Request IR-01:

Refer to M12249, Exhibit E-2, Savings Verification Review of Program Year 2024 Evaluation Results, Report for the Nova Scotia Energy Board (2024 Peach Report) June 4, 2025, authored by H. Gil Peach & Associates, (Peach)

Section IX. General Recommendations includes the following, at pages 16-17:

> **SVR24-G-1. The Savings Verification study recommends acceptance of the 2024 evaluation estimates for energy savings and demand reduction <u>*except for*</u> four programs. These are the Residential Behavior program (6.270 GWh; no demand reduction), the Residential Demand Response program (no energy savings, 0.057 MW demand reduction), the BNI Demand Response program, (no energy savings, 8.034 MW demand reduction) and the compressed air part of the BNI Custom Incentive Program (Custom)."**
> **[*Emphasis in original*, except for underline, which was added]**

And the second bullet, under SVR24-G-1, which references the Demand Response programs as follows, at page 17.:

- **For the Residential Behavior Program and the two Demand Response programs, the Evaluator conducted independent evaluations and correctly followed the relevant protocols. However, for these programs the practical size of the savings and demand reduction is not large enough to be of practical value at either the household level or at the utility system level. The Evaluator correctly followed the relevant protocols, but a problem with the protocols is that they do not take into account the very large sample size problem. *For very large sample sizes statistical***

***significance loses meaning and it is necessary to, instead, gauge performance using practical significance*. The Evaluator correctly notes that these programs look OK from the perspective of statistical significance, however, <u>the Evaluator should have flagged these programs for not producing practical energy savings or demand reduction. *Emphasis in original*, except for underline, which was added]</u>**

(a) Please confirm EfficiencyOne's understanding of Peach's role of "verifier" as opposed to the role of Evaluator, which was performed by Econoler?

(b) In EfficiencyOne's understanding, does the role of the verifier include defining the practical value of savings and demand reduction?

(c) How does EfficiencyOne define the practical value of savings and demand reduction?

(d) What does EfficiencyOne understand is the definition of practical value used by Peach in the underlined statement above arguing that the Evaluator should have flagged certain programs?

(e) Are any of the programs referenced in Recommendation SVR24-G-1 above included among BNI programs?

Response IR-01:

(a) EfficiencyOne (E1) understands that the role of a verification consultant ("verifier") is to review evaluation reports, designs, methods, and protocols. Historically, the verifier has reviewed program data tracking systems, program procedures, and methods for quality assurance control, as well as performed site visits to assess installation rates and whether measures are operating as expected. Following best practices, the verifier can verify and make recommendations on evaluation methodologies determined by the independent Evaluator. The Standardized Filing Framework[1] outlines that the verifier will produce a report that states program net energy savings and peak demand savings and outlines any recommended adjustments to evaluation reports.

The independent evaluator has been providing evaluation services for over the past 10 years to more than 15 DSM Administrators across North America. The evaluator follows industry accepted practices to inform the development of the methodology and approach used for the evaluation of each program. The role of the Evaluator is to design annual evaluation plans that meet agreed upon evaluation principles and to conduct a third-party independent review of E1 program results. The Evaluator performs annual impact evaluations that accurately determine net energy and net system peak demand savings, available demand response capacity, as well as process and market evaluations, the results of which are then provided to stakeholders and the regulator. The Evaluator is responsible for planning, coordinating, and supervising all evaluation activities. The Evaluator is also responsible for establishing E1 documentation needs and other requirements related to evaluation, preparing evaluation reports, and identifying opportunities for continuous improvement. The Evaluator is responsible for open and transparent communication with E1, transparent communication includes ensuring that research questions, methodologies, and outputs are clearly outlined and documented in the evaluation plan and reports. To maintain the Evaluator's independence, the evaluator does not provide strategic support on the design of programs.

[1] M07543, E1 2016-2018 DSM Deferred Matters, Executed Consensus Agreement, Appendix 1: Standardized Filing Framework, July 22, 2016 at PDF page 2 and page 12-50.

(b) E1 understands from the 2024 Savings Verification Review report that Mr. Peach "*verifies electricity energy savings and demand reduction for 2024. It reviews measurements, models, and estimates provided by Econoler, the Independent Evaluator for Efficiency Nova Scotia's DSM programs. The Econoler evaluations estimate first year energy savings (kWh) and model demand reduction (kW) for each Efficiency Nova Scotia energy conservation program. This report reviews, verifies, and, if appropriate, recommends adjustments to the savings and demand data and estimates. As with the evaluations, the primary focus of this study is impact evaluation. We also provide limited comments on other parts of the evaluation. Examination is based on careful review of the evaluation for each program component or initiative in the DSM portfolio, including review of each evaluation's explicit or implicit design, and consideration of evaluation methods and standards, and/or evaluation protocols used in each evaluation. We review calculating methods, conduct due diligence site visits to check installation counts and quality of work for some of the programs. In these site visits, we checked installed measures and discussed program experience with customers.*"[2] E1 notes that there is no reference to defining the practical value of savings and demand reduction at the household level or utility system level.

(c) E1's 2023-2025 DSM Plan was approved by the Nova Scotia Utility and Review Board (NSUARB) inclusive of the Residential Behaviour, Residential Demand Response, and Business Non-Profit Institutional (BNI) Demand Response program components. With the NSUARB approval of the 2023-2025 DSM Plan, E1 understands that the savings in these program components were therefore deemed practical and appropriate.

(d) E1 is unclear of the definition of practical value used by Mr. Peach. E1 has submitted Information Requests to Mr. Peach to confirm what is meant by the term "practical value"

[2] M12186, Exhibit 3, 2024 Savings Verification Review report, H. Gil Peach & Associates, June 5, 2025, page 1

from both a qualitative and quantitative perspective and explain how the use of this term is consistent with current methodological guidance for evaluating energy efficiency programs.

(e) Yes. The BNI Demand Response program component and compressed air leak audit projects which are part of the Custom program component, are considered BNI program components.

Request IR-02:

Refer to M12249, Exhibit E-2, 2024 Peach Report, Section IX, General Recommendations including Recommendation SVR24-G-2, which states, at page 17:

> **SVR24-G-2. The Evaluator should flag programs which the evaluation demonstrates to produce only tiny savings (savings that may be statistically significant and are too small to have a practical significance). For these programs, the Evaluator should either recommend closing the program in order to spend available energy efficiency dollars more effectively, or provide an explanation for the program, making the business case explaining its value.**

(a) Did EfficiencyOne include the above referenced programs in its 2026 Plan Extension Application and is it planning to include it in its 2027-2031 DSM Plan?

(b) If included in one or both plans, what percentage of the total DSM Plan cost do the above referenced programs represent in dollar and percentage terms for each of these two plans?

(c) Does EfficiencyOne agree with this recommendation SVR24-G-2? If yes, what alternative BNI programs would EfficiencyOne be able to supplement with the funds freed up and what incremental benefits for 2026 could this be expected to produce? If no, please explain.

Response IR-02:

(a) Yes, EfficiencyOne (E1) did include the Residential Behaviour, the Residential Demand Response and the Business Non-Profit and Institutional (BNI) Demand Response program components in the 2026 DSM Extension Application. Any modifications to the 2026 DSM Extension will be subject to the Nova Scotia Energy Board's (NSEB) decision on this matter. E1 does not accept the premise of this recommendation, namely, that E1 does not already fully justify the business case of programs proposed to be implemented in DSM Plan filing. E1 comprehensively presents the evidence supporting a DSM plan that has been developed in accordance with the Board-approved Balanced Plan approach.

The NSEB's acceptance of the Recommendation SVG24-G-1, (where Mr. Peach is not recommending acceptance of the evaluated 2024 energy savings for the Residential Behaviour program component and the compressed air leakage audits in the Custom program component, and the evaluated 2024 demand reduction (available capacity) in both demand response program components) has significant implications on the performance targets proposed in the 2026 DSM Extension for the 2023-2026 period, which would require a full redesign of the portfolio and remodeling at the specified investment amount.

E1 is continuing work on the development of the 2027-2031 DSM Plan and will be responsive to the decision of the NSEB's determination on this matter.

(b) The Residential Behavior and Demand Response programs investment in the 2026 DSM Extension are $8.6 million or 13.5% of the total investment of $63.75 million. For the 2027-2031 DSM Plan please refer to part (a) of this IR response.

(c) No, E1 does not agree with Recommendation SVR24-G-2. Please refer to E1's IR response to IG IR-03, IG IR-04 and IG IR-05. For the role of E1's evaluation consultant please refer to EfficiencyOne's IR response to SBA IR-01.

Request IR-03:

Refer to M12249, Exhibit E-2, 2024 Peach Report, Section IX, General Recommendations on including Recommendation SVR24-G-4, which states at page 18:

> **SVR24-G-4. The Evaluator should include full worksheets or computer printout information for all significance tests, specifying for each test, whether the comparison is one-tailed or two-tailed, the p-value of the test, the power of the test, the number of cases in each group, and the significance level criterion used in the analysis.**

(a) Please provide EfficiencyOne's version of the requested worksheet and significance test information.

(b) How did Efficiency One use this information when deciding how much funding should be allocated from the DSM Budget to the BNI programs referenced in Recommendation SVR24-G-2?

Response IR-03:

(a) The following IR response has been provided by Econoler.

Please refer to Attachment 1 of this IR response for the relevant significance test information based on the 2024 Residential Behavior evaluation results.

(b) EfficiencyOne (E1) does not agree with this recommendation and has not reallocated funding to BNI programs from either the Residential Behaviour program or the Demand

Response program in 2025 or in the 2026 DSM Extension. Any modifications to the 2026 DSM Extension will be subject to the Nova Scotia Energy Board's (NSEB) decision on this matter. The NSEB's acceptance of Recommendation SVG24-G-2, would have significant implications to the proposed 2026 DSM Extension performance targets for 2023-2026 and would require a full redesign of the portfolio and remodeling at the specified investment amount.

Insights provided by the Evaluator in the annual evaluation report are used by E1 to inform the development of the DSM budget and forecasts.

ECONOLER

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MEMORANDUM

BY EMAIL

Quebec, July 2, 2025

To: EfficiencyOne

From: Econoler

Subject: SBA IR 3a – Significance Test Example

Refer to M12249, Exhibit E-2, 2024 Peach Report, Section IX, General Recommendations on including Recommendation SVR24-G-4, which states at page 18:
SVR24-G-4. The Evaluator should include full worksheets or computer printout information for all significance tests, specifying for each test, whether the comparison is one-tailed or two-tailed, the p-value of the test, the power of the test, the number of cases in each group, and the significance level criterion used in the analysis.

This example is based on the Residential Behaviour program evaluation, more precisely the analysis of participation of Residential Behavior participants in other programs. For the analysis, the Evaluator reviewed the list of all participants included in the Residential Behaviour evaluation and determined if they had participated in HEA, GH and EPI in 2024. Note that the analysis and statistical testing was performed using a statistical software, JMP. Below is a screenshot of how the dataset was organized. The cohort in which consumption level group the participant is, wave 2is the medium users. A one (1) in the participation columns indicates participation in the specific program, whereas zero (0) indicates did not participate.

account_id	premise_id	cohort	is treatment	Group	Participation in HEA	Participation in GH	Participation in EPI
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	1	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0
		Wave 2	1	T	0	0	0

The table below presents how many cases were included in each group.

Wave	Population Size (N)	Treatment Group Size	Control Group Size
1 – High users	114 596	97 368	17 228
2 – Medium users	98 409	88 482	9 927
3 – Low users	76 435	53 459	22 976
Total	**289 440**	**239 309**	**50 131**

For each usage level group (high users, medium users and low users) and for each program (HEA, GH and EPI), the Evaluator performed the "two sample test for proportions". This test checks whether two groups (treatment group and control group) have different proportions (participated and did not participate) for a particular outcome.

Below is the printout of the results of this test for the high users (wave 1), medium users (wave 2) and low users (wave 3). The test provides multiple results, but, for the purpose of our analysis, the Evaluator analyzed the p-values highlighted in yellow, which represent the p-value of a **two-tailed test** (testing the hypothesis that there is no difference between the two groups' proportions). The Evaluator used a **significance level criterion used of 10%** and a **power of the test is 100%**.

For example, when looking at the results of the high users, it is possible to see that the p-value for GH is 0.0422. Since this is smaller than 0.10 (the significance level criterion), this means that there is a statistically significant difference in the participation level in GH for the high users in 2024. The same logic applies to HEA and EPI: for HEA the p-value is higher than 0.10 meaning that there is no difference in participation levels for this program between the control and treatment group and for EPI the p-value is smaller than 0.10 meaning that there is a difference in participation levels.

Wave 1 – High users

Where(:cohort == "Wave 1")

Fit Group

Contingency Analysis of Participation in HEA By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	-0.00088	-0.00267	0.000813

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.8097
P(0|C)-P(0|T) ≥ 0	0.1903
P(0|C)-P(0|T) = 0	0.3805

Contingency Analysis of Participation in GH By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	0.000932	0.000168	0.0016

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.0211*
P(0|C)-P(0|T) ≥ 0	0.9789
P(0|C)-P(0|T) = 0	0.0422*

Contingency Analysis of Participation in EPI By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	0.00355	0.001764	0.005243

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.0005*
P(0|C)-P(0|T) ≥ 0	0.9995
P(0|C)-P(0|T) = 0	0.0009*

Wave 2 – Medium users

Where(:cohort == "Wave 2")

Fit Group

Contingency Analysis of Participation in HEA By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	-0.00029	-0.00261	0.001859

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.6087
P(0|C)-P(0|T) ≥ 0	0.3913
P(0|C)-P(0|T) = 0	0.7826

Contingency Analysis of Participation in GH By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	0.000836	0.000204	0.00129

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.0118*
P(0|C)-P(0|T) ≥ 0	0.9882
P(0|C)-P(0|T) = 0	0.0237*

Contingency Analysis of Participation in EPI By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	0.001972	-0.00052	0.004292

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.0986
P(0|C)-P(0|T) ≥ 0	0.9014
P(0|C)-P(0|T) = 0	0.1971

Wave 3 – Low users

Where(:cohort == "Wave 3")

Fit Group

Contingency Analysis of Participation in HEA By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	0.001118	-0.00017	0.002352

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.0765
P(0|C)-P(0|T) ≥ 0	0.9235
P(0|C)-P(0|T) = 0	0.1531

Contingency Analysis of Participation in GH By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	0.000101	-0.00014	0.000295

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.2821
P(0|C)-P(0|T) ≥ 0	0.7179
P(0|C)-P(0|T) = 0	0.5641

Contingency Analysis of Participation in EPI By Group

Two Sample Test for Proportions

Description	Proportion Difference	Lower 90%	Upper 90%
P(0|C)-P(0|T)	-0.00028	-0.0018	0.001185

Adjusted Wald Test (Null Hypothesis)	Prob
P(0|C)-P(0|T) ≤ 0	0.6325
P(0|C)-P(0|T) ≥ 0	0.3675
P(0|C)-P(0|T) = 0	0.7350

Request IR-04:

Refer to M12249, Exhibit E-2, 2024 Peach Report, Section X, Individual Program Component Review, subsection B. Instant Savings (IS), pages 21-22, under Evaluator Findings on p. 22, which includes the following 5 bullets, at page 22:

> **Evaluator Findings. The Evaluator reported the following key Instant Savings findings:**
>
> - **Instant Savings exceeded both 2024 planned net electrical energy and peak demand savings of 12.544 GWh and 1.680 MW, respectively.**
> - **2024 net electrical energy savings was 22.252 GWh and net peak demand savings was 2.428 MW savings at the generator resulting in 77% and 45% respectively above planned targets. ENERGY STAR certified LED fixtures and lamp products generated 69% of the savings.**
> - **achieved a 17% increase in savings from non-lighting products in 2024 compared to 2023.**
> - **Achieved a decrease in free ridership for LED lamps and fixtures in 2024 from 59% in 2023 to 39% in 2024.**
> - **Evaluated net energy and peak demand savings were 16% and 10% respectively higher than values tracked by Efficiency Nova Scotia.**

Referring to the 5th bullet, please explain:

(a) How did the difference in net energy and peak demand savings arise?

(b) Does EfficiencyOne plan to change how it tracks net energy and peak demand savings differently based on the findings of the evaluator and recommendations of Peach to improve the cost benefit of the DSM Plan?

Response IR-04:

(a) Please refer to M12186, Exhibit 2, EfficiencyOne (E1) 2024 DSM Programs Evaluation Reports, Residential Efficient Product Rebates Evaluation Report, page 42 and page 43, March 31, 2025.

> Page 42: *"The evaluated net energy savings were higher than the value tracked by E1 (16%). The evaluated gross savings were lower than those tracked by E1 (-8%) mainly due to updates in the unitary savings values for several products, notably* [light-emitting diode] *LED fixtures. This was counterbalanced by an increase in the* [net-to-gross ratio] *NTGR due to a decrease in free-ridership for LED lamps and fixtures. The evaluated net peak demand savings were also 10% higher than those tracked by E1 for the same reasons."*
>
> Page 43: *"2024 Instant Savings-Finding: The evaluated net electrical energy savings and net peak demand savings determined by the Evaluator were higher than the net savings tracked by E1. The evaluated net energy and peak demand savings were 16% and 10% higher than the values tracked by E1, respectively. This was due to the higher NTGR established for LED lamps and LED fixtures in 2024."*

(b) E1 tracks net energy and demand savings using the most up to date evaluation results available. E1 applied the results of the 2023 Evaluation to track savings in 2024. Also, as part of the 2024 evaluation, the Evaluator updated the Measure Assessment, which resulted in a change to unitary energy savings for LED lighting measures and updated the free-ridership level for LED lamps and fixtures. For E1's 2025 tracked savings, the evaluation findings from 2024 have been applied.

Request IR-05:

Refer to M12249, Exhibit E-2, 2024 Peach Report, Section X, Individual Program Component Review, subsection J. BNI Efficient Products Rebates (BER), pages 58-60, which states, at pages 58-59:

> **Point-of-sale rebate evaluated savings declined 7.7% in 2024 compared to 2023 levels with 177,358 individual measures sold compared to 240,886 in 2023. The largest decline in measure incentives was for LED Linear Lamps, which experienced a 41% decline. However, since these measures have below average savings per measure, the average savings per measure declined only moderately. In addition, the 2024 comprehensive evaluation of this program component slightly raised the total Net to Gross Ratio (NTGR) for instant rebates from 81% in 2023 to 84% in 2024 which also helped to reduce the level of year-on-year declines in evaluated savings.**

Despite observing a decline in BER evaluated savings from 2023 to 2024 and earlier observations that the cost for some programs could be redeployed more effectively elsewhere within the plan, Peach includes only the recommendation related to the BER rebates program component and concludes that no further study is necessary:

> **SVR2024-BNI Efficient Products – 8. Change baselines for BER and IR rebates to reflect current market practices that have indoor DesignLights Consortium-Standard products as the new baseline with incentives offered for comparable DesignLights Consortium-Premium products, where available as a suitable option. No further study is necessary.**

(a) Does EfficiencyOne plan to change its budget allocation to the BER program as a result of this finding that point of sale savings declined year-on-year? If so, please explain what changes would be pursued; otherwise explain why no change is needed.

Response IR-05:

(a) No. EfficiencyOne (E1) does not plan to change the budget allocation for 2025 or for the 2026 DSM Extension which have both incorporated real time adjustments. E1 expects to incorporate the Business Energy Rebate program baseline changes that have been identified as part of the 2027-2031 DSM Plan. E1 does not agree that further study is not necessary particularly when there is a significant change to a program where the timing of these changes have implications for customers and partners.