BEFORE THE NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF *The Public Utilities Act, R.S.N.S. 1989, c.30* as amended

- and -

IN THE MATTER OF an Application by EfficiencyOne for Approval of 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 2023 – 2025 Demand Side Management ("DSM") Resource Plan

DIRECT TESTIMONY OF JOHN G. ATHAS

ON BEHALF OF

THE SMALL BUSINESS ADVOCATE

May 20, 2022

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I. INTRODUCTION

Q. What is your name and business address?

A. My name is John G. Athas, and I work as a Principal Consultant for Daymark Energy Advisors, Inc. 370 Main St, Worcester, MA 01608. Daymark Energy Advisors, Inc. is a consultancy that has provided policy, planning, and strategic decision support services to the energy industry for over 35 years.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of the Nova Scotia Small Business Advocate ("SBA").

Q. Please describe your education and employment background.

A. I am an electric utility industry planning specialist with nearly 35 years of experience in areas including strategic planning, integrated resource planning, energy efficiency, generation planning, economic and financial analysis, marketing, wholesale power market analysis and forecasting, electric power retail marketing, and rates and pricing. I am currently a Principal Consultant at Daymark Energy Advisors and have served in that capacity since February 2006. I also serve the firm in a management function as Vice President. Since joining Daymark Energy Advisors, my work has included several aspects of power systems planning and electric industry restructuring, including wholesale and retail market formation, generation asset valuation, resource planning, acted as the independent monitor involving wind generating capacity and resource adequacy studies, rates, contracting, and retail power marketing.

Immediately prior to joining Daymark Energy Advisors, I worked as an independent consultant with Direct Energy developing retail electric business plans. From 2001 to 2005, I was an Associate Director of North American Electric Power at Cambridge Energy Research Associates ("CERA"). In that capacity I was responsible for market analysis and forecasting of power prices for the regions of the Eastern Interconnect for the United States and Canada. Prior to joining CERA, I had various planning positions at Northeast Utilities Service Company ("NU") on behalf of corporate NU and its regulated and competitive companies from 1981 through 2000. From 1987 to 1991, I was the Manager of Strategic Analysis and Long-Term Resource Planning at NU, where my responsibilities included conducting NU's Integrated Resource Planning, the analysis of the NU utility companies' competitive position, and various strategic planning efforts regarding diversification leading to the acquisition of HEC, Inc., an energy service company, and the formation of Charter Oak Energy, a competitive generation affiliate of NU. As part of my planning experience at NU, I performed economic analysis for energy efficiency programs, demand management programs, and rates as well as on projects such as new generation and generation betterment projects, including hydroelectric facilities. Also, during my time at NU I spent several years working as part of the budget committee working to review and recommend transmission, distribution, and customer service-related projects. Attachment-1 contains a complete description of my qualifications and expert witness experience.

Q. Have you previously testified before the Nova Scotia Utility and Review Board ("Board or NSUARB")?

A. Yes. I testified before the NSUARB in the following proceedings:

- An Application by NewPage Port Hawkesbury Corp. and Bowater Mersey Paper Company Ltd for Amendments to Nova Scotia Power's Load Retention Tariff and for a Load Retention Rate (M04175).
- Main Computer Centre Upgrade (Capital Improvements Data Centre) (M04892).
- An Application by Pacific West Commercial Corporation and Nova Scotia Power Inc. for a Load Retention Rate (M04682).
- In the Matter of an Application by Nova Scotia Power Incorporated for Approval of its 2013 Annual Capital Expenditure Plan (M05339).
- In the Matter of an Application by Nova Scotia Power Incorporated for Approval of Capital Expenditure for 2013 for South Canoe Wind Project - CI#42127 for $93,091,536.
- In the Matter of an Application by E1 for Approval of a Supply Agreement for Electricity Efficiency and Conservation Activities between the Parties and Approval of the 2016-2018 Demand Side Management ("DSM") Plan-E-ENSC-R-15.
- Application by Nova Scotia Power Incorporated for approval of its 2014 Annual Capital Expenditure Plan (M05994).
- Application by Nova Scotia Power Inc. concerning sales of renewable low impact electricity generated within Nova Scotia by a retail seller to a retail customer pursuant to the Electricity Act (M06214).
- In the Matter of an Application by Nova Scotia Power Incorporated for approval of

capital work order Cl#29807 for its Tusket Main Dam Refurbishment project in the amount of $18,157,609 (M08162).

- Public Utilities Act, R.S.N.S. 1989, c.380, as amended CI47124 – NS Power Advanced Metering Infrastructure Project Application (M08349).
- In the Matter of an Application by Nova Scotia Power Incorporated for Approval of its 2018 Annual Capital Expenditure Plan (M08350).
- In the Matter of an Application by Nova Scotia Power Incorporated for Approval of its 2019 Annual Capital Expenditure Plan (M08984).
- Public Utilities Act R.S.N.S. 1989, c.380, as amended Application by EfficiencyOne for approval of the 2020-2022 DSM Plan.
- In the Matter of an Application by Nova Scotia (NS Power) for approval of an Extra Large Industrial Active Direct Control Tariff.
- In the Matter of an Application by NS Power for approval of its Time-Varying Pricing Tariff (M09777).
- In the Matter of an Application by Nova Scotia Power Incorporated ("NSPI") to amend its Wholesale Market Backup / Top-up ("BUTU") Service Tariff (M09940).
- In the Matter of an Application by NSP Maritime Link Incorporated for final approval of the Maritime Link Project Costs and approval of the 2022 assessment (M10206).
- In the Matter of the Application by Nova Scotia Power Incorporated for approval for the 2022 Annually Adjusted Rates (M10351).
- In the Matter of an Application by Nova Scotia Power Inc. for Approval of the 2022

Q. What is the purpose of your testimony?

A. The Small Business Advocate ("SBA") has been involved in Matters related to the Demand-Side Management Plan filings by EfficiencyOne ("E1") for many years.

The purpose of my testimony in this matter is to summarize my findings and concerns based on my review of E1's most recent application for approval of their 2023-2025 DSM Resource Plan and Supply Agreement (the "Plan") in which E1 is requesting NSUARB approval to spend an aggregate total of $173.0 million across the three-year period.

Q. What is the perspective of SBA and small businesses?

A. The SBA is concerned about the impact that the Plan will have on small businesses. The SBA participates regularly in the E1 DSM Advisory Group. The SBA participated in the E1 stakeholder discussions on the development of the Plan.

My review of the Plan involved careful consideration of multiple aspects of the Plan. The first focus being the economic value being created by the DSM programs being proposed and how that is being measured. The second aspect concerns the programs and amount of funding that is available for small businesses. Lastly the SBA wishes to understand the role and impact that the Plan contributes to long term integrated planning by NSPI and the decarbonization objectives of the Province.

II. FILING

Q. What is E1 requesting in the Application in this matter?

A. E1 is requesting NSUARB approval of $173.0 million over the three-year Plan for spending on various programs to reduce net generation needs. E1 states the programs will deliver up to 412.7 GWh of incremental net energy savings and 96.7 MW of cumulative system-peak demand savings.

Q. What is the allocation of the spending and benefits in terms of customer classes?

A. E1 describes on Page 13 of the Plan filing that the portfolio will be allocated a variety of ways. In terms of investment, the Plan allocates spending 55/45% residential-to-business, non-profit and institutional ("BNI")[1]. This results in a 40/60% residential-to-BNI energy savings split. Low-income investment makes 17-22% of the total energy efficiency investment over the three years of the Plan, aligning with the 2016 Census data for low-income prevalence in the province.

III. SCOPE OF SBA REVIEW

Q. What issues will your testimony address?

A. The SBA has requested that I focus my review on the following issues:

- Impact of the 2023-2025 DSM Resource Plan on Small Businesses
- Alignment of 2023-2025 DSM Resource Plan with the 2020 IRP
- Individual Elements of the Plan

[1] Exhibit E13 – Response to SBA IR-01.

Q. What information have you relied on to form the basis of your testimony?

A. I have reviewed E1's application filed in M10473 as well as responses to information requests issued by Board Staff, the SBA, and the Consumer Advocate (CA) and others. The Verification Review of Energy Efficiency Program Year 2021 Evaluation Results performed by H. Gil Peach & Associates, LLC was also reviewed.

IV. SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

Q. What are the key observations from your review?

A. There were several key observations from my review:

1. There is a distinct difference between the cost effectiveness tests between the Residential and BNI customer classes.
2. Spending in Year 1 of the Plan is significantly higher than the current year investment.
3. The Plan does not discuss the cost effectiveness of the marginal DSM measures against non-carbon generation alternatives.
4. The rate and bill impacts on small business customers who are non-participants over the next 3 years is significant, especially if the amount of rate increases proposed by NSPI in the General Rate Application (M10431) are granted.

Q. What are your recommendations for Board consideration?

A. I have the following recommendations:

1. I recommend that E1 focus funding on measures and programs that maximize carbon reduction and compare DSM measures against similar levels of carbon-free generation.
2. While I recognize the desire to spread dollars among the rate classes in an even manor, the growth of E1 budgets beyond the current level should not be bound by the 50/50 residential-BNI split target and should focus on maximization of measures and programs that have the highest cost effectiveness ratios.
3. E1 should not be funding measures with benefit-cost ratios below 0.9 on the Total Resource Cost ("TRC") test.
4. As the funding of DSM grows from the 2020-2022 DSM Resource Plan, the Board should consider reallocating 80% of the amount of the investment above 2022 levels to fund program components with the highest ratio of savings to investment to improve the economics and provide additional help achieve carbon goals.

V. ISSUE 1: Impact of the 2023-2025 DSM Resource Plan on Small Business

Q. What programs in the Plan are BNI customers eligible to participate in?

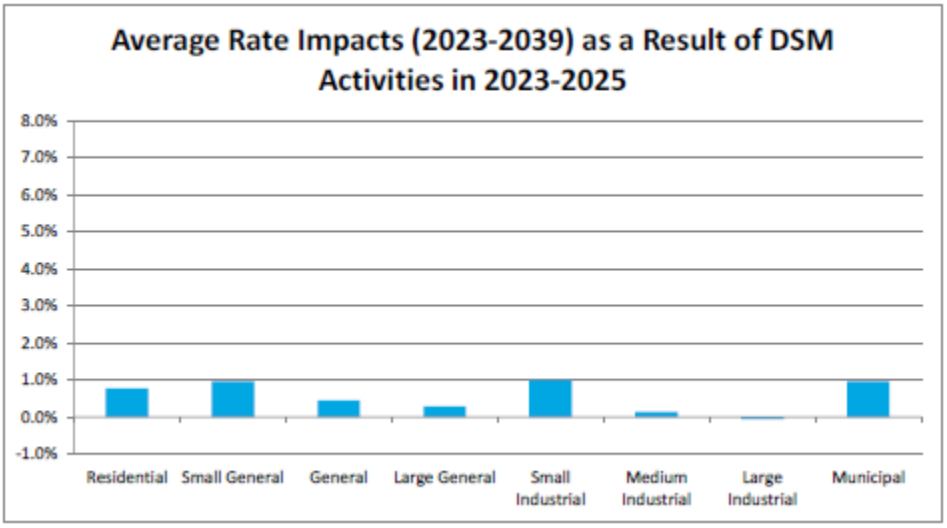
A. According to Table 37, Appendix A of the Plan, reproduced below, BNI customers can participate in the Efficient Products Rebates Program, the Custom Incentives Program, and the Direct Installation Program.

Program	Program Component	Target Market Segment	Delivery Approach	Enhancements in Settlement Plan	Section Reference
BNI Efficient Product Rebates	Business Energy Rebates	Existing and new construction BNI facilities	Point of sale rebates and mail in rebates	• Mid-stream Commercial Kitchen Rebates	Section 5.1.2.1
Custom Incentives	Custom	Existing and new construction BNI facilities	Facilitated* and financial incentives	• Pay-for-Performance	Section 5.2.2.1
	Strategic Energy Management & Energy Management Information Systems	Industrial, institutional	Facilitated* and financial incentives	• Continued support	Section 5.2.2.2
Direct Installation	Small Business Energy Solutions	Small businesses	Facilitated* and financial incentives	• Commercial Direct Install Stream	Section 5.3.2.1

*Facilitated is defined as providing customers with assistance in identifying energy efficiency opportunities and guidance on implementation to satisfy program requirements.

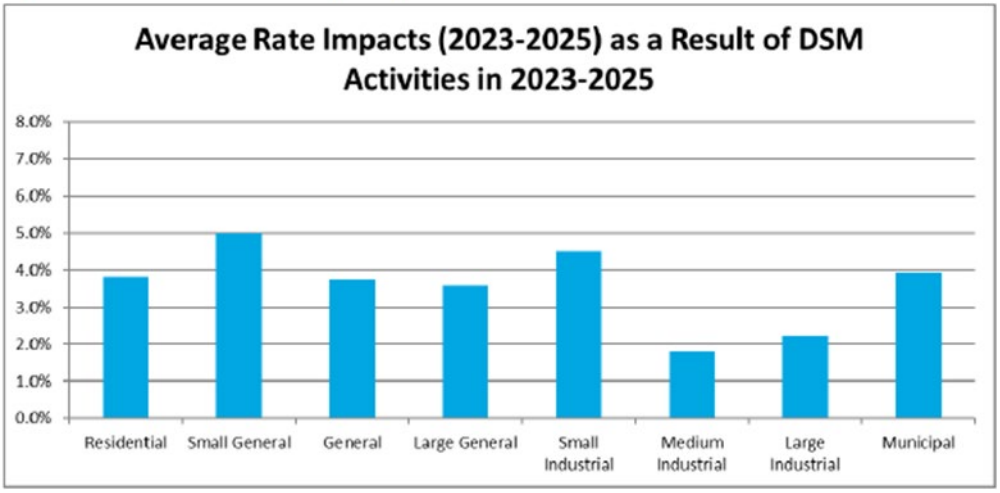
Q. How much is being invested in the BNI classes through these program components and what is the rate impact for the classes?

A. BNI programs are slated to receive investment of $68.2 million dollars through the three years of the Plan. E1's analysis on rate impact over the 2023-2039 period as featured in Figure 9 of the Plan filing is listed below. This shows that, based on the proposed three-year Plan, the Small General, General and Small Industrial rate classes ("Small Business Classes") rates are going to be between 0.4% and 1% higher over the next 17 years.



However, I think it is important to look at the near-term impacts of the Plan on rates for the Small Business Classes. As a metric for this near-term impact I have chosen the next four years to recognize that programs that are implemented in the second half of 2024 will not have had a full year to provide savings but will have a full year of costs if we just looked at three years. The proposed three-year Plan results in the Small Business Classes rates being between 3.5% and 4.5% higher over the next 4 years as provided in E1's response to SBA IR-25:

Figure 9: Revised to Show Average Impacts over 2023-2025

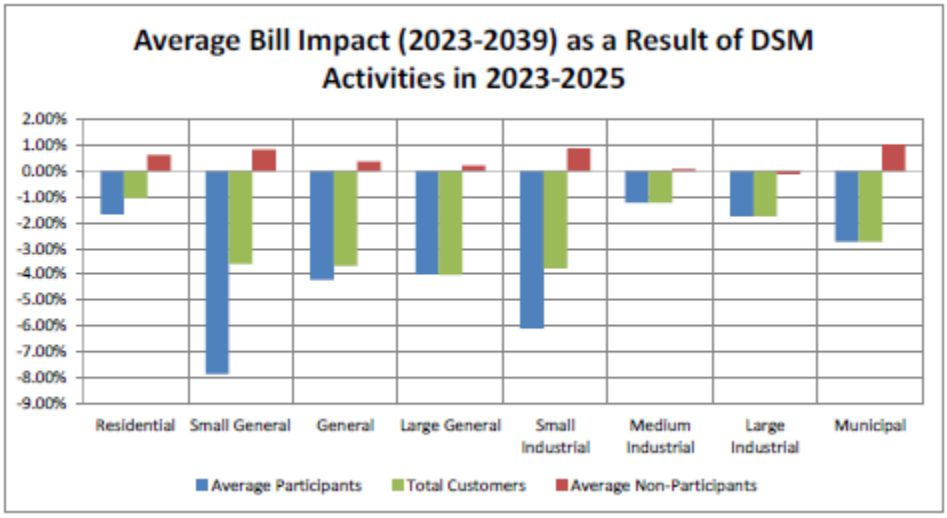


Q. Understanding that average rate impacts will being going up for all customer classes, how are the bill impacts impacted for participants and non-participants?

A. Similar to the above, E1 has provided bill impacts for the Plan in Figure 10 below. This shows that for all customer classes, including Small Business Classes, the key is participation.

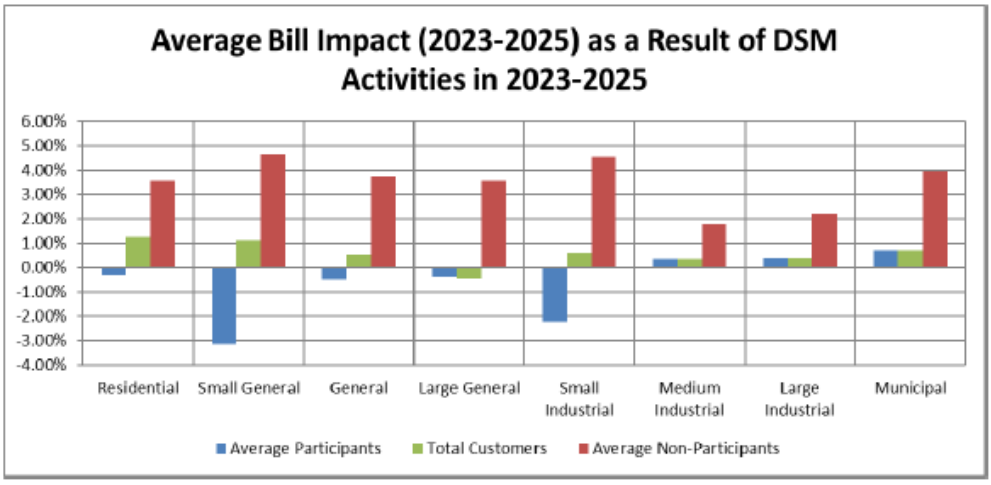
Small Business Class participants, averaged with those in the same rate class that also participate in programs over the next three years, will have 4-6% average bill reductions over the next 17 years. Those that have not participated in past programs and never

participate in future program plans will see bill increase similar to the rate impacts discussed above. It is important that the participation rate of small businesses continue to climb in order for the majority of small business customers to realize bill savings. I would encourage E1 to remain vigilant on creating and evolving problems to reach more small business customers not just more savings.



Over the next four years the bill impacts for participants are muted due to cost recovery of the E1 Plan while Small Business Class non-participants will see, on average, bill impacts of 3.5-4.5%. This information was provided in response to SBA IR-25, using the same chart as above for analysis but over the period 2023-2025:

Figure 10: Revised to Show Average Impacts over 2023-2025



Q. What is the average life of a measure within one of the BNI programs?

A. The average measure life of a BNI measure in Year 1 of the Plan is 14.2 years. In fact, only five measures presented in Attachment 4 of Appendix A of the Plan for the BNI sector in 2023 have measure lives under 10 years. These measures account for 5.4 GWh of the 72.1 GWh of first year savings in 2023 (7.4%). I am pleased to see a focus on longer life measures for the BNI sector

Q. Do you believe the Plan to be beneficial to the business customers in the Small Business Classes

A. Small Business Class participants of the Plan stand to benefit the most in terms of average participant bill savings both during the Plan's implementation period and through 2039. On the other hand, non-participants in the Small Business Classes will be hit with the highest bill impact, due to also having the highest rate impacts of most classes.

VI. ISSUE 2: Alignment of the 2023 – 2025 DSM Resource Plan with the 2020 IRP

Q. Does the DSM Resource Plan match the level of DSM budgeted in the 2020 IRP?

A. Initially the Plan does not meet the levels of investment requested in the 2020 IRP. However, the Plan does make significant strides in both closing and surpassing the gap between current spending and the 2025 IRP levels. In terms of overall spending in the 2023-2025 period, the IRP calls for $188 million while the Plan calls for $173 million. Notably, in 2025 the Plan surpasses the IRP recommended levels of DSM investment by $1 million dollars and sets E1 on track with the 2020 IRP targets.

Q. Does E1 account for fundamental changes in the policy landscape since the 2020 IRP was published and approved?

A. E1's Plan discusses the need to qualitatively update the 2020 IRP Reference Plan as a result of the *Environmental Goals and Climate Change Reduction Act*. Mr. David Hill's evidence identifies IRP Scenario 3.1C as qualitatively similar to the new regulatory environment[2], and Section 5 of the Plan states that Scenario 3.1C is "more suitable for assessing the affordability of the Settlement Plan [3]" based on the regulatory changes since the 2020 IRP was approved. The Plan states that due to a variety of circumstances, Scenario 2.0C may lead to understated benefits and impacted portfolio design[4]. Mr. Hill's evidence identifies three major changes of Scenario 3.1C over Scenario 2.0C as:

[2] Exhibit E1 - Testimony of Mr. David Hill, Page 9, Line 8-16..
[3] Exhibit E1 - EfficiencyOne 2023-2025 DSM Resource Plan Filing, Page 25, Line 12-14.
[4] Exhibit E1 - EfficiencyOne 2023-2025 DSM Resource Plan Filing, Page 27, Line 1-7.

(1) Retirement of coal by 2030;

(2) 92% renewable electricity generation by 2030; and

(3) a "mid-level" of electrification required to meet GHG reduction targets[5].

Q. In your opinion, could a shift in avoided costs from IRP Scenario 2.0C to Scenario 3.1C cause a re-allocation of investment within the DSM plan?

A. Yes. With additional carbon savings, measures that save more kilowatt-hours will inherently gain additional avoided cost benefits of saving more energy for the same investment. This will make measures that are already cost effective even more so, even relative to other measures. It would be difficult to imagine a scenario where these increased cost savings do not impact portfolio design, as the Plan notes in Section 5[6].

Q. Given the increase in the importance of decarbonization as an avoided cost, should additional consideration be given to non-carbon generation alongside or, in place of, traditional DSM?

A. Certainly. As the regulatory environment moves more strongly towards decarbonization, DSM and non-carbon generation are both seen as ways of "buying" carbon reduction. Now with the avoided cost of carbon listed as a benefit in the DSM Plan and presumably as part of the "evergreen" IRP process, the cost effectiveness may shift between the two non-carbon methods of meeting load.

[5] Exhibit E1 - Testimony of Mr. David Hill, Page 9.
[6] Exhibit E1 - EfficiencyOne 2023-2025 DSM Resource Plan Filing, Page 27, Line 5.

Q. What are you proposing?

A. I am proposing that future DSM plans and program design should focus on whether the DSM measure is the lowest, or one of the lower cost, means to reduce carbon production in Nova Scotia. To measure that E1 should move away from or supplement its current avoided costs economic testing to testing the cost of DSM as compared to the equivalent amount of the lower cost non-carbon generation resources that NSPI will have to implement to meet decarbonization objectives. This analysis can be developed within the DSM Advisory Group.

VII. ISSUE 3: Individual Elements of the Plan

Q. Are there any measures included in the Plan that do not achieve a TRC of 1.0?

A. Yes. While E1 only conducts cost effectiveness testing for their Plan at the Program level as required by the NSUARB[7], they have also provided measure-level TRC and PAC ratios as part of Attachment 4 of Appendix A. In this, there are 78 measures listed as being administered in 2023 that have a TRC ratio below 1.0. These account for 25.4 GWh of first year energy savings, out of a total of 120.7 GWh saved by the plan in 2023 (approximately 21%).

Q. What are the implications of measures failing the TRC test?

A. Implications of failing the TRC test vary depending on the ultimate goal of the individual measure or program. For example, measures and programs aimed at helping to reduce

[7] Exhibit E13 - Response to SBA IR-16.

customer bills are more costly to implement than simply giving the customer a credit for the amount they wish to reduce. Programs and measures that aim to reduce generation, capacity, or carbon costs would be better used to invest in non-carbon generation. The same holds true for transmission and distribution costs. Whatever the goal is, if the measures fail the TRC test, there is a more cost-effective way of addressing the issue. Ultimately, these may not matter if the total energy savings from these measures are not significant. 25.4 GWh of first year energy savings in 2023 is a significant portion of energy that could be addressed more effectively.

Q. Are you suggesting the measures with TRC test results less than 1.0 never should be included in E1 programs?

A. Yes, however the threshold could be set at 0.9 or less to show a preference for energy savings rather than continue a higher consumption of energy that NSPI will have to serve with generation and capacity, which would demonstrate a preference for energy savings at a higher cost instead of additional generation and capacity..

Q. Could the investment into measures failing the TRC test be redirected within the DSM Plan portfolio?

A. Yes. EE Programs within the BNI Sector are in general much more cost-effective than those in the Residential EE Programs. The DSM Plan shows that the BNI Sector as a whole has a TRC of 2.9 and a PAC of 5.0, while the Residential Sector has 1.5 and 2.4,

respectively[8]. Only 18 measures in the BNI sector fail the TRC test, accounting for 3.3 GWh of first year savings.

Q. Would increased investment into the BNI sector put the Residential customers at a disadvantage?

A. Not necessarily. Many measures are still cost effective for the residential class that could directly lower a residential customer's bills and still have overall system cost savings. Additional investment in the most cost-effective programs and measures, even if occurring in another sector, would only have increased system cost savings relative to those measures that fail the TRC test. These additional avoided costs to the system would have benefits spread across all classes in the form of lower rates for electricity relative to the alternative. Also, it does not help residential customers if more expensive non-carbon generation has to be developed for NSPI simply because DSM expenditures were less impactful by directing equal monetary focus on the residential class and producing less savings.

Q. Does the investment split between Residential and BNI sectors remain the same in each year of the Plan?

A. Generally speaking, yes. While the exact percentages change from year to year, they do remain at an approximate 55/45% split in the favor of the Residential Sector.

[8] Exhibit E1 - EfficiencyOne 2023 – 2025 DSM Resource Plan Filing, Page 19, Table 2.

Q. Do you know any reason why the growth in expenditures could not have been directed to BNI programs that produce more savings per investment dollar?

A. No.

Q. What kind of investment allocation would you like to see moving forward?

A. I would like to see 80% of the approved increase in expenditures above 2022 levels be directed to the most cost-effective measures and program components that produce the highest savings opportunities regardless of customer class. This would move away from the 50/50% principal E1 utilizes as set out in the July 2016 Consensus Agreement[9] to have the 50/50% investment as a goal, and would focus investment on the most cost-effective measures and result in the most impactful ways to achieve carbon reduction.

Q. How much investment should be shifted away from residential under your suggestion?

A. I recommend that 80% of the increase above the 2022 DSM investment levels be moved towards the most effective measures and program components. To calculate the effect I focused on shifting 80% of the $9.2 million of two new residential programs[10] which comprise the vast majority of the $12 increase in spending proposed for 2023 over 2022. Thus we could shift the amount of $7.4 million of the proposed total $12 million increase.

[9] Exhibit E13 - Response to SBA IR-01a
[10] Exhibit E13 - Response to SBA IR-05a

Q. How many more lifetime MWh would be saved under this suggestion, under the assumption that the sector ratios of dollars to GWh savings remains the same after reallocation of funds?

A. Using a very simplified approach, a ratio of PAC Costs to lifetime MWh saved as provided by E1 in Appendix A Attachment 4 tables results in ratios of 51.58 and 21.98 for the Residential and BNI sectors respectively. This essentially means that every lifetime MWh saved under BNI programs is less than half as expensive as achieving those same savings under the Residential sector portfolio. This means that $7.4 million invested in the Residential portfolio would result in approximately 143 GWh of lifetime savings, while the same investment in BNI portfolio would result in 337 GWh of lifetime savings. Approximately 194 GWh additional lifetime savings could be achieved, which is above and beyond the current 2023 targets. This is almost a 13% increase of lifetime GWh savings without increasing expenditures in the Plan for the year 2023.

Q. Is moving this investment important to do now?

A. Yes. Decarbonization is not just a future goal. Carbon is being emitted every day right now in the production of electricity to meet the needs of NSPI customers. This continually contributes to climate change forever. We need to minimize carbon production as much as possible through economic DSM programs each year while we move to a decarbonized electric system - not just when we achieve a decarbonized state.

Q. Do you have concerns around the increase in investment between the 2022 and 2023 amounts?

A. Yes. The E1 budget increases from $41 million in 2022 to $53 million in 2023, an increase of 29%. In their response to SBA IR-05, E1 has stated that ninety percent of the increased investment is going towards new initiatives, with the majority going towards the new Affordable Single Family Homes program component, and other amounts going towards the new Residential Behaviour program component and Demand Response program[11]. The remainder of the budget increase is attributable to inflation and increases in participation in existing programs according to E1. When asked how E1 will ensure that increased spending will reach the desired savings, E1 ensured the SBA that all new initiatives will be properly resourced and monitored.

While E1 is an experienced DSM utility, there are always risks that new program components will not fully be realized and could face delays or other factors their limit their immediate effectiveness.

Q. Are existing programs achieving their desired savings targets?

A. Not all of them. For example, in the Residential sector the Home Energy Assessment and Efficient Product Installation program components only achieved 63.3% and 73.0% of their 2021 savings targets, respectively[12]. In the BNI sector, the Custom program

[11] Exhibit E13 – Response to SBA IR-05.
[12] Exhibit E17 - Response to SBA to H. Gil Peach IR-01.

component only achieved 77% of its 2021 target[13]. The BNI Sector as a whole achieved only 86.4% of the savings target for 2021, resulting in a DSM Portfolio Total of 90.1% of the 2021 targeted savings.

While missed targets are understandable, particularly during a year in which lockdowns and limits on work were quite common, steps need to be taken to ensure investments are achieving their desired goals.

VII. OBSERVATIONS AND RECOMMENDATIONS

Q. What are the observations from your review?

A. There were several key observations from my review:

1. There is a distinct difference between the cost effectiveness tests between the Residential and BNI customer classes.
2. Spending in Year 1 of the Plan is significantly higher than the current year investment.
3. The Plan does not discuss the cost effectiveness of the marginal DSM measures against non-carbon generation alternatives.
4. The rate and bill impacts on non-participants to small business customers over the next 3 years is significant especially if the amount of rate increases proposed within the NSPI in the general rate case are granted.

[13] Exhibit E17 - Response to SBA to H. Gil Peach IR-01.

Q. What are your recommendations?

A. I have the following recommendations:

1. We recommend that E1 should focus funding on measures and programs that maximize carbon reduction and compare DSM measures against similar levels of carbon-free generation.
2. While we recognize the desire to spread dollars among the rate classes in an even manor, the growth of E1 budgets beyond the current level should not be bound by the 50/50 residential-BNI split target and should focus on maximization of measures and programs that have the highest cost effectiveness ratios.
3. E1 should not be funding measures with benefit-cost ratios below 0.9 on the Total Resource Cost ("TRC") test.
4. As the funding of DSM grows from the 2020-2022 DSM Resource Plan, the Board should consider reallocating 80% of the amount of the investment above 2022 levels to fund program components with the highest ratio of savings to investment to improve the economics and provide additional help achieve carbon goals.

Q. Does this conclude your testimony?

A. Yes.