, 3350, and 3359 Line ROW Rebuild, but reserves the
10 right to file further recommendations, if necessary, as a result of subsequent collaboration on
11 the contractor's scope of work.

12 **2. Concord Downtown Conversion**

13 **Q. Do you have any recommendations related to the Concord Downtown Conversion?**

14 A. Until provided several discovery responses related to the Concord Downtown Conversion,
15 many of which I have attached to my testimony.²¹ I reviewed these responses in light of the
16 fact that this is one of the larger investments referenced during the five years covered by the
17 LCIRP. However, I have focused my recommendations in this docket on *planned*
18 distribution system investments and distribution system planning processes. Since the
19 Concord Downtown Conversion has essentially been completed by the Company during the

Attachment 2 ; Staff 2-7 ; Staff 2-8 ; Staff 2-9 ; Staff 2-10 ; Staff 3-5 ; Staff 4-11 ; Staff 4-12 ; Staff 4-13; and Staff 5-3.

²¹ Attachment KFD-6, Concord Downtown Conversion, Docket No. DE 20-02, Staff Data Request Response Staff 1-2 ; Staff 2-4 ; Staff 2-4 Attachment 1 ; Staff 2-5 ; Staff 3-4.

1 course of this docket, the more appropriate venue for any recommendations related to that
2 project is in Unutil's next rate case.

3 **3. Unutil Headquarters**

4 **Q. Do you have any recommendations related to the Unutil Headquarters?**

5 A. Unutil provided several discovery responses related to its new headquarters, many of which is
6 attached to this testimony.²² Staff reviewed these responses in light of the fact that this is the
7 highest cost single investments referenced during the five years covered by the LCIRP.
8 However, Staff has focused the recommendations in this docket on distribution planning
9 processes and *planned* distribution system investments. Since the Unutil Headquarters is well
10 on its way to completion, the more appropriate venue for any recommendations related to
11 that project is in Unutil's next rate case.

12 **4. 37 Line**

13 **Q. Do you have any recommendations related to the 37 Line Reconductoring project?**

14 A. Yes, and I have included several discovery responses on this issue as attachments to my
15 testimony.²³ The 37 Line reconductoring is a project planned for construction in early 2021
16 with a projected in-service date of June 2021. The Company estimates it will cost
17 approximately \$750,000, without burdens/overheads, which according to the Company's

²² Attachment KFD-7, NH Seacoast Facility, Docket No. DE 20-02, Staff Data Request Response Staff 3-6 ; Staff 3-6 Attachment 1 ; Staff 3-6 Attachment 2 ; Staff 3-6 Attachment 3 ; Staff 3-6 Attachment 4 ; Staff 3-6 Attachment 5 ; Staff 3-6 Attachment 6 ; Staff 4-14 ; Staff 4-14 Attachment 2 ; Staff 4-14 Attachment A ; Staff 4-15 ; Staff 4-15 Attachment 1 ; Staff 4-15 Attachment 2 ; Staff 4-16 ; Staff 4-17 ; Staff 4-18 ; Staff 4-19 ; and Staff 5-2.

²³ Attachment KFD-8, 37 Line Reconductoring, Docket No. DE 20-02, Staff Data Request Response Staff 2-1 ; Staff 2-1 Attachment 1 ; Staff 3-1 ; Staff 3-2 ; Staff 3-2 Attachment 1 ; Staff 3-2 Attachment 2 ; Staff 3-2 Attachment 3 ; Staff 3-2 Attachment 4 ; Staff 3-2 Attachment 5 ; Staff 4-4 ; Staff 4-4 Attachment 1 ; Staff 4-4 Attachment 2 ; Staff 5-1.

1 general estimates for overhead/burdens would result in a total project cost of approximately
2 \$1.2 million.²⁴

3 The 37 Line reconductoring was the grid need associated with the Company's non-
4 wire solution RFI discussed above. In Staff's review of the load data associated with the
5 constraint, it appears that the load of a single very large customer who participated in the
6 Company's ADR program (reducing its load by 700kW) has been reconstituted into the
7 projected load for the purposes of forecasting future loading constraints on the 37 Line.
8 Assuming the Company's ADR programs continue into the future, it is possible this would
9 inflate the loading on that circuit beyond what the actual future loading is likely to be during
10 times of the transmission system peak, which appear to coordinate roughly with the peaking
11 times on the 37 Line. It also appears possible that this single customer may have additional
12 load available to curtail. The Company never reached out to this customer to gauge whether
13 it had further interest in curtailing load during distribution system peaks, possibly at a
14 compensation structure supplemental to the one currently offered by the ADR program,
15 which targets only a few hours of distribution system peaks. Recognizing that time is of the
16 essence for the 37 Line, Staff recommends the Company reach out to that customer
17 immediately and inquire its interest in enhanced load curtailment opportunities. If the
18 customer has no interest in such an arrangement, Staff recommends that the Company work
19 with the parties to identify another project that might be an attractive non-wire solution
20 candidate at the Company's new 80% threshold.

21 A major driver of the demand growth necessitating this investment is a development
22 planned for the vicinity of I-93's Exit 17 that will include a Market Basket and State of New

²⁴ With overheads/burdens, the total cost of this project would be approximately \$1.2 million.

1 Hampshire Liquor Store. The Market Basket plans to install several electric vehicle charging
2 stations, including two Tesla superchargers, which would account for the vast majority of the
3 load at the development. More specifically, the Company is planning on up to two (2) 1MW
4 Tesla V3 Superchargers and two (2) to six (6) universal level 2 (150kW) chargers. The
5 Company has not yet assessed whether the Market Basket would need to provide a
6 contribution in aid of construction (CIAC) based on its usage and revenue projections, but in
7 order to avoid unreasonable cost shifting, it will be important that any CIAC calculation
8 developed by the Company utilizes a reasonable electric vehicle charging equipment realistic
9 utilization rate. Given that the superchargers will be located just a few exits North of several
10 charging stations which are also located on that same interstate, it is possible — even likely
11 — that the utilization rate will be very low. Staff recommends that the Commission direct
12 the Company to work with the parties to the proceeding to ensure that the CIAC calculations
13 associated with the Exit 17 development utilize a reasonable utilization rate.

14

15 **RSA 378:38, V – Environmental Compliance**

16 **Q. Does the Unitil LCIRP include an assessment of plan integration and impact on state**
17 **compliance with the Clean Air Act of 1990, as amended, and other environmental laws**
18 **that may impact a utility's assets or customers?**

19 A. As stated earlier, the applicability of this provision of the statute is questionable given that
20 the Company no longer owns generating assets. I'll note however that Unitil does provide
21 limited consideration of environmental impacts in its Project Evaluation Procedure PR-DT-
22 DS-11.²⁵

²⁵ Attachment KFD-9, Environmental Compliance, Docket No. DE 20-02, Staff Data Request Response Staff 1-1 Attachment 4(b).

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RSA 378:38, VI – Environmental, Economic, and Energy Price and Supply Impact

Q. Does the Until LCIRP include an assessment of the plan's long- and short-term environmental, economic, and energy price and supply impact on the state?

A. Until’s project planning process employs a cost benefit analysis template which uses a weighted scoring methodology that is used to calculate an overall ranking of alternatives and considers “functionality, environmental impacts, reliability, feasibility, cost and value added benefits of DER,” of planned investments and alternatives.²⁶ The LCIRP also includes an analysis of the economics of planned investments and potential alternatives.

RSA 378:38, VII– Consistency with State Energy Strategy

Q. Does the Until LCIRP include an assessment of plan integration and consistency with the state energy strategy under RSA 4-E:1?

A. Yes. In my assessment, Until’s LCIRP is generally consistent with the state energy strategy.

III. CONCLUSION AND RECOMMENDATIONS

Q. Please summarize your recommendations.

A. I recommend that:

- The Company’s next LCIRP should focus on the provisions of RSA 378:38 which are relevant to distribution system investments, unless facing a scenario where RSA 378, III, and IV are somehow applicable.

²⁶ Docket No. DE 20-02, Report on LCIRP at 17.

- 1 • The Commission should direct the Company to participate in the processes set forth by
2 the Commission in Order No. 26,358 to develop its next LCIRP and that the substance of
3 that LCIRP should align with the expectations expressed by the Commission in Order
4 No. 26,358.
- 5 • The Commission should direct the Company to invest in equipment that can be
6 temporarily applied to distribution circuits or transformers to record real and reactive
7 power, or power factor.
- 8 • The Commission should direct the Company to more fully embrace targeted ADR and
9 EE within its targeted DSM efforts.
- 10 • The Commission should direct the Company to ensure that future non-wire solution
11 solicitations include details on hourly circuit loading, and the costs and benefits that will
12 be considered in scoring the proposals. This information should better inform potential
13 bidders and likely result in successful responses to these solicitations.
- 14 • The Commission should direct the Company reach out to the largest customer on its
15 distribution “37 Line” immediately and inquire about that customer’s interest in enhanced
16 load curtailment opportunities. If the customer has no interest in such an arrangement,
17 Staff recommends that the Company work with the parties to identify another potential
18 project that would serve as an attractive non-wire solution considering the Company’s
19 new 80% threshold.
- 20 • The Commission should direct the Company to work with the parties to the proceeding to
21 ensure that the CIAC calculations associated with the Exit 17 development utilize a
22 reasonable utilization rate.

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

1 A. Yes.