

NOVA SCOTIA UTILITY AND REVIEW BOARD**IN THE MATTER OF: THE PUBLIC UTILITIES ACT****- and -****IN THE MATTER OF: AN APPLICATION by EfficiencyOne** for Approval of the 2020-2022 Supply Agreement for Electricity Efficiency and Conservation Activities between EfficiencyOne and Nova Scotia Power Inc., the establishment of a final agreement between the parties, and approval of a 2020-2022 Demand Side Management (DSM) Resource Plan.**NON-CONFIDENTIAL INFORMATION REQUESTS**

1 **To:** **EfficiencyOne**
 c/o James R. Gogan
 The Breton Law Group
 By email: jim@bretonlawgroup.com

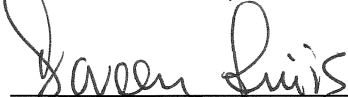
From: Synapse Energy Economics, Inc.
 Board Counsel Consultant

Responses Due: **Monday, May 13, 2019**

Copies: 1 electronic copy – pdf searchable
 4 hard copies

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Doreen Friis, Regulatory Affairs Office, Clerk

- 1 **Request IR-1:** Please describe how EfficiencyOne proposes to recover the costs of its proposed
2 programs.
- 3 a. Over what time period would costs be recovered?
- 4 b. How would costs be allocated to different rate classes?
- 5 c. Please describe the current process for recovering EfficiencyOne's DSM
6 expenses.
- 7 d. Refer to page 30 of NS Power's evidence, regarding its proposal to recover DSM
8 expenses through the FAM charge. Please describe how this change would
9 impact program budgeting and operations, if at all.
- 10 **Request IR-2:** Please refer to EfficiencyOne's evidence, page 11, lines 11 to 25.
- 11 a. Have there been any changes to the energy landscape in Nova Scotia since 2014
12 that would likely impact avoided costs?
- 13 b. Would EfficiencyOne expect an updated integrated resource plan to correspond
14 to an increase or decrease in Plan benefits? Why or why not?
- 15 **Request IR-3:** Please refer to EfficiencyOne's evidence, page 16, lines 26 to 30. What
16 constrains EfficiencyOne from "turning [DSM] on or off on a short-term basis" (e.g.,
17 contractual or operational constraints)? Please provide examples.
- 18 **Request IR-4:** Please refer to EfficiencyOne's evidence, page 34, line 11 to page 35, line 2.
- 19 a. Please describe EfficiencyOne's process for identifying pilots and criteria for
20 determining whether to proceed with pilots.
- 21 b. Does EfficiencyOne expect to modify its programs during the plan period to take
22 advantage of installed AMI? If so, when and how? If not, why not?
- 23 **Request IR-5:** Please refer to EfficiencyOne's evidence, page 35, lines 4 to 25.
- 24 a. Please provide reports, documents, or analyses related to the four cost
25 management strategies.
- 26 b. Does EfficiencyOne have a policy on procurement of goods and services? If so,
27 please provide related documentation. If not, why not?
- 28 **Request IR-6:** Please refer to EfficiencyOne's evidence, page 44. For the purposes of the rate
29 and bill impact analysis, does EfficiencyOne assume that the HST savings are used to reduce
30 collections from ratepayers? If HST savings are not used to reduce collections from
31 ratepayers, what would the rate and bill impacts associated with the preferred and
32 alternate plans be? How do the rate impacts from a scenario in which the HST savings are

not used to fund DSM differ from a scenario in which the HST savings are used for funding DSM?

Request IR-7: Refer to EfficiencyOne's evidence, page 57, line 1 to page 58, line 2. When does EfficiencyOne propose to address the GHG and CO2 issues with the DSMAG?

Request IR-8: Refer to EfficiencyOne's evidence, page 60, lines 9 to 12. Are water savings included in a) the Preferred Plan and b) the Alternate Plan? If yes, for each plan please indicate how these benefits are calculated, including algorithms and formulas, assumptions, and data sources. If no, please explain why reductions in water use are not included as benefits. Please provide any and all related reports, documents or workpapers associated with these benefits.

Request IR-9: Refer to EfficiencyOne's evidence, page 60, lines 9 to 12. Are benefits for non-electric energy savings, such as propane, oil, and gas, included in a) the Preferred Plan and b) the Alternate Plan? If yes, for each plan please indicate how these benefits are calculated, including algorithms and formulas, assumptions, and data sources. If no, please explain why reductions in non-electric energy use are not included as benefits. Please provide any and all related reports, documents or workpapers associated with these benefits.

Request IR-10: Please refer to Table 2 on page 13 of Attachment A of the 2020 through 2022 DSM Plan, and Table 1 on page 3 of Attachment A of the 2019 DSM Plan (M08604).

- a. Considering the actual performance of the 2018 portfolio and the year-to-date performance of the 2019 portfolio, does EfficiencyOne consider the increase in investment levels between 2019 and 2020 to be a steep ramp up?
- b. Please explain why EfficiencyOne proposes to increase investment levels by \$7.8 million between 2019 and 2020, but by only \$2 million between 2020 and 2022.
- c. Did EfficiencyOne consider a smoother ramp up across the four years? If not, why not?

Request IR-11: Refer to Tables 9, 12, 14, 18, 21, and 24 in Appendix A of the 2020 through 2022 DSM Plan.

- a. Are the performance indicators listed in the Tables for first year energy savings, peak demand savings, and lifetime energy savings in the table equivalent to the performance targets described on page 94 of Appendix A? If not, what are the values of the performance targets for i) cumulative annual energy savings, ii) cumulative annual system-peak demand savings, and iii) cumulative lifetime energy savings for each of the programs? Please provide the targets by program for the Preferred Plan and the Alternate Plan.
- b. Has EfficiencyOne developed a "stretch" alternate scenario to explore a more ambitious course than the Preferred Scenario? If not, why not? If yes, please provide the following information for the stretch scenario:

- i. Investment (\$ million)
- ii. Lifetime benefits (\$ million)
- iii. First-year energy savings (GWh)
- iv. Lifetime energy savings (GWh)
- v. Weighted-average measure life (years)
- vi. Peak demand savings (MW)
- vii. Total Resource Cost Test (TRC)
- viii. Program Administrator Cost Test (PAC)

Request IR-12: Please provide a break out of Investment, Incremental Annual Net Energy Savings at the Generator, Lifetime Net Energy Savings at the Generator, Incremental Annual Net Demand Savings at the Generator, First Year Unit Cost, Lifetime Unit Cost, Incremental Avoided CO₂ Emissions, and Lifetime benefits by year and by end use for each program, sector and in total for:

- a. 2020 through 2022 planned values for the Preferred Plan.
- b. 2020 through 2022 planned values for the Alternate Plan.
- c. 2018 actuals.

Request IR-13: Please refer to Appendix A. Please describe any changes to any of following for each program and subprogram since the 2019 Plan:

- a. Incentive design, basis, and/or formulas
- b. Focus on early retirement or replace on burnout
- c. Covered measures or measure types
- d. Customer eligibility requirements
- e. Target customer segments and market segments
- f. Market barriers and how the program designs address those barriers
- g. Marketing strategies

Request IR-14: Please refer to Appendix A. For each of the programs included in the 2020-2022 Plan, please provide the annual costs broken out in detail, using the cost tracking categories used by EfficiencyOne or the following cost categories for the Preferred Plan and the Alternate Plan:

- 1 a. General administration and program development;
- 2 b. Customer incentive costs, including rebates, grants, energy audits, direct install
- 3 labor costs, technical assessments and financing interest buy down costs;
- 4 c. Marketing, sales, call centers, website;
- 5 d. Training;
- 6 e. Inspections and quality control;
- 7 f. Evaluation, monitoring, measurement, and verification;
- 8 g. Participant cost

9 **Request IR-15:** Refer to Chapter 6 of Appendix A on Enabling Strategies.

- 10 a. Page 80, rows 16 through 18 of Attachment A, state, “these activities will:
- 11 support the evolution of DSM programs and future DSM Resource Plans via
- 12 research and development initiatives.” Are the full costs EfficiencyOne expects
- 13 to incur related to the development and filing of the subsequent DSM resource
- 14 plan included in Development and Research? If not, which budget category are
- 15 those costs allocated to? Please provide the planned investment related to the
- 16 development and filing of the subsequent plan in the Preferred Plan and the
- 17 Alternate Plan.
- 18 b. Please provide a table including the planned investment and planned savings (if
- 19 any) broken out by each program year and Enabling Strategies category
- 20 (Education and Outreach, Development and Research, and Other Enabling
- 21 Strategies) in the Preferred Plan and the Alternate Plan.

22 **Request IR-16:** Referring to rows 20 through 27 on page 81 and rows 1-15 on page 82 of

23 Appendix A, for each of the following new initiatives, please indicate when more

24 information will be available regarding the roll out, when it is projected to start, when

25 results will be available, and what criteria will be used for assessing success. Please also

26 describe any limitations or obstacles that may interfere with implementation. Also, please

27 elaborate on any differences between the Preferred Plan and the Alternate Plan if

28 applicable.

- 29 a. Researching and testing service delivery approaches
- 30 b. Exploring opportunities to help businesses manage and reduce demand costs
- 31 c. Exploring net-zero (or near net zero) options for existing residential
- 32 d. Exploring new service delivery approaches for homes and businesses

- e. Researching and testing the use of Advanced Metering Infrastructure (AMI)
- f. Developing more customized offering based on electricity patterns and load shapes
- g. Determining potential for cost reduction
- h. Continuing support of the Locational-DSM Pilot

Request IR-17: Please refer page 81 of Appendix A. Please provide descriptions of the technologies or approaches that may be implemented as pilots during the Plan period to:

- a. Make delivery of savings easier
- b. Use customer energy usage data
- c. Enhance service delivery

Request IR-18: Please refer to Appendix A, pages 82 to 84, regarding the Efficiency Trade Network. How often does EfficiencyOne communicate with members? Who sponsors the training sessions? What topics are covered in training sessions?

Request IR-19: Please refer to Appendix A. To what extent has early replacement been included in the 2020-2022 Plan? Which programs are designed to achieve early replacement? Please elaborate on any differences between the Preferred Plan and the Alternate Plan if applicable.

Request IR-20: Please refer to lines 14-15 on page 8 of 103 of Appendix A to NSPI's evidence, regarding naturally occurring energy efficiency. Please provide EfficiencyOne's definition for free-ridership, including clarification as to whether naturally occurring energy efficiency is included.

Request IR-21: Refer to Table 6 on page 19 and Table 12 on page 53 of Appendix A to NSPI's evidence.

- a. Does EfficiencyOne plan to include fuel switching measures in the 2020-2022 Plan?
- b. If the answer to Question part a) above is yes, please indicate:
 - i. which programs include these measures
 - ii. what the measures are
 - iii. what fuels EfficiencyOne anticipates the measures will replace
 - iv. Avoided fuel consumption

- v. EfficiencyOne's proposed incentives
 - vi. Eligibility requirements
 - vii. Number of participants anticipated to switch
 - viii. Increased electricity consumption and revenues due to fuel switching
 - ix. Whether the expected increased revenues are included in its RBIA
- c. If the answer to Question part a) above is no, have fuel switching measures been considered? If no, why not?
- d. Please provide any and all related reports, documents or workpapers associated with these measures. Please elaborate on any differences between the Preferred Plan and the Alternate Plan if applicable.

Request IR-22: Please refer to Appendix A, pages 86 to 87.

- a. Does EfficiencyOne plan to conduct any studies other than impact evaluations over the period of the 2020-2022 Plan?
- b. Please provide an evaluation plan, indicating the type of study (e.g., process evaluation, saturation/baseline, participation, benchmarking, potential), schedule for conducting it, focus (e.g., sector, program, end use), need for the study, and rationale for the proposed timing.

Request IR-23: Please refer to Table 11 of Appendix A and EfficiencyOne's response to NSPI's IR-22.

- a. Please describe how low-income participation is calculated in Table 11.
- b. How are low-income multifamily buildings and units defined and verified?

Request IR-24: Please refer to Attachment 1 of EfficiencyOne's response to NSPI IR-30.

- a. Please refer to the "Per Unit Program Administrative Cost" input (Column L). Please describe what is included in the administrative cost input. Are all costs associated evaluation, measurement, verification and program delivery captured through this input? If not, why not?
- b. Please refer to calculations for the "Net Total Resource Benefit-Cost Ratio (TRC)" (Column U) and the "Total Avoided Cost Benefits" (Column AK). Please explain why these formulas are calculated using the "Per Unit Present Value Non-Energy Benefits" (Variable "H") rather than the "Total Per Unit Present Value Benefits" (Variable "J").

Request IR-25: Please refer to Appendix A pages 14 through 16 and Appendix C pages 2 through 4. Throughout the 3 Plan years, planned savings between the Preferred Plan and the Alternate Plan differ by 10 percent to 17 percent for the three residential programs, however planned savings between the two plans differ by 20 percent to 28 percent for low-income participants. Please explain why low-income customers see a proportionally higher reduction in savings in the Alternate Plan.

Request IR-26: Refer to Page 9 of 37 of Appendix B, which states: “measures installed in 2022 (the last year of the DSM delivery period) have an average measure life of approximately 14 years at the portfolio level, so the avoided costs period is 2020-2035.”

- a. How does E1 assume energy savings decay over time in its analysis? Does it assume different measure life values by program or by measure?
- b. What is the maximum measure life?
- c. What is the minimum measure life?
- d. What is the median measure life?
- e. What is the average measure life, by program?
- f. Does EfficiencyOne expect the analysis to substantially underestimate or overestimate the avoided costs because it does not include avoided costs after 2035? Please explain why.

Request IR-27: Refer to Page 1 of 37 of Appendix B, which states: “The analysis examines DSM effects in isolation of utility effects such as the specific timing of infrastructure upgrades or general rate applications, or the creation of rate stability periods.”

- a. How might utility effects affect the rate and bill impacts as estimated in these analyses? Would they have an upward or downward effect?
- b. Which specific utility effects are most likely to happen during the current RBIA period, and have substantial impacts on the results of the RBIA?
- c. Can EfficiencyOne conduct sensitivities that include a sample of utility effects? Does EfficiencyOne expect that such a sensitivity would provide useful information? Why or why not?

Request IR-28: Refer to Footnote 2 on Page 3 of 37 of Appendix B, which states that the analysis “assumes an average consumer discount rate of 3 percent.” What is the discount rate based on?

Request IR-29: Refer to Page 6 of 37 of Appendix B, which states that the “annual avoided [energy] costs in this model are from the 2014 IRP.”

- 1 a. Does EfficiencyOne expect current avoided energy costs to be different from the
2 avoided costs included in the 2014 IRP? If so, please explain the basis for this
3 expectation.
- 4 b. In what direction does EfficiencyOne expect current avoided energy costs to be
5 different from the avoided costs included in the 2014 IRP?
- 6 c. What magnitude does EfficiencyOne expect current avoided energy costs to be
7 different from the avoided costs included in the 2014 IRP?
- 8 d. Has EfficiencyOne considered how a difference in the avoided energy costs
9 would impact the results of the RBIA? If so, please describe any related analysis
10 or results. If not, why not?

11 **Request IR-30:** Refer to Page 6 of 37 of Appendix B, which states: "EfficiencyOne adopted a
12 recommendation to levelize the annual avoided capacity costs from the 2014 IRP over the RBIA
13 study period."

- 14 a. Does EfficiencyOne expect current avoided capacity costs to be different from
15 the avoided capacity costs included in the 2014 IRP? If so, please explain the
16 basis for this expectation.
- 17 b. In what direction does EfficiencyOne expect current avoided capacity costs to be
18 different from the avoided costs included in the 2014 IRP?
- 19 c. What magnitude does EfficiencyOne expect current avoided capacity costs to be
20 different from the avoided costs included in the 2014 IRP?
- 21 d. Has EfficiencyOne considered how a difference in the avoided capacity costs
22 would impact the results of the RBIA? If so, please describe any related analysis
23 or results. If not, why not?

24 **Request IR-31:** Refer to Page 6 of 37 of Appendix B, which states that EfficiencyOne applies "a
25 conservative escalation rate of 2.0 percent per year" to its avoided transmission and distribution
26 costs. What is this escalation rate based on?

27 **Request IR-32:** Refer to Page 10 of 37 of Appendix B, Table 1. Are the values in dollars per MW per year
28 for the following avoided costs: (a) capacity, (b) transmission, and (c) distribution? If not, please
29 identify the units.

30 **Request IR-33:** Refer to Page 10 of 37 of Appendix B, which states: "There remains considerable
31 uncertainty regarding the avoided T&D cost estimates; it has been suggested that the actual avoided
32 T&D values may be in the range of thirty to one hundred times the values provided by NS Power."

- 33 a. Please provide all data sources and documentation on the actual avoided T&D
34 values that EfficiencyOne is aware of.

Request IR-34: Refer to Section 3.7.1 (No-DSM Scenario Rates) on Page 11 of 37 of Appendix B.

a. How was the “approximate Program Cost Recovery amount” calculated for 2019?

b. On what is the “demand rate escalation factor of 2.7 percent” based?

c. Is the 2.7 escalation factor adjusted for inflation rates?

Request IR-35: Refer to Page 12 of 37 of Appendix B, which states that “the planned investments within each program component were allocated to rate classes according to the distribution of actual 2017 expenditures by rate class.”

a. Please explain why 2018 expenditure data are not used.

b. When will 2018 expenditure data become available?

Request IR-36: Refer to Page 13 of 37 of Appendix B, which states: “EfficiencyOne allocated the 2020-2022 energy and system-peak demand savings modelled by Navigant at the program component level to rate classes according to the distribution of actual 2017 energy and system-peak demand savings within each program component.” When will the actual 2018 energy and system-peak demand savings become available?

Request IR-37: Refer to Page 15 of 37 of Appendix B, which states: “EfficiencyOne has estimated 2020-2022 participation figures based on actual participation records from 2017 (the most recent year for which EfficiencyOne has integrated participant records with previous years).” When will participation records from 2018 be integrated with previous years?

Request IR-38: Refer to Page 19 of 37 of Appendix B, which states: “Note that these 2020-2022 impacts, in the range of three to seven percent, are calculated relative to a scenario where there are no DSM costs; these impacts are not additional to 2019 rates which include DSM costs.” Please also provide impacts relative to 2019 rates which include DSM costs.

Request IR-39: Please refer to Page 1 of Appendix B. Why does EfficiencyOne exclude Unmetered customers from the analysis?

Request IR-40: Refer to the Appendix B workbooks, “Attribution” tab. Why does the model estimate total lost revenues and total avoided costs for all customers together, and then reallocate these lost revenues and avoided costs to each rate class based on historical revenue shares by rate class?

Request IR-41: Refer to the Appendix B workbooks, “R-Savings” tab. Why does the model assume an average measure life as the shape of the decay schedule, rather than a realistic, gradual decay of savings from day 1 and extending beyond the average measure life?

Request IR-42: Refer to Page 33 of NS Power’s evidence, which states: “As proposed by NS Power in its comments on the 2016 RBIA report, the effect of fuel cost savings should be determined and shown separately from fixed cost savings or losses. This means that the difference between the lost revenues and avoided costs should be further broken down by the fuel and fixed components for each class. This would improve the accuracy of the RBIA

1 results, reflecting the fact that cost causation varies between rate classes for fuel
2 consumption and their use of fixed infrastructure.” What is the impact of this proposal on
3 the complexity of the modeling? Does EfficiencyOne have other concerns regarding this
4 proposal?

5 **Request IR-43:** Please refer to the Direct Testimony of David Hill, PhD, Appendix D, page 24 line
6 17 to page 25 line 12, regarding the historical benefits that lighting efficiency has had in
7 terms of enabling offerings to low income customers and as an entry point for programs.
8 Given the proposed reduction in lighting savings as a proportion of EfficiencyOne’s portfolio,
9 has EfficiencyOne adopted its outreach, marketing, and program delivery strategies to
10 ensure that hard to reach customers are engaged? If so, how? If not, why not?

11 **Request IR-44:** Please refer to the Direct Testimony of David Hill, PhD, Appendix D, page 31 line
12 18 to 26 and page 32 line 7 to 14. How does bundling connected controls with lighting
13 measures impact the cost of saved energy?

14 **Request IR-45:** Please refer to the Direct Testimony of David Hill, PhD, Appendix D, page 33 to
15 36. How is the experience in Canada in general and in Nova Scotia in particular likely to
16 differ from the projections for the U.S. shown in Figures 19, 20, 21, and 22?

17 **Request IR-46:** Please refer to the Direct Testimony of David Hill, PhD, Appendix D, page 37.
18 Please characterize the cost of saved energy by end use for Efficiency Vermont’s portfolio,
19 by year, for as many years for which actual DSM results and projections from DSM plans are
20 available.

21 **Request IR-47:** Please refer to the Direct Evidence of Glenn Reed, Appendix E, pages 7 to 9.

22 a. Did Mr. Reed consider climate in the benchmarking analysis? If so, how? If not,
23 why not?

24 b. Did Mr. Reed consider the extent to which the portfolio targets demand
25 reduction in the benchmarking analysis? If so, how? If not, why not?

26 c. Other than by limiting the analysis to savings projections (rather than historical
27 performance), did Mr. Reed consider the extent to which the portfolio targets
28 lighting savings in the benchmarking analysis? If so, how? If not, why not?

29 d. Please characterize, quantitatively to the extent possible, how the chosen
30 program administrators compare with EfficiencyOne in terms of the 10 factors
31 listed on page 8, line 9 through page 9, line 12.