

**THE STATE OF NEW HAMPSHIRE**  
**BEFORE THE**  
**NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**  
**REBUTTAL TESTIMONY OF EDWARD A. DAVIS**  
**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE**  
**D/B/A EVERSOURCE ENERGY**  
**PROPOSED RESIDENTIAL TIME-OF-DAY RATE**

**Docket No. DE 21-119**

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1 **Q. Mr. Davis, please state your name, business address and position.**

2 A. My name is Edward A. Davis. My business address is 107 Selden Street, Berlin, CT  
3 06037. My position is Director, Rates at Eversource Energy Service Company and in that  
4 position I provide rate and tariff related services to the operating companies of  
5 Eversource Energy including Public Service Company of New Hampshire d/b/a  
6 Eversource Energy (“Eversource” or “the Company”).

7 **Q. Have you previously testified before the Commission?**

8 A. Yes. I have on many occasions testified before the Commission on behalf of Eversource,  
9 and at the state utility commissions in Connecticut and Massachusetts on behalf of other  
10 Eversource Energy affiliates on rate related matters.

1 **Q. Have you previously submitted testimony in this proceeding?**

2 A. Yes. On June 15, 2021, I submitted direct, pre-filed testimony proposing R-OTOD-2, an  
3 updated and revised version of the current rate offering R-OTOD. In that testimony, I  
4 summarize my educational and professional background.

5 **Q. What is the purpose of your rebuttal testimony?**

6 A. To respond to recommendations by the Department of Energy (“DOE”) in their testimony  
7 that Eversource should adjust the Company’s R-OTOD-2 proposal being considered in  
8 this docket.

9 **Q. What was the intent behind the requirement in the settlement agreement from**  
10 **Docket No. DE 19-057 for the Company to revise its existing R-OTOD rate, and are**  
11 **the DOE’s recommended changes to the Company proposal consistent with this**  
12 **intent?**

13 A. The Company’s proposed rate, R-OTOD-2, was designed as a revision to the current rate,  
14 R-OTOD, in accordance with requirements of the Company’s most recent distribution  
15 rate case settlement agreement in Docket No. DE 19-057, with the specific purpose of  
16 updating the current time-varying rate to reflect both current costs of service and to revise  
17 the time of use periods to create a shorter peak period, hopefully encouraging more  
18 customers to take the rate. While there is close alignment with the existing R-OTOD of  
19 total fixed customer costs and the customer charge, and total demand-related costs with  
20 overall volumetric rates, the volumetric rate is still structured on the basis of an historic,  
21 13-hour peak period. In settlement, the Company agreed to review and realign the  
22 volumetric, time varying rate with a narrower peak period of no greater than eight hours,  
23 which was believed to be more representative of current peak costing periods, as

1 informed by cost of service for residential whole house service. The intent of the  
2 provision in the DE 19-057 settlement agreement and the Company's proposal is to take  
3 advantage of an already-existing rate structure and update it with minimal  
4 implementation costs. The intent was not to fully redesign the current rate or to introduce  
5 design elements from the EV rate class, as the DOE has recommended, as these  
6 suggested changes would not only complicate implementation, but none of the suggested  
7 changes has been analyzed to see if in practice they would even have the intended effect  
8 of motivating a change in customer energy usage, or result in any positive bill impact for  
9 customers.

10  
11 In contrast, Eversource thoroughly analyzed various possibilities before arriving at the  
12 proposed rate R-OTOD-2. The Company performed rigorous analyses and provided  
13 extensive support in developing its proposal, covering essential cost causation and other  
14 rate design principles across all components of service, and performing and presenting a  
15 complete analyses of bill impacts and options Eversource residential customers will have  
16 under the proposal, so it's known that the proposed rate has the potential to motivate a  
17 change in energy usage. Of particular importance in the Company's proposal are the bill  
18 impacts for all residential customers demonstrating the option of either switching to the  
19 proposed R-OTOD-2, or remaining on or switching to non-time varying Rate R service,  
20 as this analysis will inform customers of the actual effects of selecting one or the other of  
21 these two rates. It is critical and must be emphasized that the Company's proposal is for  
22 whole house service to its residential customers, because all analysis and design elements  
23 are based on cost of service for the residential class, which is entirely different than the

1 analysis conducted to design a separately-metered service for a new service class for  
2 EVs. The importance of this difference is discussed more fully below.

3  
4 The DOE's proposal is not only inconsistent with the intent of the settlement agreement,  
5 but is flawed in a number of ways. Their proposal seeks to impose theoretical design  
6 changes construed for a completely different, end-use service (for EV charging) onto the  
7 cost of service for the entire residential rate class, which is problematic for various  
8 reasons including a lack of fidelity to cost of service and creating possible unfair cost  
9 shifting. Further, the DOE's proposal lacks the analysis and fails to provide any  
10 semblance of what impacts their design recommendations may have on existing R-OTOD  
11 customers or Rate R customers who may want to switch to R-OTOD-2, nor does the  
12 DOE provide any information of the effects of the proposed changes in their testimony on  
13 the proposed R-OTOD-2 so that all residential customers can understand their options  
14 and impacts of their decision of whether to switch to or from Rate R to the time-varying  
15 rate.

16  
17 While the Company has designed a rate to implement the terms and requirements of its  
18 settlement agreement in DE 19-057, and included a full cost, rate design and bill impact  
19 analysis to support its proposal, the DOE's recommendations for changes to that proposal  
20 wholly disregard those requirements and pursues a design that is biased toward imposing  
21 concepts and features it has derived from a completely different type of service. The  
22 DOE's recommended changes are entirely lacking in analysis or support to be able to see  
23 the effects the changes would have on rate design and whether these changes are

1 appropriate for service for Eversource residential customers, and fail to demonstrate the  
2 impact to customers and provide the information they need to understand and make  
3 appropriate decisions. In the end, the DOE's suggested changes to the proposed R-  
4 OTOD are completely untested or analyzed and it is unknown what their effectiveness  
5 would be, if any, or perhaps would even have an effect counter to that desired. What is  
6 known is that these proposed changes would involve a great deal more analysis and  
7 alteration to the existing R-OTOD design, all of which would complicate implementation  
8 and frustrate the purpose in the DE 19-057 settlement agreement for updating this rate  
9 offering.

10 **Q. What is the importance of the Company's proposal being based on whole-house**  
11 **service?**

12 A. The Company's proposed rate is designed for service to meet the full requirements of a  
13 residential customer (often referred to as "whole house" service). The cost of service to  
14 meet the requirements of such customers is reflected in the design of rates for all  
15 components (i.e., distribution, transmission, energy supply, etc.). The total cost of  
16 service for residential, whole house, class is unique to that class, and the characteristics of  
17 these costs will vary depending on the nature and type of costs for service provided  
18 (residential class distribution costs are different from those of transmission or energy  
19 service costs, and these costs further vary depending on whether they are fixed, vary by  
20 demand or usage, or potentially also on a time of use basis).

21  
22 Rates for the recovery of each type of cost, including where time varying characteristics  
23 come into play, are matched as closely as possible to cost causation. In rates approved by

1 the Commission for Rate R-OTOD, the Company designed a customer charge that is very  
2 close to the marginal and embedded customer-related cost for distribution, and set a  
3 volumetric rate for the demand-related costs of distribution service on a time-varying  
4 basis using a 13-hour peak period. Rates approved for the transmission component of  
5 residential whole house service under Rate R-OTOD are fully volumetric and are also  
6 structured on a time-varying basis using the same 13-hour peak period as distribution  
7 volumetric rates. The Company's evaluation of costs of to serve residential customers  
8 shows that the underlying cost of residential whole house transmission service is demand  
9 related, and exhibits a stronger time-varying characteristic than distribution demand  
10 related costs. As with distribution service, and consistent with the settlement agreement  
11 in DE 19-057, the Company agreed to review and realign the volumetric, time-varying  
12 transmission rate for whole house residential service with a narrower peak period of no  
13 greater than eight hours, settling on a seven-hour peak period, informed by the  
14 Company's analysis of costs to serve the residential class. Having the same definition of  
15 peak and off-peak time periods for the demand related costs of both distribution and  
16 transmission service components also required evaluating the combination of costs such  
17 that both the duration and the actual hours of the peak period that provides the strongest  
18 statistical fit across these components. Through rigorous evaluation of current marginal,  
19 time-varying distribution costs and probability of peak analysis of time-varying  
20 transmission costs, the Company found that the best fit solution, based on current costs, is  
21 for a seven-hour peak period commencing at noon and ending at 7 p.m. As rates are set  
22 on an annual basis, so has the proposed R-OTOD-2 been designed on an annual basis.

1 **Q. How does this relate to DOE’s recommended changes to the Company’s rate**  
2 **proposal?**

3 A. It is important to highlight that all of this work and design has been performed to address  
4 service to residential whole-house customers. All analyses were based on the  
5 components of service that are time-varying and subject to constraints and revisions  
6 consistent with the settlement agreement in DE 19-057. It is not appropriate to evaluate  
7 the analysis or design of rates for whole house service from the lens of an end-use service  
8 such as EV TOU, particularly those design changes recommended by the DOE’s  
9 testimony.

10

11 The DOE misses the difference between TOU rate design for EV charging compared  
12 with that for whole-house service, and conflates the basis and design of the Company’s  
13 TOU rate proposal for separately metered electric vehicles with that for residential whole  
14 house service Rate R, or the optional time of use rate either Rate R-OTOD or proposed  
15 R-OTOD-2. Ms. Nixon’s recommendations that elements of the Company’s proposed  
16 rate design in this docket that need to be further changed are unsupported and  
17 misappropriate conclusions excerpted out of context from review performed by DOE’s  
18 consultant for EV rates in Docket No. DE 20-170, claiming what has been proposed for a  
19 distinctly different rate design for electric vehicle charging would bring a benefit to  
20 residential, whole house service without providing any support that it would in fact do so.

21

22 The EV TOU rate proposal relied upon by Ms. Nixon is designed only for the  
23 incremental load of an electric vehicle charger added to a residential customer’s service.

1 In the EV TOU rate design referenced and attached to Ms. Nixon's testimony , the fixed  
2 local facilities cost is moved to the combined peak and mid-peak period (which spans 16  
3 hours, from 7 a.m. to 11 p.m., 7 days a week). This design is theoretical and specifically  
4 targeted for potential, increment new load that would be connected to the same set of  
5 local facilities but separately metered from that of the whole house load. The concept  
6 behind this proposed design includes such fixed costs in pricing of service during the  
7 long period in which the additional of substantial incremental EV load would require  
8 increased local facility capacity (e.g., by adding 5-7 kW or more of new EV charging  
9 load would require a larger transformed, service conductor, etc.) causing increased fixed  
10 costs. Inclusion of these costs in the 16-hour peak and mid-peak volumetric rates is  
11 believed to provide a so-called price signal that, by design, would be cost reflective and,  
12 importantly, is targeted specifically to the customer's incremental EV charging load.  
13 This design also presumes that charging is flexible and that customers can and will  
14 respond and shift all EV charging load to the off peak, where it is believed local fixed  
15 costs may be avoided. This design does not, however, assure that such increased fixed  
16 costs would not occur. Given this design, the recommendations for this aspect of EV  
17 TOU rate design are at cross purposes with and not appropriate for either Rates R-  
18 OTOD-2 or Rate R.

19 **Q. Why? What is the difference between EV TOU rate design and whole-house rate**  
20 **design?**

21 A. The prior discussion highlights the different components of service, cost characteristics,  
22 and basis for rate design, particularly in the context of those components of rates that are  
23 time-varying and that pursuant to the DE 19-057 distribution rate case settlement



1 agreement were reviewed and updated in support of the Company's proposal, which is  
2 founded on rigorous analysis and design for service to the whole house of residential  
3 customer. The service to an EV TOU customer that the changes to the Company's  
4 proposal DOE's recommendations are based on is nothing like that of the whole house  
5 customer. In particular, the usage characteristics and service requirements of an EV TOU  
6 customer are quite different. The fixed costs required to service to a residential whole  
7 house customer cannot be avoided. Local facilities costs such as a transformer and  
8 service costs are required regardless of time of use. In contrast, it is presumed that an EV  
9 TOU charger added to an existing whole house service can be separately metered and  
10 may be operated in a manner that avoids the need for additional fixed costs, leading to at  
11 least a theoretical rate design that assumes such fixed costs are potentially avoidable and  
12 on that basis given a different rate treatment, such as charging for such costs on a demand  
13 or volumetric time-varying basis. To be clear, the Company's proposal designed  
14 residential whole house rates on a cost of service basis, and have identified and  
15 delineated those costs and revenue requirements for rate design that are fixed and not  
16 time varying in nature, including those associated with local facilities.

17 **Q: Is an EV TOU approach appropriate for a revision to the R-OTOD rate?**

18 A. No. Perhaps most perplexing in the DOE's testimony is the suggestion that the concepts  
19 and elements of a theoretical rate design for end-use service to charge an electric vehicle  
20 – which is significantly different in its very nature, including its service requirements and  
21 configuration, cost of service, and of course demand and usage characteristics - would be  
22 appropriate for whole house residential service.

23

1 While the Company has performed cost of service and accordingly designed rates for  
2 Eversource's actual residential Rate R and Rate R-OTOD customers, EV TOU  
3 customers represent a new type of service and use. Application of what may be the  
4 underlying cost basis or structure for service to an EV TOU customer is not the same, and  
5 the DOE has not provided comparable data or analysis to support their recommended  
6 modifications.

7 **Q: Has the DOE provided any support using Eversource's residential time of day rate**  
8 **structure to demonstrate customer benefits in the form of bill impacts resulting**  
9 **from any of their proposed recommendations?**

10 A. The DOE seeks to impose concepts of a rate designed for a different purpose, and  
11 significantly change the fundamental residential rate design, without providing any  
12 analysis to support its recommendations. Their assertions lack rate design, cost of service,  
13 revenue proof or bill impact analysis, provide no demonstration of the options available  
14 to residential customers, or of the consequences or benefits to customers who would be  
15 impacted by the rate change. When asked about whether analysis was done on these  
16 suggested design changes, the DOE responded that they weren't proposing a rate, only  
17 changes to Eversource's proposed rate. See Attachment Rebuttal-EAD-1. But changes  
18 to the rate proposal are changes to the very design, and changing the design requires  
19 thorough analysis to know if such a change will have the intended effect and whether  
20 there would be unintended or undesirable consequences.

21 **Q. Did the Company's original proposal take bill impacts into account?**

22 A. Yes it did. I provided robust bill impact analysis as part of the original proposal (see  
23 Attachments EAD 3 and 4). As referenced in direct testimony filed on June 15, 2021 in

1 this docket, on Bates pages 7-10, the Company thoughtfully considered bill impacts to  
2 customers when it designed its proposed R-OTOD-2, so that customers would have the  
3 possibility of seeing increased savings on their bills, particularly if they change their  
4 usage behavior to shifting to off-peak usage. Moreover, I have included comparisons  
5 between Rate R-OTOD-2 and Rate R, recognizing there may be those customers who  
6 would see an opportunity to switch from Rate R to Rate R-OTOD-2, and conversely there  
7 may be customers who would prefer to switch to Rate R.

8  
9 Achieving positive bill impacts for customers is complex as all the elements of rate  
10 design are intertwined, including all of those that DOE is recommending the Company  
11 adjust. This is why DOE should conduct bill impact analysis for their recommended  
12 adjustments – so that it's known if and what actual changes customers will experience.

13 **Q. Can customer behavior or benefits be known or predicted without bill impact**  
14 **analysis?**

15 A. While it is inevitable that updated costs and a change in the peak and off-peak periods  
16 will have an impact to customer bills, it is critical that any such rate design be  
17 accompanied by the aforementioned comparisons and that customers understand the  
18 impacts, options and opportunities created by the new design. Without analysis, effects  
19 of implementing these modifications is speculative, and customers and other stakeholders  
20 are left with no way to know if the design would even should motivate the kind of  
21 behavior contemplated by the suggested modifications.

1 **Q: Turning to some of the specific recommendations of the DOE. Is it possible for the**  
2 **Company to offer the residential time of day rate, or any time-varying rate, to net-**  
3 **metered residential Eversource customers as the DOE recommends?**

4 A. No. Consistent with Puc 903.02(w) and RSA 362-A:9, VIII the Company did not  
5 petition for this rate to apply to net metered customers. The Company stresses that it is  
6 not feasible with existing system capabilities to apply its proposed R-OTOD-2 rate to net  
7 metered customers, and would require significant billing and other infrastructure  
8 modifications to do so. Furthermore, consistent with the DE 19-057 settlement  
9 agreement, our focus is on implementing a revision of the rate that would require no  
10 structural modifications, not to develop and implement new structural or billing changes.

11 **Q: Is the DOE's recommendation to lower the customer charge to either \$16.50 to**  
12 **reflect only marginal costs, or to \$13.81 to match Rate-R, an appropriate**  
13 **application for Rate R-OTOD-2, and why?**

14 A. This recommendation is inappropriate as it misunderstands what comprises the customer  
15 charge for Rate R-OTOD and R-OTOD-2. The Company deliberately left the customer  
16 charge unchanged in recognition that the customer charge was appropriately designed to  
17 recover the marginal customer costs, including both metering as well as local facilities  
18 costs intrinsic to providing service to Residential R-OTOD and proposed R-OTOD-2  
19 customers, a conclusion with which the Commission agreed when it found that customer  
20 charge just and reasonable when it approved the settlement agreement in DE 19-057.  
21 There appears to be a misconception on the part of the DOE regarding the nature of the  
22 full customer charge. The DOE recommends removing a portion of the fixed customer  
23 charge to be placed instead in the volumetric rate, and in doing so, lowering the rate to

1           \$16.50, believing that such a change remains reflective of cost of service. It does not.  
2           The \$32.08 customer charge is lower than but close to the fixed customer costs for  
3           providing service to the residential class. Moving a portion of this charge to the  
4           volumetric rate does not reflect cost causation as measured by either a marginal or  
5           allocated cost of service study. Indeed, even if a portion of the customer charge were to  
6           be moved to the volumetric rate, it would be particularly inappropriate to reflect that in a  
7           time-varying rate. As previously discussed, this is whole-house service, and any costs  
8           required to provide service to whole-house residential customers need to be fully  
9           recovered. They cannot and should not be encouraged to be avoided by shifting usage  
10          between time periods. This is one aspect of the EV TOU rate design where, in certain  
11          configurations, if such costs could be avoided (e.g., avoiding the increased size of a  
12          transformer by charging in a manner that never causes that increase), then it might be  
13          appropriate to consider what portion of the fixed costs could be moved to a volumetric  
14          (or demand) rate. But fixed costs for whole-house service cannot be avoided as with EV  
15          TOU charging and so fixed costs in the volumetric rate are inappropriate here. The only  
16          option for moving that recovery to a volumetric rate would require an increase to *all*  
17          hours of the volumetric rate (i.e., not just those of, say, the peak period). Additionally, if  
18          that change were to be made, it would create cost shifting as higher volume users would  
19          pay more than their fair share and lower volume users would pay less, possibly less than  
20          what they should be paying. Thus, the balance of fixed cost recovery would be upset and  
21          a shift in cost recovery as well as a reduction in what should be rate efficiency would  
22          occur.

23

1           Regarding the lower Rate R customer charge, it is important to recognize that the fixed  
2           cost recovery shortfall is in fact spread across all kWh's. As a fundamental point, the  
3           local facilities cost in Rate R-OTOD and proposed Rate R-OTOD-2 are appropriately  
4           included within the customer charge. Such costs are not avoided by shifting load of the  
5           entire home to a different period of time. Setting a time differentiated volumetric rate to  
6           recover such costs through only one period would result in distorted pricing where,  
7           moreover, fixed costs reflected in pricing for one period would result in customers  
8           avoiding paying their fair share of fixed costs when they shift load to another period. For  
9           whole house service to residential Rate R customers, the lower customer charge results in  
10          a shortfall and the fixed customer costs for local facilities is recovered in the volumetric  
11          rate for all kWh.

12  
13          While arguments can and have been made to *increase* the customer charge and move it  
14          closer to actual cost of service, the very important principal of gradualism in rate making  
15          has been applied and further the Commission has approved that charge as just and  
16          reasonable as a part of the settlement reached in DE 19-057. Similarly, that settlement  
17          includes agreement to maintain the Rate R-OTOD customer charge at the current rate.  
18          The Company will continue to fulfill its commitment of maintaining the residential  
19          customer charge at the agreed upon level, and thereby maintains the Rate R-OTOD-2  
20          customer charge at the appropriate, cost-based level. While the proposed customer  
21          charge appropriately reflects the cost of providing service, any deviation from the current  
22          proposal would need some sort of supported justification. The Company does not believe

1 the DOE has articulated a properly-supported policy basis for changing the customer  
2 charge at this time.

3 **Q: What is the Company's position on the DOE's recommendation to make the**  
4 **generation component of the rate time varying, rather than staying with the existing**  
5 **rate structure of having just transmission and distribution as time-varying**  
6 **elements?**

7 A. Earlier there was a discussion of the cost basis for distribution and transmission rates. It  
8 is important to note that in fact, the cost to the Company for energy service for residential  
9 customers, as well as the cost to customers of competitive supply do not vary by time of  
10 day. The price paid to suppliers for such service is a flat cents per kWh, for all hours of  
11 the month. What is time varying is more seasonal in nature, in that the Company's  
12 default Energy Service changes as a result of procurements twice per year, currently on  
13 February 1 and August 1 of each year. Competitive supply changes pursuant to  
14 agreements between customers and suppliers. In either case, such pricing and thereby the  
15 cost to customers of the generation component of rates are otherwise not time varying.

16  
17 With that said, Company recognizes where on a policy basis generation supply pricing  
18 for Company provided default service has been time differentiated, and various  
19 techniques have been applied to set such rates (the Company has in its CT jurisdiction  
20 been required to impute a fixed peak/off-peak price differential, and in NH has just  
21 recently been directed in Oder No. 26,604 in Docket No. DE 20-170 to create a two-  
22 period, separately metered EV TOU rate with a time-varying generation component). For  
23 the Company's proposal in the instant docket, the Company focused on the current

1 structure of Rate R-OTOD, and did not propose to convert generation supply from a  
2 fixed, all hours rate to a time-varying rate. Making such a change represents an  
3 unnecessary and costly recommendation with potentially only limited application, and  
4 minimal customer benefit/impact. Absent a change to the generation component of  
5 service, there would still be changes in overall rates twice per year for default service,  
6 and under the Company's proposed R-OTOD-2 there are time-varying components that  
7 send efficient price signals to shift usage, and that provide an option for bill savings to  
8 those customers who can do so.

9 **Q: Are any of the DOE's recommended adjustments possible without having to adjust**  
10 **other aspects of the rate?**

11 A. No. As illustrated in the customer charge discussion, a change to rate design in any one  
12 aspect will have an impact to one or more other components elsewhere in the design. If  
13 the customer charge is reduced, not only will the volumetric rate increase, it will do so  
14 across all hours, and have a dampening effect on such measures as the peak/off-peak  
15 ratio. Recognizing the earlier discussion of optimization of peak period duration and  
16 timing, a reduction in the peak period will reduce the efficiency of rates (there is no gain  
17 and in fact a loss from reducing what was found to be an optimal peak period; rates  
18 would be less cost reflective, and indeed there would be a shift in cost responsibility  
19 among components of service and across customers). Reduction of the peak window  
20 would shift the recovery of costs between peak and off peak and complications and  
21 impacts on rate design and cost recovery would need to be addressed and reconciled.

22



1 Also of concern is that there is likely to be a complete reshuffling of impacts on customer  
2 bills for any change made. Efficient, cost-based pricing as reflected in the Company's  
3 proposal is the baseline to ensure just and reasonable rates for all customers in a given  
4 rate class, and it would be important to take stock of the type and degree of impacts that  
5 would result from any of DOE's recommended changes rather than blindly pursuing any  
6 of the recommendations in the DOE's testimony. The Company has put forth a credible  
7 proposal with a complete picture of options and impacts across all residential customers.  
8 Any changes to this proposal require proper analysis as R-OTOD-2 is an optional rate  
9 and maintaining equity across the residential class is an important element in the rate  
10 design. There would need to be numerous analyses performed for each of the items  
11 recommended alone or in combination, and none of those have been provided, leaving  
12 the Company unpersuaded that these changes would in fact have the intended  
13 consequences DOE seeks and still keep fidelity to the determinative factors of R-OTOD-  
14 2's design. The expectation from making any such adjustments is that there will be bill  
15 impacts, they could vary greatly and some would not even prove to be beneficial. None  
16 of the DOE's recommended changes can be made without some bill impact.

17 **Q. What would have to be done to make the other proposed changes (3:1 peak/off-peak**  
18 **ratio; 5-hour peak window; and seasonal variation) and what would be the impact**  
19 **to the overall rate design?**

20 A. Regarding a shorter peak period than that proposed, it should be noted that the EV TOU  
21 periods proposed in DE 20-170, which Ms. Nixon's recommendation is based upon,  
22 cover different hours, as there are both peak and mid-peak, as well as an off-peak period  
23 in that proposal. The cost basis and statistical fit of costs among these three periods do

1 not correlate with the optimized, seven-hour peak period that is accompanied by an off-  
2 peak period in Rate R-OTOD-2. When the Company performed rigorous cost-based  
3 analysis to arrive at the optimized design in its R-OTOD-2 proposal, it also learned from  
4 that analysis that a shorter peak period was less than optimal. The Company worked  
5 within the current rate structure as directed by the DE 19-057 settlement agreement for  
6 the reasons discussed above, ensuring efficient and cost-effective utilization of existing  
7 metering and billing systems and processes. Simply claiming that a five-hour peak  
8 period should be used, with no analysis or support to prove that a shorter window would  
9 be an appropriate basis for the design of whole house service rates, or to show the impact  
10 and benefits to customers of such design, is unfounded and inappropriate. And as a  
11 practical matter, the Company notes that just one of the differences between whole-house  
12 and EV TOU rates is that whole-house rates cannot completely avoid peak period use, as  
13 might be possible on an EV TOU rate, so a shorter but higher priced peak window may  
14 be less desirable than the currently proposed seven-hour peak window. And as just  
15 mentioned, the Company's analysis did review a six-hour peak window, and that analysis  
16 indicated less optimal results than the seven-hour window. Given that the Company's  
17 analysis is all there is to rely upon here, the Company sees no reason to agree with DOE's  
18 recommendation for a five-hour peak period.

19  
20 Part of the desire to design a peak and off-peak generation supply rate seems to be to  
21 achieve a higher peak/off-peak ratio. The Company understands that this ratio is a  
22 measure that has been correlated with responsiveness by some customers to shift load.  
23 While the DOE recommends a goal of achieving a higher ratio, from a cost of service and

1 rate design perspective, the Company has evaluated and proposed a rate that is cost  
2 reflective. An overlooked and simple fact is, the generation supply rate is a cost equal to  
3 the price paid that does not vary on a time of day basis and does not contribute to a goal  
4 of a higher peak/off-peak ratio. The actual cost to the Company for default service for  
5 residential customers (and to customers of competitive supply service) whether they are  
6 on R-OTOD or Rate R is determined on a flat, cents/kWh basis, for all kWh's consumed.  
7 The Company has provided estimates of the cost and time to implement a two-period  
8 default service rate option, working within current metering and billing structures. As  
9 with other recommendations, a concern is that DOE recommends this be incorporated  
10 into design with no analysis of impacts or basis for design, solely to meet a ratio, and  
11 with no recognition on their part of how to determine such rate, or what the underlying  
12 cost of that supply is.

13  
14 Regarding seasonality, DOE's recommendation that R-OTOD-2 be adjusted to vary  
15 seasonally is also provided without support, or recognition of the nature of such costs.  
16 The seasonality characteristic of default service is that the price (and therefore cost) of  
17 default service is a flat cents per kWh that changes on February 1 and August 1 of each  
18 year. DOE advocates for changing this rate at two other times of the year, May and  
19 October, though such a change is not tethered to the actual cost of energy supply. If  
20 generation service were to be time differentiated, the company would still need to  
21 reconcile actual costs vs. charges received. A goal of time differentiating rates to meet a  
22 certain mathematical relationship would provide a price signal, but would not be cost  
23 reflective or economically efficient, from the perspective of what it actually costs to

1 purchase and deliver generation service. The change to DOE's recommended seasonal  
2 differentiation would only serve to create a misalignment with the actual cost of supply  
3 and unnecessarily unjustifiably complicate the rate design.

4 **Q. Is DOE's suggestion to make the RTOD rate a three-period rate for whole house**  
5 **appropriate?**

6 A. No, the suggestion is completely outside of the scope of this proceeding and would be  
7 completely inappropriate to consider. As stated repeatedly, the purpose of this  
8 proceeding was to update an existing rate quickly and efficiently to more accurately  
9 reflect current cost of service on a time-varying basis and in a way that would create  
10 greater potential savings for residential customers choosing to elect it. Turning R-OTOD  
11 into a three-period rate is a completely different rate design, not a revision of R-OTOD.  
12 Making R-OTOD a three-period rate would be effectively going back to the drawing  
13 board, completely counter to the idea of providing a time-varying option for Eversource  
14 customers without additional time or cost to implement, and instead delaying the update  
15 of Rate R-OTOD to come up with a brand new rate, and for unknown reasons and  
16 completely speculative value to customers. Not only does DOE provide no analysis  
17 supporting changing the R-OTOD-2 proposal to a three period rate, they fail to even  
18 name a reason to make the change. So aside from being completely outside the scope of  
19 this matter, this is a recommendation to spend unknown amounts of time and money  
20 without any basis to replace the Company's sound, reasoned and supported proposed R-  
21 OTOD-2.

22

23

1 **Q. What does the Company recommend at this time?**

2 A. The Company stands by the proposed R-OTOD-2, and recommends the Commission  
3 approve it for implementation. The revised rate would offer customers potential savings,  
4 which could in turn modify energy usage behavior of those customers lessening peak  
5 burden to the grid while saving customers money.

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

7 A. Yes it does.

Public Service Company of New Hampshire d/b/a Eversource Energy

Docket No. DE 21-119

Eversource to DOE- Set 1

Received: 3/18/2022

Date of Response: 4/1/2022

Request Number: Eversource 1-01

Witness: Elizabeth Nixon

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**Request:** Please provide all comparative bill impact analysis conducted against the Company's existing or proposed residential time of day rate for any of the Department's proposed adjustments to Eversource's proposed R-OTOD-2, including any supporting data and worksheets in live format. Specifically, provide any bill impact analysis conducted for implementing any/all of the following:

- a) Peak to off-peak ratio of 3:1 for an all-in rate
- b) Peak period of five hours as opposed to seven hours
- c) Reducing customer charge to \$16.50 or less (such as the Rate R charge of \$13.81)
- d) Seasonal adjustment of time varying components using May-September
- e) Adding a time-varying generation component

**Response:** DOE did not develop an actual alternative rate, but instead proposed adjustments to be made to Eversource's proposed R-OTOD-2. Therefore, DOE has not conducted any bill impact analysis.