

**BEFORE THE NOVA SCOTIA UTILITY AND REVIEW BOARD**

**In the Matter of an Application by Town of Antigonish Electric Utility for  
Approval of Amendments to its Schedule of Rates and Charges for the provision of electric supply  
and services to its customers and its Schedule of Rules and Regulations**

**(NSUARB M11441)**

**Evidence of  
Melissa Whited**

**On Behalf of  
Counsel to Nova Scotia Utility and Review Board**

**February 20, 2024**

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1     **I. INTRODUCTION AND QUALIFICATIONS**

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

3     A. My name is Melissa Whited. I am a Vice President at Synapse Energy Economics, Inc.  
4        ("Synapse"), located at 485 Massachusetts Avenue, Cambridge, MA 02139, USA.

5     **Q. Please describe Synapse Energy Economics.**

6     A. Synapse is a research and consulting firm specializing in electricity and gas industry  
7        regulation, planning, and analysis. Our work covers a range of issues, including economic  
8        and technical assessments of demand-side and supply-side energy resources; energy  
9        efficiency policies and programs; integrated resource planning; electricity market  
10       modeling and assessment; renewable resource technologies and policies; and climate  
11       change strategies. Synapse works for a wide range of clients, including attorneys general,  
12       offices of consumer advocates, public utility commissions, environmental advocates, the  
13       U.S. Environmental Protection Agency, U.S. Department of Energy, U.S. Department of  
14       Justice, the Federal Trade Commission, and the National Association of Regulatory  
15       Utility Commissioners. Synapse's staff includes over 35 professionals with extensive  
16       experience in the electricity industry.

17    **Q. Please summarize your professional and educational experience.**

18    A. I have 13 years of experience in economic research and consulting. At Synapse, I have  
19       worked extensively on issues related to utility regulatory models and rate design. I have  
20       been an invited speaker in numerous industry conferences, including as a panelist for the  
21       National Association of Regulatory Utility Commissioners (NARUC) Subcommittee on  
22       Rate Design at the 2021 Winter Policy Summit and the 2018 Annual Meeting.

1 I have sponsored testimony before the Newfoundland and Labrador Board of  
2 Commissioners of Public Utilities, the Massachusetts Department of Public Utilities, the  
3 Illinois Commerce Commission, the New Hampshire Public Utilities Commission, the  
4 Georgia Public Service Commission, the Rhode Island Public Utilities Commission, the  
5 Maine Public Utilities Commission, the California Public Utilities Commission, the  
6 Hawaii Public Utilities Commission, the Public Service Commission of Utah, the Public  
7 Utility Commission of Texas, the Virginia State Corporation Commission, and the  
8 Federal Energy Regulatory Commission. I hold a Master of Arts in Agricultural and  
9 Applied Economics and a Master of Science in Environment and Resources, both from  
10 the University of Wisconsin-Madison. My resume is attached as Appendix A.

11 **Q. Have you previously testified before the Nova Scotia Utility and Review Board?**

12 A. Yes. I testified in Matter Nos. M09777, M10176, M10431, M10810, and M10832.

13 **Q. On whose behalf are you providing evidence in this case?**

14 A. I am providing evidence on behalf of Counsel to the Nova Scotia Utility and Review  
15 Board (“Board”).

16 **Q. What is the purpose of your evidence?**

17 A. My evidence addresses certain aspects of the Town of Antigonish Electric Utility’s  
18 (“TOAEU” or “the Utility”) General Rate Application, including cost allocation and rate  
19 design.

1     **II. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS**

2     **Q. Please describe your conclusions.**

3     A. My conclusions are as follows:

- 4             • Under the Utility's proposal, the Street Lighting and General Service (<3 kW)
- 5                 class fall well outside the acceptable range of revenue-to-cost.
- 6             • The proposed service charge for the Domestic class is not justified on a cost-
- 7                 causation basis.
- 8             • The existing declining block rate structure is not supported by analysis and may
- 9                 lead to wasteful consumption and intra-class inequities.
- 10            • The Utility has not provided any discussion of its vision for implementing
- 11              advanced rate designs or improving the data used in its cost of service studies
- 12              following installation of advanced meters.
- 13            • TOAEU's cost of service study relies on the minimum system method, which
- 14              inappropriately classifies a portion of distribution system costs as customer-
- 15              related.

16    **Q. What are your recommendations?**

17    A. I recommend that the Board:

- 18            • Direct TOAEU to increase the rates for the Street Lighting class from 1.25 times
- 19              the system average to 1.75 times the system average.
- 20            • Approve TOAEU's proposal to increase the General Service (<3 kW) rates by 7.2
- 21              percent, conditioned upon the utility submitting a revised or consolidated General
- 22              Service (<3 kW) rate within 3 years of installing advanced meters.
- 23            • Direct TOAEU to reduce the service charge for the Domestic class to \$12.74, as
- 24              supported by the Utility's own analysis.

- 1           • Direct TOAEU to file a proposal to eliminate the declining block rate structure in  
2           its next rate application, unless such rate structure can be adequately supported by  
3           evidence that it is cost-reflective.
- 4           • Direct TOAEU to propose at least one new advanced rate design, as well as  
5           modifications to or closure of the current Time-of-Day rate, within three years of  
6           completing its installation of advanced metering infrastructure.
- 7           • Direct TOAEU to use data from the advanced meters to develop new, data-driven  
8           allocators for any cost of service studies conducted 12 months or more following  
9           the installation of advanced metering infrastructure.
- 10          • Direct TOAEU to submit a cost of service study using the basic customer method  
11          in addition to, or instead of, its current method in its next rate case.

12          **III. COST ALLOCATION**

13          **Q. Please provide an overview of the TOAEU’s General Rate Application (GRA).**

14          A. TOAEU states that, due to recent significant increases in purchased power costs and  
15          operating costs, it will incur a loss in the test year at current rates.<sup>1</sup> For this reason, the  
16          utility is requesting an overall rate increase of 6.3 percent.

17          **Q. How does TOAEU propose to allocate this rate increase among classes?**

18          A. TOAEU proposes to increase rates by an amount specific to each rate class. The  
19          Domestic and Time of Day (TOD) class and the General Service <3 kW class rates would  
20          each be increased by 7.2 percent, the General Service >3 kW and Large General Service

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<sup>1</sup> The Town of Antigonish Electric Utility Rate Study, November 2023, p.5.

1 would be increased by 5.7 percent on a combined basis, and Street Lighting would be  
2 increased by 7.9 percent.

3 **Q. Do you have any concerns regarding TOAEU's approach to allocating the revenue**  
4 **increases across classes?**

5 A. Yes. My primary concerns are as follows:

6 • The Street Lighting class would have a revenue-to-cost ratio of only 26 percent  
7 following the utility's proposed rate increase for this class.

8 • The General Service (<3 kW) class would achieve only a 75 percent revenue-to-  
9 cost ratio following the utility's proposed rate increase for this class.

10 **Q. Why has TOAEU not proposed a rate increase that would bring the Street Lighting**  
11 **class's revenue-to-cost ratio closer to a more acceptable range?**

12 A. TOAEU states that it limited the increase for the Street Lighting class to 1.25 times the  
13 system average increase following precedent from another utility's recent rate case  
14 (presumably the GRA of the Town of Mahone Bay). However, in response to an  
15 information request, TOAEU states that it would have proposed an increase of 1.75 times  
16 the system average had the Board's decision in the Berwick GRA been public at the time  
17 of its application submission.<sup>2</sup>

18 **Q. Do you agree that an increase of 1.75 times the system average increase would be**  
19 **appropriate for the street lighting class?**

20 A. Yes, because rate shock is not as large a concern as it was in the Town of Mahone Bay's  
21 GRA. The overall rate increase that TOAEU is proposing is much lower than the 34.9

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<sup>2</sup> The Town of Antigonish Electric Utility Response to NSUARB IR-21.

1 percent rate increase proposed by the Town of Mahone Bay. In addition, the Street  
2 Lighting class is not analogous to other classes in terms of rate shock, as the cost of street  
3 lights is borne by the town, rather than a small group of individual customers. Thus, I  
4 concur with TOAEU's proposal to raise the rate increase for the Street Lighting class to  
5 1.75 times the system average.

6 **Q. Why has TOAEU not proposed a rate increase that would bring the General Service**  
7 **(<3 kW) class's revenue-to-cost ratio closer to a more acceptable range?**

8 A. TOAEU states that the General Service <3kW class consists of only 11 customers, each  
9 with very small consumption, and a larger increase to this class at this time would not  
10 provide any significant benefit to other classes.<sup>3</sup> Further, TOAEU states that it proposes  
11 to conduct more analysis in the future to potentially eliminate the General Service <3kW  
12 class and create a single General Service class,<sup>4</sup> or maintain two classes with a different  
13 size boundary.<sup>5</sup>

14 **Q. Do you agree with TOAEU's proposal to increase the rates for the General Service**  
15 **(<3 kW) class by only 7.2 percent?**

16 A. Yes, for two reasons. First, TOAEU does not currently have very accurate coincident  
17 peak or non-coincident peak estimates for the General Service <3 kW class, which may  
18 result in inaccurate class cost estimates. This lack of data should be remedied following  
19 the Utility's installation of advanced meters. Second, TOAEU proposes to investigate  
20 merging the two General Service classes or creating a new boundary between the classes.

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<sup>3</sup> TOAEU Response to NSUARB IR-21.

<sup>4</sup> TOAEU Response to NSUARB IR-21.

<sup>5</sup> TOAEU Response to Synapse IR-13.



1 As TOAEU notes, preserving the current rate structure will facilitate a smooth transition  
2 to a merged class.<sup>6</sup>

3 **Q. What are your recommendations regarding cost allocation?**

4 A. I recommend that the Board:

- 5 • Direct TOAEU to increase the Street Lighting rates to 1.75 times the system  
6 average increase;
- 7 • Approve TOAEU's proposal to increase the General Service (<3 kW) rates by  
8 7.2 percent, conditioned upon the utility submitting a revised or consolidated  
9 General Service (<3 kW) rate within 3 years of installing advanced meters, or  
10 sooner.

11 **IV. RATE DESIGN**

12 **Q. Does TOAEU propose any rate design changes?**

13 A. No. TOAEU states that it has not performed an in-depth review of rate designs and  
14 proposes to continue the same rate design approaches for all classes.<sup>7</sup>

15 **Q. Do you have any concerns with TOAEU's rate design proposal?**

16 A. Yes, I have the following concerns:

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<sup>6</sup> TOAEU Response to NSUARB IR-21.

<sup>7</sup> TOAEU Rate Study, November 2023, p.27.

- 1           • For the Domestic rate class, the Utility’s proposal would move rates further from  
2           the unit costs suggested by the cost of service study, and in a direction that  
3           reduces incentives for conservation and efficient usage.
- 4           • The Utility’s proposal would maintain a declining block rate structure for the  
5           General Service customer class, which is not supported by any cost analysis.
- 6           • TOAEU provides no vision regarding how it plans to utilize the information from  
7           its proposed advanced metering infrastructure investments to inform its rate  
8           design or cost of service studies in the future.

9           **Domestic Rate**

10   **Q.    What is your concern with the proposed Domestic rate?**

11   A.    TOAEU proposes to increase the Domestic service charge from \$16.09 per month to  
12         \$16.95 per month. However, TOAEU calculates the cost-based monthly service charge to  
13         be only \$12.74.<sup>8</sup> Thus, TOAEU’s proposal would bring the service charge further out of  
14         line with its cost of service study results.

15   **Q.    Why does TOAEU propose to increase the service charge when the Utility’s cost of**  
16         **service study implies that the charge should be reduced?**

17   A.    TOAEU explains that reducing the service charge to \$12.74 and increasing the  
18         volumetric rate would “exacerbate the bill increase for Domestic customers with higher  
19         consumptions, and particularly so in the winter months.”<sup>9</sup>

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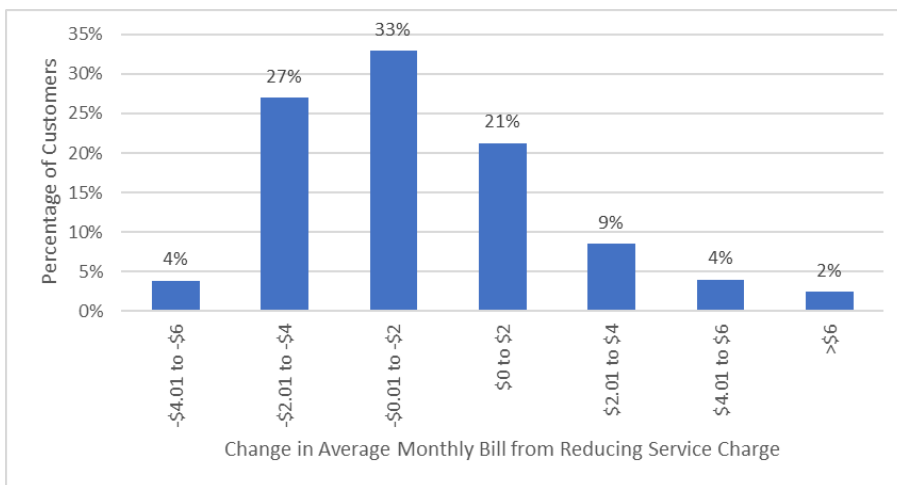
<sup>8</sup> TOAEU Rate Study, November 2023, p.27.

<sup>9</sup> TOAEU Rate Study, November 2023, p.27.

1 **Q. Do you agree with this rationale?**

2 A. No, for several reasons. Reducing the service charge to \$12.74 (and increasing the  
3 volumetric charge commensurately) would actually *reduce* average monthly bills for  
4 nearly two-thirds of Domestic customers, as shown in the figure below.<sup>10</sup> The figure  
5 shows what proportion of domestic customers would experience bill increases or bill  
6 reductions from a change in the service charge (combined with a commensurate change  
7 in the volumetric charge), based on 2023 average monthly usage levels.<sup>11</sup> Because most  
8 customers have below-average usage levels, 64 percent of customers would benefit from  
9 a reduction in the service charge.<sup>12</sup>

**Figure 1. Change in average monthly bill due to reducing customer charge to \$12.74 and increasing volumetric charge**



10 In addition, reducing the customer charge to \$12.74 would be more cost-based, thereby  
11 improving intra-class equity. Under TOAEU's proposal, lower-usage customers would be

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<sup>10</sup> Synapse analysis of data provided in response to Synapse IR-2.

<sup>11</sup> Usage levels from Synapse IR-2. Volumetric rate calculated based on billing determinants and revenues provided in Exhibit 7.

<sup>12</sup> The average is higher than the median usage level because of a small number of very high usage customers. For example, although the median monthly usage is approximately 740 kWh per month, one customer uses 10,700 kWh per month.

1 subsidizing higher-usage customers, since higher-usage customers benefit more from  
2 higher fixed charges and lower volumetric rates.

3 Finally, a lower fixed charge and higher volumetric rate provides a more efficient price  
4 signal that encourages customers to use electricity efficiently and invest in distributed  
5 energy resources to reduce their energy consumption, such as energy efficiency and  
6 distributed generation.

7 **Q. What do you recommend regarding the Domestic rate?**

8 A. I recommend that the Board reject TOAEU's proposal and direct the Utility to limit the  
9 service charge to \$12.74 with a commensurate increase to the volumetric rate estimated  
10 to be \$0.00451/kWh.<sup>13</sup>

11 **Declining Block Rate**

12 **Q. What concerns do you have regarding TOAEU's declining block rate structure?**

13 A. I am concerned that the declining block rate structure has not been shown to be cost-  
14 based and may therefore be both inequitable and inefficient. TOAEU states that it "has no  
15 record of previous cost analysis supporting the general service rate design and has not  
16 undertaken any data collection or analysis of the cost basis of the rate for purposes of this  
17 application."<sup>14</sup>

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<sup>13</sup> I calculate that reducing the service charge from the utility's proposal of \$16.95 to \$12.74 for 3,239 Domestic customers would result in an additional \$163,634 having to be collected through the volumetric rate. This revenue would be spread over a total of 36,249,340 kWh annually for an increase of \$0.00451/kWh. The final rate should be confirmed in a compliance filing by TOAEU.

<sup>14</sup> TOAEU Response to Synapse Request IR-5.

1 **Q. In what ways are declining block rates inequitable?**

2 A. Declining block rates price higher levels of consumption at a lower rate. If such rates do  
3 not accurately reflect the costs associated with serving additional load, they may lead to  
4 lower-usage customers subsidizing higher-usage customers.

5 **Q. In what ways do declining block rates provide inefficient price signals?**

6 A. Declining block rates reduce the marginal cost of electricity consumption faced by  
7 customers whose consumption is higher than the size of the first block. By lowering the  
8 cost that customers face for higher levels of electricity consumption, declining block rates  
9 can lead to wasteful usage by reducing incentives for conservation and energy efficiency.  
10 This could eventually result in higher generation, transmission, and distribution costs for  
11 all customers. For these reasons, many jurisdictions have moved away from declining  
12 block rates.

13 **Q. What do you propose with respect to the declining block rate structure?**

14 A. I recommend that the Board direct TOAEU to file a proposal to eliminate the declining  
15 block rate structure in its next general rate application unless such rate structure can be  
16 adequately supported by evidence that demonstrates it is cost-reflective.

1           **Connection with Grid Modernization Plan**

2   **Q.    Do you have any other concerns regarding the utility’s rate design proposal?**

3    A.    Yes. In April 2023, TOAEU filed a grid modernization proposal, and which was  
4           subsequently approved.<sup>15</sup> The proposal provides for the deployment of advanced  
5           metering infrastructure, which presumably will enable TOAEU to implement advanced  
6           rate designs and collect more detailed data regarding customer usage for the purpose of  
7           cost allocation. TOAEU’s rate application also notes that preparation of the grid  
8           modernization proposal included \$71,420 for “rate studies.”<sup>16</sup>

9           My concern lies in the fact that TOAEU did not provide any discussion of its vision for  
10          implementing advanced rate designs following installation of advanced meters, nor did it  
11          discuss the results of the rate studies or incorporate any recommendations from such  
12          studies in this GRA. Instead, TOAEU simply states that it “has not performed an in-depth  
13          review of rate designs for purposes of this Application, and proposes to continue the  
14          same rate design approaches for all classes, pending future analysis and subject to any  
15          Order of the Board.”<sup>17</sup>

16          Additionally, I am concerned that TOAEU has not discussed how it will utilize data from  
17          its grid modernization investments to improve its cost of service studies going forward.

18          TOAEU notes that it “does not have metered data necessary to establish class or customer  
19          demands at the time of system peak”<sup>18</sup> and has therefore used data from other utilities

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<sup>15</sup> Nova Scotia Utility and Review Board, In the Matter of the Public Utilities Act and In the Matter of an Application by The Town of Antigonish, on behalf of its Electric Utility, for approval of a Grid Modernization and New Substation Project in the amount of \$19,399,240.25, Matter M11082, December 15, 2023.

<sup>16</sup> TOAEU is not requesting recovery of the cost of the rate studies in this application.

<sup>17</sup> TOAEU Rate Study, November 2023, p.27.

<sup>18</sup> TOAEU Rate Study, November 2023, p.18.

1 (such as NS Power and Berwick) to develop coincident peak and non-coincident peak  
2 demand factors for allocating demand-related costs.<sup>19</sup> Once TOAEU's installation of  
3 advanced meters is largely complete, I expect that it will provide the necessary data to  
4 base allocation factors on actual data from TOAEU customers.

5 **Q. Why is it important for TOAEU to consider implementing advanced rate designs?**

6 A. Advanced rate designs can provide valuable benefits to customers, primarily by shifting  
7 load off of peak hours, and potentially also providing incentives for beneficial  
8 electrification. The advanced meters that TOAEU plans to install will permit the utility to  
9 implement much more sophisticated rates, such as a rate for customers who adopt  
10 beneficial electrification technologies (such as electric vehicles or heat pumps), or a time-  
11 of-use rate that is open to all customers. In addition, the results from Nova Scotia  
12 Power's ongoing time-varying pricing pilot will provide useful information regarding  
13 which rate structures are likely to be most effective in promoting load shifting.  
14 Electrification and load shifting are vital to achieving both local and federal net zero  
15 emissions targets in a least-cost manner.

16 **Q. Does the existence of TOAEU's current Time-Of-Day rate allay your concerns**  
17 **regarding advanced rates?**

18 A. No. Only four customers are currently enrolled in the Time-of-Day rate, which is limited  
19 to customers with Electric Thermal Storage and electric in-floor radiant heating systems  
20 utilizing time-shirting technology approved by the utility. TOAEU is not aware of any

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<sup>19</sup> TOAEU Rate Study, November 2023, pp. 24-26.

1 other customers who meet the technology requirements to enroll and has not budgeted for  
2 resources to increase enrollment.<sup>20</sup>

3 **Q. What enhancements to its cost of service study could TOAEU make following**  
4 **installation of advanced metering infrastructure?**

5 A. As noted above, TOAEU can use the data from its advanced metering to calculate more  
6 accurate allocation factors. However, TOAEU must plan for this data collection and  
7 storage early in the process so that the appropriate data are available when completing  
8 future cost of service studies.

9 **Q. How do you recommend that TOAEU's grid modernization program be leveraged**  
10 **for rate design and cost of service analysis going forward?**

11 A. I recommend that the Board direct TOAEU to:

- 12 • Propose at least one new advanced rate design, as well as modifications to or  
13 closure of the current Time-of-Day rate, within three years of completing its  
14 installation of advanced metering infrastructure;
- 15 • Use the customer usage data collected through advanced meters to propose  
16 changes to the General Service (<3 kW) class within three years of completing its  
17 installation of advanced metering infrastructure; and
- 18 • Use data from the advanced meters to develop new, data-driven allocators for any  
19 cost of service studies conducted 12 months or more following the installation of  
20 advanced metering infrastructure.

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<sup>20</sup> TOAEU Response to Synapse Request IR-14.



1     **V. COST OF SERVICE METHODOLOGIES**

2     **Q. What is the purpose of a cost-of-service study?**

3     A. A cost-of-service study is used to assign the utility's revenue requirement to each  
4     customer or rate class in proportion to the costs imposed on the system by those  
5     customers. Thus, a cost-of-service study seeks to determine what costs are incurred to  
6     serve each class of customers.

7     **Q. Please provide an overview of TOAEU's cost of service study.**

8     A. TOAEU's cost of service study follows three standard steps. First, costs are  
9     functionalized by separating utility plant and expenses according to the primary functions  
10    served. Second, the functionalized rate base and operating costs are classified according  
11    to the primary cost drivers: the number of customers on the system (customer-related  
12    costs), the need to meet peak demand (demand-related costs), and the amount of  
13    electricity consumed (energy-related costs). Finally, the costs are either directly assigned  
14    to customers or allocated using cost allocation factors based on class non-coincident and  
15    coincident demand, energy consumption, and number of customers. The ratio between  
16    each class's revenues and allocated costs (the revenue-to-cost ratio) provides a guide for  
17    determining changes in revenue and rates for each class.

18    **Q. Do you have any concerns regarding TOAEU's cost of service methodology?**

19    A. Yes. My primary concern is that TOAEU's methodology assumes a 30 percent  
20    customer/70 percent demand split for classifying portions of the primary and secondary

1 distribution system. TOAEU states that the classification methodologies are based on  
2 other Nova Scotia municipal utilities.<sup>21</sup>

3 As stated in my testimony regarding Matter 10810, these assumptions are based off the  
4 theory of a “minimum system.”<sup>22</sup> The minimum system method classifies costs by  
5 estimating the cost of building from scratch a hypothetical system employing the smallest  
6 size components typically installed, and then deeming those costs to be customer related.  
7 As I describe below, the minimum system methodology suffers from numerous flaws.

8 **Q. Please explain your concerns with the minimum system method.**

9 A. The minimum system method calculates the minimum size for each distribution plant  
10 type (e.g., poles and fixtures, conductors, transformers), and then classifies these costs as  
11 customer-related, while the remaining costs for each plant type are classified as demand-  
12 related. This approach is at odds with the definition of customer-related costs found in the  
13 widely-cited text, *Principles of Public Utility Rates* by Professor James Bonbright.<sup>23</sup>  
14 Professor Bonbright defines customer costs as the “operating and capital costs found to  
15 vary with number of customers regardless, or almost regardless, of power  
16 consumption.”<sup>24</sup> The costs associated with portions of the primary and secondary

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<sup>21</sup> TOAEU Rate Study, p. 22.

<sup>22</sup> Melissa Whited, Evidence of Melissa Whited On Behalf of Counsel of Nova Scotia Utility and Review Board In the Matter of an Application by Riverport Electric Light Commission for Approval of Amendments to its Schedules of Rates and Charges for the provision of electric supply and services to its customers and its Schedule of Rules and Regulations, NSUARB M10810, p. 6.

<sup>23</sup> James Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961).

<sup>24</sup> *Id.*, p. 347.

1 distribution system are primarily driven by the need to serve demand on the system, and  
2 thus it is not appropriate to classify these costs as customer-related.

3 **Q. Why do some utilities propose to classify portions of the primary and secondary**  
4 **distribution system as partially customer-related?**

5 A. Professor Bonbright notes that the argument for classifying costs associated with a  
6 hypothetical “minimum system” as customer-related is that these costs vary with the area  
7 of the distribution system, and thus indirectly with the number of customers.<sup>25</sup> However,  
8 Bonbright argues that there is actually a “very weak correlation between the area (or the  
9 mileage) of a distribution system and the number of customers served by this system,”  
10 given that in many cases an increase in customers does not require an expansion of the  
11 distribution system.

12 **Q. Are there other reasons why it is generally inappropriate to use the minimum**  
13 **system method?**

14 A. Yes. Additional shortcomings of the minimum system method have been widely  
15 documented. For example, multiple pages in the Regulatory Assistance Project’s 2020  
16 manual *Electric Cost Allocation for a New Era* are devoted to examining the flaws of the  
17 minimum system method. Key critiques of the minimum system method from the RAP  
18 manual include the following:<sup>26</sup>

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<sup>25</sup> *Ibid.*

<sup>26</sup> Jim Lazar, Paul Chernick, and William Marcus, “Electric Cost Allocation for a New Era: A Manual” (Regulatory Assistance Project, 2020), 145–49, <https://www.raponline.org/wp-content/uploads/2023/09/rap-lazar-chernick-marcus-lebel-electric-cost-allocation-new-era-2020-january.pdf> .

- 1           1) The hypothetical “minimum system,” used as the basis for this cost allocation  
2           method, still has the ability to serve some load—often a large portion of a typical  
3           residential customer’s load.
- 4           2) A large portion of the cost of the distribution system (e.g., the number of poles  
5           and length of conductors) is driven by the size of the territory served, rather than  
6           the number of customers.
- 7           3) The minimum system method generally uses commonly installed minimum sizes,  
8           rather than the smallest equipment ever used, currently in use, or that could be  
9           used. However, a key reason for using larger equipment is due to higher customer  
10          demands, and thus the minimum size currently in use does not represent the true  
11          minimum that would be required for a hypothetical minimum system.
- 12          4) The hypothetical minimum system is assumed to have the same number of units  
13          (number of poles, feet of conductors, etc.) as the actual system. In reality, both the  
14          size of equipment and the number of units is often driven in part by load.

15          The manual concludes that the “minimum system analysis does not provide a reliable  
16          basis for classifying distribution investment and vastly overstates the portion of  
17          distribution that is customer-related.”<sup>27</sup>

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<sup>27</sup> Lazar, Chernick, and Marcus, 146.

1 **Q What method do you recommend using instead of the minimum system?**

2 **A** I recommend using the basic customer method. Under this method, only the meter,  
3 service drop, and billing/collection costs would generally be classified as customer-  
4 related. These are those costs that increase or decrease with the number of customers on  
5 the system. Further, as stated by the Regulatory Assistance Project’s manual, the “basic  
6 customer method for classification is by far the most equitable solution for the vast  
7 majority of utilities.”<sup>28</sup>

8 **Q. Is the basic customer method used by other jurisdictions?**

9 **A.** Yes. The Regulatory Assistance Project’s manual notes that the basic customer method is  
10 currently used by jurisdictions across the United States, including Arkansas, California,  
11 Colorado, Illinois, Iowa, Massachusetts, Texas, and Washington.<sup>29</sup> I note that it is also  
12 mandatory in Alaska.

13 **Q. Do you recommend that the Board reject TOAEU’s use of a 30 percent customer/70**  
14 **percent demand split for classifying portions of the primary and secondary**  
15 **distribution system?**

16 **A.** Not necessarily. I recognize that the Board has previously stated that “there is value in  
17 ensuring some underlying consistency in the costing methodologies used amongst local  
18 electrical utilities, especially the smaller municipal utilities,” and that the Board  
19 anticipates that this issue may be one that is more thoroughly considered in Nova Scotia  
20 when NS Power completes its next cost of service study.<sup>30</sup> Thus, I recommend that the

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<sup>28</sup> Lazar, Chernick, and Marcus, “Electric Cost Allocation for a New Era: A Manual,” 145.

<sup>29</sup> Lazar, Chernick, and Marcus, 145.

<sup>30</sup> Board Decision in Riverport Electric Cooperative GRA, April 28, 2023, at Ordering Paragraph 90.

1 Board direct TOAEU to file a cost of service study utilizing the Basic Customer Method  
2 instead of or in addition to its current method in its next GRA, or follow any subsequent  
3 guidance from the Board following further exploration of this issue.

4 **Q. Does this conclude your evidence?**

5 A. Yes, it does.