

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF: THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF: An Application by EFFICIENCYONE (E1) to the Nova Scotia Utility and Review Board for Approval of a Supply Agreement for Electricity Efficiency and Conservation Activities between E1 and Nova Scotia Power Inc. (NS Power), the establishment of a final agreement between the parties, and approval of a 2023-2025 Demand Side Management (DSM) Resource Plan

NON-CONFIDENTIAL INFORMATION REQUESTS

To: **EfficiencyOne**
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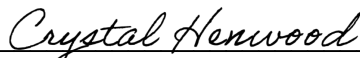
From: **Nova Scotia Utility and Review Board**
Board Staff

Responses Due: **Friday, April 29, 2022**

Copies: 1 electronic copy (PDF searchable)

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Crystal Henwood, Regulatory Affairs Officer/Clerk

Request IR-1:

On p. 2 of 4 in the transmittal letter of March 11, 2022, E1 states that “The proposed energy and demand targets identified in the Plan will direct energy savings closer to optimal IRP levels”.

- a) This statement begins by referencing both energy and demand, but ends by only comparing energy savings, not both energy and demand. Please explain.
- b) What are the “optimal IRP levels” and what are the DSM Plan shortfalls in comparison to those optimal levels?
- c) Does E1 accept that the IRP is not a prescriptive document but is a strategic guide for long-term resource requirements?
- d) Given that the IRP is not prescriptive, please explain why the DSM Plan places so much emphasis on matching the IRP?

Request IR-2:

On p. 4 of 65, E1 stated that the Settlement Plan will “create favorable market conditions for the increased adoption of energy efficient and system-peak demand reduction equipment and upgrades”. Please elaborate on how those favorable market conditions will be created by the Settlement Plan.

Request IR-3:

Page 8 of 65 of the Application references the “lessons learned” from the Covid-19 Pandemic. Please describe these lessons learned and explain how they are implemented into the 2023-25 DSM plan.

Request IR-4:

On p. 10 of 65, E1 stated that the proposed energy savings of 412.7 GWh reflects about 1.2% of NS Power’s load at the generator.

- a) Please provide a similar comparison of peak demand savings.
- b) Please explain whether E1 considers that its mandate requires greater (or equal) emphasis be placed on energy savings or on peak demand savings, and explain how this is addressed in its 2023-2025 DSM Plan.

Request IR-5:

Referencing p. 10 of 65, E1 stated that the DSM initiatives in the Settlement Plan have an average first year unit cost of \$0.39/kWh.

- 1 a) Please provide a table showing the proposed and actual average first year unit costs for
2 each of the past 10 years and explain the factors contributing to year-over-year changes,
3 as well as changes between proposed and actuals.
4

5 **Request IR-6:**

6 Referencing Table 1 and footnotes on p. 11 of 65, E1 stated that DR only includes E1's required
7 investments but it recognizes that NS Power investments will also be required.

- 8 a) Since the TRC test is meant to include all costs, is it valid to say that the TRC values
9 presented in Table 1 are not accurate?
- 10 b) Has there been any attempt to identify NS Power's DR costs? If not, why not?
- 11 c) Table 1 shows unique peak demand savings associated with each specific year but the
12 Available DR Capacity column appears to build on the previous year's results. Please
13 confirm.
- 14 d) If confirmed, please explain whether the costs used in calculating the TRC ratios for 2024
15 and 2025 include only incremental DR costs associated with the incremental capacity
16 increases for those years.
- 17 e) Please explain what accounts for the decline in Measure Life from 12.4 years in the 2023
18 initiatives to 10.8 years in the 2024 initiatives.
19

20 **Request IR-7:**

21 Page 13 of 65 of the Application notes that the 2023-25 DSM plan has applied a design objective
22 of increased investment in development and research specifically targeting innovation.

- 23 a) Please describe the specific innovation that these development and research initiatives
24 are targeting.
- 25 b) How much spending is included in the 2023-25 DSM for 2023, 2024 and 2025 related to
26 research and development initiatives.
- 27 c) Please outlining the expected energy, demand reduction and cost of carbon dollar savings
28 resulting for these research and development initiatives in 2023, 2024, 2025 and over their
29 expected lifetimes.
30

31 **Request IR-8:**

32 Page 13 of 65 of the Application notes that the 2023-25 DSM plan has applied as design objective
33 of increased diversity of energy and demand savings. Please describe this increased diversity
34 compared to E1's 2020-22 DSM Resource plan.

1
2 **Request IR-9:**

3 Referencing p. 14 of 65,

- 4 a) Please explain the “focused initiatives” in the Settlement Plan regarding “non-electric
5 qualitative benefits” and how that aligns with electricity ratepayer funded DSM.
6 b) Please explain why non-electric benefits should be the focus of the DSM Plan when the
7 Board previously stated in M08888 that it did not have jurisdiction to take non-energy
8 impacts into account in cost-effectiveness testing.
9

10 **Request IR-10:**

11 Page 15 of 65 of the Application notes that E1 has completed benchmarking to ensure its costs
12 are aligned with other similar industries and organizations. Please provide copies of any such
13 benchmarking studies completed by E1 since April 21, 2020.
14

15 **Request IR-11:**

16 Page 15 of 65 of the Application notes that E1 has conducted third-party independent audits and
17 reviews to ensure that the organization’s key controls are operating effectively and that the
18 reporting of financial and energy savings results are accurate. Please provide copies of these
19 reviews and audits.
20

21 **Request IR-12:**

22 Page 15 of 65 of the Application notes that E1 is taking a strategic approach to process
23 improvement with the implementation of an “industry leading methodology” to maximize cost-
24 effectiveness.

- 25 a) Please confirm that this methodology is use of the TRC and PAC Test.
26 i. If not confirmed, please describe the methodology.
27 b) Please explain how this methodology has led to E1 “process improvement”.
28

29 **Request IR-13:**

30 Page 16 of 65 of the Application - Avoided Costs:

- 31 a) Please explain why the avoided costs of energy and capacity are 30% and 41% lower,
32 respectively, than in the 2014 IRP.
33

34 **Request IR-14:**

1 On p. 17 of 65, E1 stated that it has expanded investment in programs that target low income
2 customers such that low income investment amounts to 21% of the total investment.

3 a) Please provide the actual amount of low income investments in each year from 2012 to
4 2021 inclusive, as well as the percentage of total investment.

5 b) Please explain E1's involvement, and any coordinated effort, in the low income initiatives
6 undertaken within the \$37 million, 10-year funding contribution provided by NS Power's
7 shareholder. If known, please provide the annual amount of spending under that program.
8

9 **Request IR-15:**

10 On p. 21 of 65, E1 stated that "The additional non-electric fuel cost and reduced water cost are
11 considered in the TRC and PAC calculations." Please explain how that comports with the Board
12 Decision in Matter M08888 [2020 NSUARB 56] which stated, "The Board does not have the
13 jurisdiction to take into account non-energy impacts in cost-effectiveness testing."
14

15 **Request IR-16:**

16 On p. 34 of 65, E1 compares NS Power's 2021 fuel cost of \$0.075/kWh to the DSM lifetime unit
17 cost of \$0.035/kWh and states that DSM cost is less than the average cost of fuel by \$0.039/kWh.
18 However, Table 4 on page 35 shows the 2021 cost difference as \$0.052/kWh. Please explain
19 why those values are different.
20

21 **Request IR-17:**

22 On p. 37 or 65, E1 stated that Massachusetts, Vermont, and Maine are the most direct
23 comparisons to Nova Scotia on the basis of climate, heating and cooling cycles, and fuel sources.

24 a) Please provide details of those specific comparators.

25 b) Please provide details comparing number of customers, peak demand, annual energy,
26 and annual electricity revenue.

27 c) Please provide a breakdown of generation/imports by resource type for each of those
28 jurisdictions in comparison to Nova Scotia.

29 d) Please indicate whether the electricity efficiency programs in those jurisdictions are fully
30 funded by electricity ratepayers. If not, please explain any external funding sources.

31 e) Please explain whether those states are required to meet legislated requirements similar
32 to NS Power regarding renewable electricity as a percent of sales and the elimination of
33 coal-fired generation plants.
34

Request IR-18:

Page 38 of 65 of the Application:

- a) Please explain how E1 plans to move directionally towards an Energy Savings as a % of NS Power's Electricity Generation that is more aligned with its peers noted in the 2020 State and Energy Efficiency Scorecard.
- b) How does E1's 2023-25 DSM Settlement Plan Energy Savings as a % of NS Power's Electricity Generation compare with other Canadian Electric Utilities' utility-sector energy efficiency programs?

Request IR-19:

Page 39 of 65 of the Application:

- a) Please explain how E1 plans to move directionally towards an Electric Efficiency Spending as a % of NS Power's Annual Revenue that is more aligned with its peers noted in the 2020 State and Energy Efficiency Scorecard.
- b) How does E1's 2023-25 DSM Settlement Plan Electric Efficiency Spending as a % of NS Power's Annual Revenue compare with other Canadian Electric Utilities' utility-sector energy efficiency programs?

Request IR-20:

On p. 41 of 65, E1 stated that the Settlement Plan "proposes an increase in DSM investment that is critical to counteracting lower investment levels of previous years".

- a) Please provide a table showing the Board approved DSM spending levels and E1's actual spending levels for each year since 2012.
- b) Recognizing that previous DSM approved spending levels were the result of public proceedings or legislated restrictions, please explain why E1 considers that it is critical to counteract those approved levels which were determined to be in the best interest of ratepayers at those times.

Request IR-21:

Referencing Figure 5 on page 41 and Figure 11 on page 50,

- a) Please provide a table which shows the Board approved GWh and investment level for 2020 to 2022, E1's preferred plan GWh and investment level for 2023 to 2025, E1's alternate plan GWh and investment level for 2023 to 2025, as well as the 2014 and 2020 IRP reference plan GWh and investment levels from 2020 to 2028.

b) Please also provide a chart which graphically displays all of this data.

Request IR-22:

On p. 42 of 65, Figure 6 notes proposed 2023 spending of \$1.1 million for "Re-introduction of Behaviour". Tables 11 and 12 in Appendix A show a further spending of \$2.2 million in each of years 2024 and 2025.

a) Given that this is labelled as a "re-introduction", please explain how this proposed program aligns or differs from the any previous "behaviour" program.

b) How will success be measured?

Request IR-23:

Page 43 of 65 of the Application: please explain how the inclusion of the quantitative impacts of the avoidance of carbon emissions is consistent and specifically aligned with both provincial and federal legislative initiatives which have been introduced since the time of the last DSM Plan Application.

Request IR-24:

Page 43 of 65 of the Application states: "As noted earlier, given recent legislative and policy changes, coupled with the 2020 IRP study timeline, it is reasonable to assume that the IRP's avoided costs are now no longer reflective of the current or future energy landscape in this province. For the avoided costs of capacity and energy, E1 used 2020 IRP Reference Case Scenario 2.0C's outputs."

a) Please confirm that the proposed 2023-25 DSM plan is transitionally aligned with Scenario 2.0C of NS Power's 2020 IRP.

b) Please describe the potential impact of NS Power's January 2022 IRP Action Plan Update on E1's projected DSM energy, capacity and GHG emissions savings in 2023, 2024, 2025 and lifetime savings projections.

c) Please explain why E1 did not use 2020 IRP Reference case 3.1C or 3.2C, both of which involve 2030 retirement of NS Power's coal-fired generating facilities, to determine the avoided costs of capacity and energy.

d) What incremental DSM spending would be required in 2023, 2024 and 2025 to align E1's proposed 2023-25 DSM plan with the 2020 IRP 3.1C scenario?

e) What incremental DSM spending would be required in 2023, 2024 and 2025 to align E1's proposed 2023-25 DSM plan with the 2020 IRP 3.2C scenario?

Request IR-25:

Page 44-45 of 65 of the Application Table 7:

- a) Please provide an electronic copy (with all formulae intact) of the methodology used to calculate the "Carbon Savings Intensities (tonne/MWh)" noted in Table 7.
- b) Please provide a version of the table that compares IRP Scenario 3.1C with Base-DSM and with No-DSM.
- c) Please provide a version of the table that compares IRP Scenario 3.2C with Base-DSM and with No-DSM.

Request IR-26:

Referencing Table 8 on p. 51 of 65,

- a) Please explain whether the annual DSM costs are based on the actual E1 spending in those years or on the Board approved spending levels for those years.
- b) Please show how the DSM \$/kWh costs were derived.
- c) In its comparison of DSM costs to fuel costs, E1 used the average cost of fuel for each individual year and compared that against the "lifetime" cost of DSM, not the first-year cost that is actually being paid by ratepayers. Although the lifetime cost appears to spread the first-year cost over multiple years, essentially the equivalent to an amortized capital expenditure, the analysis does not carry over any of the "amortized" portion into subsequent years of the comparison. Could it not be argued that E1's analysis is skewed and does not represent an "out-of-pocket" dollar-to-dollar comparison?

Request IR-27:

On p. 55 of 65, E1 stated that it applied a design objective in its DSM plan to achieve 17% to 22% of total investment in low income support to align with census data regarding prevalence of low income in Nova Scotia.

- a) Has this same design objective been applied to both the preferred and alternate plans?
- b) In developing its DSM Plan to achieve the 17% to 22 % investment level, has E1 taken into consideration low income energy efficiency programs that are funded by other entities such as Emera/NS Power or the Province? If not, please explain.
- c) Please provide details and costs of all low income focused energy efficiency programs currently available in Nova Scotia.

1
2 **Request IR-28:**

3 On p. 58 or 65, E1 stated:

4
5 Under the Settlement Plan, an investment of \$10.0 million toward DR pilot programming is
6 included with increased annual spending of \$1.5 million, \$3.5 million, and \$5.0 million in
7 succession between 2023 and 2025.
8

- 9 a) Please clarify whether the proposed spending in 2023 is \$10.0 million or \$11.5 million.
10 b) What is the proposed spending in 2024 and 2025?
11

12 **Request IR-29:**

13 On p. 59 of 65, E1 stated that “the current benefits as examined through the DSM Plan
14 development process have indicated that the utility costs for DR programming outweigh the
15 benefits”.

- 16 a) Given that indication, please explain the rationale for allocating millions of dollars in the
17 DSM Plan for DR pilot programming.
18 b) E1 has requested that its DR portfolio be considered as a Performance Indicator. In
19 recognition of the large expenditure associated with this portfolio, shouldn't ratepayers be
20 able to hold E1 accountable for its performance by designating the DR portfolio as a
21 Performance Target?
22

23 **Request IR-30:**

24 Regarding Performance Targets, E1 currently only has two targets to satisfy. Those are
25 cumulative (3-year) annual energy savings and cumulative (3-year) annual peak demand savings.
26 The proposed 2023-2025 DSM Plan requests approval of \$173 million in cumulative expenditures,
27 ranging from \$53.1 million in 2023 to \$62.5 million in 2025. This is a substantial 57% increase
28 over the previous 3-year approval. On an annual basis it is about 70% greater than the annual
29 spending since 2016. Considering this large increase, the general concern about rates, and
30 ongoing emphasis on NS Power's annual performance, please explain why E1, as a mature
31 organization, should not be subjected to additional or annual performance targets.
32

33 **Request IR-31:**

1 Appendix A, page 32 of 149: please describe the modelling quality assurance process in more
2 detail. Within this response, please specially address how this process ensures accuracy in all
3 assumption and variables used in the DSM Plan modelling process.
4

5 **Request IR-32:**

6 Appendix A, page 34 of 149: please explain why the TRC calculation for Energy Efficiency
7 considers only the cost and benefits impact over the three-year DSM plan period, while for
8 Demand Reduction the cost and benefit impacts are levelized over a ten-year timeframe.
9

10 **Request IR-33:**

11 Appendix A, page 53 of 149: With respect to proposed Residential Programs and Services, E1
12 states: "E1 will evolve program and service offerings by taking advantage of new technologies
13 and customer data to achieve energy savings from larger, more complex projects that are often
14 more expensive to implement but produce higher, and longer lasting, energy savings."

15 a) Please describe the new technologies and customer data that E1 intends to achieve
16 energy savings from these larger and more complex projects.

17 b) Which of the proposed residential program components and services in the 2023-25 DSM
18 Plan are representative of these larger, more complex and more expensive projects?
19

20 **Request IR-34:**

21 Appendix A, pages 56-57 of 149, Table 18: Please explain why the expected participation
22 (products) for "low income" is so low (approx. 1%) relative to the total number of expected
23 participants (products) in the Residential Appliance Retirement Program Component.
24

25 **Request IR-35:**

26 Appendix A, pages 58-59 of 149, Table 19: Please explain why the expected participation
27 (products) for "low income" is so low (approx. 1%) relative to the total number of expected
28 participants (products) in the Residential Instant Savings Program Component.
29

30 **Request IR-36:**

31 Appendix A, pages 67 of 149, Table 24: The Enhancements for 2023-25 notes that the "Affordable
32 Multi-Family Housing & Non-Profit Organizations Program Component" will introduce new ways
33 to access rebates for heat pumps, primarily mini-splits, and heat pump water heater measures.
34 Please describe these new ways to access rebates.

Request IR-37:

Appendix A, pages 78-79 of 149, Residential Behaviour Program Component:

- a) Please explain how this program component is different than initiatives that will be undertaken by NS Power related to availability of AMI data (such as TVP and CPP program, Bill Alerts, Customer Web Portal and Customer Energy Management (CEM) System).
 - i. Please explain how the proposed “opt-out home energy reporting service” will be different than the Bill Alert and Web Portal reporting that will be offered by NS Power.
 - ii. Please explain how E1 will track the energy savings associated with this program component to ensure there is no overlap in reporting of energy savings resulting from these NS Power initiatives.
 - iii. Please explain how the projected energy savings noted in Table 30 were calculated to ensure that the projected savings do include savings that result from these NS Power initiatives.

Request IR-38:

Appendix A, pages 91-92 of 149, Table 39: Please explain why the expected participation (products) for “low income” is so low (approx. 1%) relative to the total number of expected participants (products) in the Business Energy Rebates Program Component.

Request IR-39:

Appendix A, pages 98 of 149: Please describe the criteria to determine what types of facilities, projects, measures and costs are eligible for the Custom Program Component.

Request IR-40:

Appendix B – Attachment 1 – 2023-2025 Summary Results (Settlement and Alternate): Please provide an updated electronic version of the Attachment with all formulae intact.

Request IR-41:

Appendix B – Attachment 6 – NS Power Rate Model (Settlement Plan): Please provide an updated electronic version of the Attachment with all formulae intact to show how the calculation of “Cost of Carbon (\$/MWh)” in Tab “E1 Data Inputs”.