

**OFFICIAL FILING  
BEFORE THE  
PUBLIC SERVICE COMMISSION OF WISCONSIN**

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Application of Wisconsin Power and Light Company  
for Approval of Proposed Updates to its Parallel  
Generation Tariffs

6680-TE-107

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**SURREBUTTAL TESTIMONY OF DIVITA BHANDARI  
ON BEHALF OF RENEW WISCONSIN**

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your name, title, and employer.**

3 A. My name is Divita Bhandari and I am a Senior Associate with Synapse Energy  
4 Economics, Incorporated (Synapse). My business address is 485 Massachusetts  
5 Avenue, Suite 3, Cambridge, Massachusetts 02139.

6 **Q. Are you the same Divita Bhandari that provided direct testimony in this**  
7 **proceeding?**

8 A. Yes.

9 **Q. What is the purpose of your surrebuttal testimony?**

10 A. I will respond to the rebuttal testimony offered by witnesses Mr. Myhre and Mr.  
11 Cook from Wisconsin Power and Light Company (WPL) and Mr. Blair from  
12 Public Service Commission of Wisconsin Staff. My surrebuttal testimony addresses  
13 claims made by Msrs. Myhre, Cook and Blair regarding avoided transmission  
14 and capacity costs.

1 **Q. Do you have any overarching concerns regarding Messrs. Myhre's and Cook's**  
2 **surrebuttal testimony?**

3 A. WPL appears to misunderstand what an avoided cost caused by a distributed  
4 energy resource constitutes. This misunderstanding is apparent based on WPL's  
5 valuation of avoided capacity, transmission and losses based on short-run values.

6 **Q. Please elaborate.**

7 A. In any specific year a utility may need to procure a certain amount of transmission  
8 and/or generation capacity. A certain portion of that capacity need will be met  
9 through load reductions from distributed energy resource or any other resource.  
10 The corresponding load reduction from these resources will drive down the need  
11 for the utility to procure new capacity. This will have a price-lowering effect on  
12 the Planning Resource Auction (PRA) result and the LMP. As a result, it will no  
13 longer be possible to capture the full avoided cost value of that resource through  
14 these respective price signals (i.e., a PRA or MISO's LMP). These price signals  
15 will continue to decline with the addition of more resources (including distributed  
16 energy resources) and consequently, the price signals will no longer capture the  
17 value of the resources in meeting the utility's longer term capacity, transmission  
18 and energy needs (i.e., the long-run value).

19 That is why an accurate avoided cost will capture the value that the  
20 resource provides in the longer term which can only be reflected by assessing the  
21 marginal costs of new investments that would occur if the DER-related load  
22 reduction had not occurred.

1 **II. AVOIDED TRANSMISSION COSTS**

2 **Q. Mr. Myhre asserts that there is no credible evidence that distributed**  
3 **generation resources actually reduce the overall costs of the transmission**  
4 **system. How do you respond?**

5 A. Mr. Myhre has claimed that due to numerous drivers considered in transmission  
6 planning, a simple assumption cannot be made that the addition of customer-  
7 owned parallel generation results in avoided transmission investment. (Rebuttal-  
8 WPL-Myhre-5). I disagree. While transmission planning may involve several  
9 drivers, I have isolated load growth investments identified in the MISO  
10 Transmission Expansion Planning Process (MTEP) since load growth is a key  
11 driver to transmission investments that can be avoided by distributed energy  
12 resources. As I have indicated in my direct testimony, there is a direct relationship  
13 between load that can be reduced on the system and a reduction in transmission  
14 investments. The methodology that I have outlined in my direct testimony that  
15 isolates marginal load growth related investments in order to estimate avoided  
16 transmission costs has been approved for use by energy efficiency program  
17 administrators in New England for the purpose of cost-effectiveness testing. I  
18 have included an attachment that provides a list of the study sponsors (page 3) and  
19 a summary of the approved methodology in New England that relies on load  
20 growth related marginal investments (page 236) (Ex.-RENEW-Bhandari-22).

1 **Q. How do you respond Mr. Myhre’s concerns that transmission system and**  
2 **planning process is much more dynamic than your analysis recognizes?**

3 A. The goal of my analysis is to develop a system wide average avoided transmission  
4 cost. The results of my analysis have been benchmarked against avoided  
5 transmission costs estimates in other jurisdictions. To that end, any gaps in my  
6 analysis that Mr. Myhre has identified are a result of lack of clarity to external  
7 stakeholders in how transmission investment planning is conducted. With  
8 additional transparency by the planning utilities, these issues can be accounted for  
9 in future analysis. As indicated in my direct testimony, I conducted the analysis  
10 with the best information available using publicly accesible data. There is nothing  
11 that precludes WPL from refining my calculated value with information  
12 specifically available to the WPL to account for the concerns that WPL has raised.  
13 In fact, it is my understanding that the Commission asked WPL to model avoided  
14 transmission costs in its May 4, 2021 Order in Docket 5-EI-157. However, WPL  
15 did not do so in advance of filing its application.

16 **Q. How do you respond to Mr. Myhre’s statement that MISO’s LRTP planning**  
17 **has shown that non-system peak periods are a key driver to future**  
18 **transmission investments.?**

19 A. Among the numerous drivers of transmission investments, it is certainly possible  
20 that there are also load growth-related investments that are incurred to address  
21 more localized non-system peak periods in addition to the more typical load  
22 growth related investments that are incurred to address system peaks. I have  
23 proposed a system-wide avoided cost that is intended to capture the variation in

1           avoided costs across the system. As I have indicated in my direct testimony, I  
2           have relied on system-wide peak growth, because this information is publicly  
3           available.

4                     Although I agree that peak growth may not be uniform across American  
5           Transmission Company's (ATC) transmission system, and that localized load  
6           growth could be driving transmission investments, WPL has not provided the  
7           relevant information in this proceeding making that demonstration. With more  
8           information, it may be possible to identify the areas of anticipated load growth  
9           and calculate location-specific avoided transmission values. That analysis is likely  
10          to show that in particular locations, the value of avoided transmission costs is  
11          higher (because all of the load-growth-related transmission costs would be  
12          assigned to a smaller portion of overall load), and in other locations the value of  
13          avoided transmission costs would likely be lower.

14                    However, given the data available and the purpose of my analysis (to  
15          inform avoided cost-based buyback rates for tariffed resources), calculating a  
16          system-wide average value for avoided transmission costs is appropriate. A  
17          system-wide value also accommodates uncertainty regarding where future load  
18          growth may occur during the lifetime of a distributed resource, which may exceed  
19          the horizon of current transmission planning.

1 **Q. How do you respond to Mr. Myhre’s concerns that he is unaware of any**  
2 **transmission project that has been cancelled or deferred because of the**  
3 **implementation of customer-owned projects?**

4 A. Due to the nature of transmission planning, when a distributed energy resource is  
5 already in operation, it is difficult to identify the transmission investments that it  
6 will cancel or defer due to the lack of a counterfactual scenario that removes the  
7 impacts (i.e., adds back the load) of that resource from transmission planning.  
8 Identification of future marginal transmission investments is based on a lowered  
9 load forecast due to distributed energy resources. There is no longer a  
10 counterfactual scenario that identifies transmission investments that would have  
11 otherwise occurred under a higher load scenario. As a result, there is no way of  
12 attributing the value of these avoided or deferred transmission investments to  
13 distributed energy resources. This is a fundamental issue that makes it challenging  
14 to estimate the long-run costs transmission investments attributable to DERs and  
15 in the case of WPL this can only be addressed by looking at the marginal  
16 investments that have been identified to address load growth going forward.  
17 Although WPL’s proposed approach to look at avoided capacity and energy does  
18 not capture the long term value, both these proposed methods rely on marginal  
19 investments, which should also be the case for transmission avoided costs.

20 **Q. Can you provide an example of a transmission system operator avoiding or**  
21 **deferring transmission investments due to distributed energy resources?**

22 A. Yes. As just one example, the California Independent System Operator (CAISO)  
23 observed that:

1 “As part of its annual transmission planning process conducted in  
2 2017-2018, the ISO identified opportunities to address reliability  
3 needs and reduce new transmission infrastructure. The ISO  
4 recommended canceling 20 projects, and reducing the scope on  
5 another 21 projects, saving more than \$2.6 billion. Another six  
6 projects were eliminated in the 2018-2019 planning cycle, saving  
7 \$440-\$550 million in costs. The reductions were mainly due to  
8 changes in local area load forecasts, and strongly influenced by  
9 energy efficiency programs and increasing levels of residential,  
10 rooftop solar generation” (Ex.-RENEW-Bhandari-23).

11 **Q. How do you respond to Mr. Myhre’s concerns that “there is no rational or**  
12 **factual basis to assume that each marginal QF will be located at points on the**  
13 **system where they could have the ability, individually or in aggregate, to**  
14 **defer or eliminate the need for current or future transmission investments.”**

15 A. Mr. Myhre claims that customer owned projects are too small to offset demand in  
16 the ATC system and that considering these resources in aggregate would be  
17 unreasonable because they are not treated in this manner by MISO.

18 I disagree for two reasons:

19 (1) ATC has indicated in their Transmission Planning Assessment Practices (Ex.-  
20 RENEW-Bhandari-24) that “ATC may consider alternatives to transmission  
21 solutions to problems on the transmission system, if needed. Such alternatives  
22 could include, but are not limited to central station generation, distributed  
23 generation, load management and conservation measures.” In addition, in  
24 developing their load forecasting methodology for the purpose of transmission  
25 planning, “ATC will initially use load forecasts provided by the company’s  
26 end-use load-serving customers. In general, customers are required, to provide  
27 ATC with monthly peak demand forecasts for the next 11 years.” These  
28 practices outlined as part of their Transmission Planning Assessment indicate

1 that ATC does in fact recognize the value that distributed generation may  
2 provide as non-transmission alternatives.

3 (2) I have used MISO's capacity accreditation in making assumptions about each  
4 resource's contribution to peak demand in the same way that a resource is  
5 valued for reducing the need for generation capacity on MISO's system. This  
6 capacity accreditation reflects how these resources are treated by MISO in  
7 meeting MISO capacity obligations.

8 **Q. Mr. Myhre objects to your testimony concerning the use of the transmission**  
9 **system by distributed generation resources, and asserts that "customers with**  
10 **parallel generation under the Pg-S1 tariff are reliant on and utilize the**  
11 **transmission system to buy energy, sell energy, or both." (Rebuttal-WPL-**  
12 **Myhre-9). How do you respond?**

13 A. Mr. Myhre misrepresents my testimony. I certainly recognize that customers  
14 installing parallel generation resources use the transmission system when  
15 consuming electricity. My testimony was not intended to suggest that we should  
16 be relieving these customers of paying for transmission service. My testimony  
17 was about the impact of distributed generation resources on the transmission  
18 system in terms of the physical energy flows. Given that generation from  
19 distributed generation is typically consumed close to the point of generation, the  
20 impact of that generation on the transmission system is generally minimal. Mr.  
21 Myhre has not provided any analysis or evidence that there are increased  
22 transmission costs due to distributed energy resources in WPL's service territory.



1 **Q. How do you respond to Mr. Myhre's assertion that the RENEW has**  
2 **proposed an avoided cost of transmission at an annual rate that is 33% more**  
3 **than what WPL pays to its transmission provider (\$5.28/kW-month)?**

4 A. It is not appropriate to compare marginal and embedded rates. Embedded costs  
5 are passed along to end use customers through formula rates that are regulated by  
6 FERC. In his direct testimony, Mr. Cook has expressed that transmission costs are  
7 fixed in the near-term, and therefore not impacted by any changes in resource  
8 availability that would result from parallel generation energy or capacity. Mr. Cook  
9 has also indicated that to fully recover costs, to the extent that transmission system  
10 demands are reduced, the overall transmission rate charged to customers will increase  
11 correspondingly. As I have indicated in my direct testimony as well, these rates are  
12 based on embedded cost and have no relationship with forward looking transmission  
13 investments that can be avoided. The embedded rates are dependent on prior  
14 investment decisions and the portion of these investments that have yet to be  
15 recovered. The use of embedded costs would be inconsistent with the other  
16 avoided costs proposed that are based on marginal costs (i.e, energy and  
17 capacity).

18 In the attachment provided by Mr. Myhre, we see that the embedded costs  
19 also are predicted to go up in the next few years beyond \$5.28/kW-month (Ex.-  
20 RENEW-Bhandari-25). One of the key drivers that will put upward pressure on  
21 these rates are investments that have yet to occur (i.e., marginal investments).  
22 Based on analysis of MTEP data, among the forward looking marginal  
23 investments are a number of load growth related investments. These investments

1 have the potential to be avoided by distributed energy resources and reduce this  
2 upward pressure on rates (Ex.-RENEW-Bhandari-25).

3 **Q. How do you respond to Mr. Blair's assertion that transmission costs are not**  
4 **directly controllable by WPL in the short term and are therefore not**  
5 **avoidable?**

6 A. I disagree. WPL is a stakeholder to ATC's transmission planning process. ATC  
7 has a stakeholder engagement process that includes stakeholders in three phases:  
8 an assumptions phase, a needs phase and a solutions phase (Ex.-RENEW-  
9 Bhandari-26). As I have indicated earlier, ATC's load forecast methodology relies  
10 on the load forecasts conducted by the load serving entities that include WPL. In  
11 addition, as discussed above, ATC does consider distributed generation as a valid  
12 non-transmission alternative. Irrespective of the entity that is conducting the  
13 transmission planning and/or owns the transmission resources, any reduction in  
14 load on the transmission system that may occur as a result of distributed energy  
15 resources will result in an avoided cost on the transmission system and will  
16 impact ratepayers.

### 17 **III. AVOIDED LOSSES**

18 **Q. How do you respond to Mr. Cook's concerns regarding your proposed loss**  
19 **factors?**

20 A. For purposes of loss factors applied to avoided energy, Mr. Cook has suggested  
21 that the financial value of marginal losses are already included in the MISO's  
22 LMP. I agree that LMPs calculated by MISO do include the financial value of  
23 marginal losses. However, the marginal losses are not always included in LMP

1 forecasts produced through other models. The decision to include marginal losses  
2 as an adder to the energy prices is highly dependent on how an LMP forecast is  
3 conducted and the modeling inputs, modeling tools and temporal granularity of  
4 the modeling used in developing the forecast.

5 With respect to transmission losses, Mr. Cook suggests that LMP accounts  
6 for how generators are compensated for reducing marginal losses on the system. It  
7 is incorrect to assume that the LMP captures the long-run marginal losses that are  
8 associated with transmission. Mr. Cook suggests that since the value of marginal  
9 losses is generally higher at load centers, this encourages dispatchable generation  
10 to be built and to run near load by providing a higher LMP value and thereby  
11 reducing losses on the transmission system. While that may be true, the marginal  
12 components as part of the LMP only capture the short term value of these losses.  
13 Those components do not include the long-run transmission losses that may be  
14 avoided or deferred over the useful life of a resource.

15 Finally, Mr. Cook has not addressed the application of losses to avoided  
16 generation capacity costs.

#### 17 **IV. AVOIDED CAPACITY COSTS**

18 **Q. How do you response to Mssrs. Cook's and Blair's proposals regarding**  
19 **avoided capacity costs?**

20 Mr. Cook indicates that the capacity value of parallel generation resources is  
21 based on the potential to avoid costs in relation to utility capacity obligations. But  
22 the capacity values that are proposed by Mssrs. Cook and Blair continue to rely  
23 on the Planning Resource Auction (PRA) results for short term capacity needs.

1 Mr. Cook's proposal does not provide any evidence for the utility's capacity  
2 obligations in the short term. The decision about when the resources should get  
3 credit for a longer term capacity value (i.e., cost of new entry or (CONE)) should  
4 be based on a capacity needs assessment by the utility and each of the qualifying  
5 facilities (QFs) should be treated on equal footing to utility resources. In other  
6 words, if a utility plans to bring in a supply side capacity resource prior to the end  
7 of the eight year CONE phase in period as per WPL's proposal, then QFs should  
8 be treated similarly and receive the long term value for capacity beginning in the  
9 same year. There is no justification for Msrs. Cook's and Blair's linearization  
10 methodology that values capacity based on PRA results in the short term.

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

12 A. Yes, it does.