BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Wisconsin Power and Light Company for Authority to Adjust Electric and Natural Gas Rates — **Docket No. 6680-UR-124**

REBUTTAL TESTIMONY OF ERIC BORDEN ON BEHALF OF CLEAN WISCONSIN

I. INTRODUCTION AND SUMMARY FINDINGS

Q Are you the same Eric Borden who provided direct testimony on behalf of Clean Wisconsin in this matter?

A Yes.

Q Are you sponsoring any exhibits with your rebuttal testimony?

A Yes, I am sponsoring the following exhibit:

Ex.-CW-Borden-12: WPL's Response and Objections to 1-RENEW, PSC Ref # 474626 (excerpts)

Q What is the purpose of your rebuttal testimony?

A I respond to testimony from RENEW Wisconsin ("RENEW") regarding payback period calculations. I also respond to testimony by Vote Solar/Sierra Club ("VS/SC") regarding similarities in our respective approaches to the issue of cost shifting and one reason why our conclusions on this issue may differ.

Q What are your overall findings?

A I find the following:

- I agree with RENEW that actual payback periods under Wisconsin Power and Light's ("WPL") proposal are difficult to calculate. I therefore wish to clarify that the payback periods provided in my testimony are illustrative, as they assume that the first-year values of the tariff remain constant over time.
- One reason for the differing conclusions between my testimony and VS/SC's is that I omit avoided transmission and distribution ("T&D") costs from the benefits of solar production. Inclusion of this benefit would narrow the gap between our respective conclusions on the cost shift issue.

II. RESPONSE TO RENEW WISCONSIN

Q What aspects of RENEW's testimony are you responding to?

A RENEW Witness Duda discusses the importance of payback periods for solar adoption from the perspective of a solar vendor. He notes that the calculation of payback period relies on a projection of compensation over a long period in the future (the life of the solar asset), and that it is very difficult, particularly in comparison to Net Energy Metering ("NEM"), to calculate payback periods under WPL's Power Partnership ("PP") proposal. Duda identifies six elements of the rate that will change in unpredictable ways over time.[1]

Q Do you agree with this testimony?

A I do. Payback periods are ultimately derived from costs of the solar system versus bill savings over the lifetime of the system. These bill savings are derived from a projection of what a customer's bills would be, with and without solar, over the life of the system. WPL admits that multiple values under the PP tariff are subject to change;[2] I agree that

[1] Direct-RENEW-Duda-7.
[2] Ex.-CW-Borden-12.

variable nature of these rate elements over time–e.g., from year to year–make it very difficult to estimate an accurate payback period.

Q Do the payback periods in your testimony rely on a projection of bill savings over time?

A They do not. I wish to highlight here that the payback periods presented in my opening testimony, which are based on WPL's calculations, do not rely on a projection of future compensation or rate tariff values. As I discussed in Direct testimony:

> […]it is important to note that WPL assumed that all rates remain constant through the entire payback period analysis by applying first-year bill savings to all future years. It is difficult to predict values in future years, especially the credits and charges as proposed by WPL in its Power Partnership tariff.[3]

Therefore, the values provided in my testimony can be viewed as providing an illustrative comparison of payback periods given current estimates of rate components from WPL.

III. RESPONSE TO VOTE SOLAR AND SIERRA CLUB

Q What aspects of VS/SC testimony do you respond to?

A On its face, my testimony and that of VS/SC Witness Kenworthy take different approaches to the issue of cost shifts due to NEM and come to different conclusions. In my testimony, I address potential cost shifts under WPL's proposal.[4] While my testimony nets avoided costs (financial ratepayer benefits) due to solar generation from bill reductions due to the NEM tariff,[5] Mr. Kenworthy applies a cost of service ("COS") lens to the issue, by comparing the hourly net load of a NEM customer to an average

[3] Direct-CW-Borden-19.
[4] Direct-CW-Borden-20-21.
[5] Direct-CW-Borden-20.

residential customer.[6] Mr. Kenworthy finds that "contrary to claims of a 'cost shift,' net metering reduces revenues and costs at approximately the same amount. In other words, if WPL had conducted an analysis of costs to serve and revenues for net metered customers it would have concluded that there is no 'cost shift.'"[7]

Q Are there any similarities between VS/SC's approach to the issue of cost shifting with the one you present in opening testimony?

A There are. The VS/SC methodology calculates "average NEM customer load" as the net of load and generation over an hour finding that "net metered customers have significantly lower loads during cost-causing peak times"[8] due to solar generation. In my calculation, the benefits of solar generation are reflected through an estimation of avoided energy and capacity costs. The latter are due to solar generation during system peak periods,[9] similar to VS/SC's examination of NEM customers' lower net load during peak hours compared with the average residential customer.

Q Do VS/SC's conclusions differ from the ones you present in testimony?

A Yes. I find a small potential cost shift for the NEM (and PP) tariff,[10] while VS/SC conclude there is no cost shift based on its COS calculations.

Q Why do you believe these approaches result in different conclusions?

A One reason could be that I omit avoided T&D costs from my calculation of benefits of solar generation "for consistency with Wisconsin's approach to evaluation of demand-side programs."[11] On the other hand, this value should be reflected in the COS

[6] Direct-VS/SC-Kenworthy-14-15.
[7] Direct-VS/SC-Kenworthy-16.
[8] Direct-VS/SC-Kenworthy-15.
[9] Direct-CW-Borden-16.
[10] Direct-CW-Borden-20-21.
[11] Direct-CW-Borden-17.

approaches presented by Mr. Kenworthy. As stated in my Direct testimony, it is likely that some T&D costs are avoided by solar distributed generation.[12] Given that I calculate a current cost shift under NEM of $0.00047 (assuming solar installations of 7.07kW) to $0.00084 per kWh (assuming solar installations of 5.36kW),[13] a reasonable avoided T&D estimate due to solar generation would reduce the difference between VS/SC's finding of no cost shift and the small cost shift I found in testimony due to NEM.

Q Does this conclude your testimony?

A Yes, it does.

[12] Direct-CW-Borden-17.
[13] Direct-CW-Borden-14-15.