EfficiencyOne

IN THE MATTER OF *The Public Utilities Act*, R.S.N.S. 1989,

c. 380, as amended.

\- and -

IN THE MATTER OF An Application pursuant to Subsection 79J(3) of the *Public Utilities Act* for Approval of the 2016-2018 Supply Agreement for Electricity Efficiency and Conservation Activities

EFFICIENCYONE

CLOSING SUBMISSION

FILED

July 8, 2015

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EXECUTIVE SUMMARY

Nova Scotia's success in reducing electricity consumption and lowering costs for Nova Scotians is the result of the input and knowledge of a broad spectrum of stakeholders. Without this, Nova Scotians would pay more on their power bills now and into the future.

As in the past, EfficiencyOne appreciates the engagement of all stakeholders throughout this process. It is pleased it has reached agreement on the appropriate and affordable level of efficiency for 2016 through to 2018 with those representing the overwhelming majority of electricity customers: the Consumer Advocate and the Small Business Advocate. EfficiencyOne is also pleased the Affordable Energy Coalition and the Ecology Action Centre have signed on to this agreement, filed with the Board as Exhibit 61 during the hearing (referred to as the "Quantum Agreement").

As signatories to the Quantum Agreement, major stakeholders and ratepayer representatives have adopted a DSM Resource Plan that takes into account the imperative of balancing affordability in both the short and long-term. The Plan, on its own, will not impact rates. As was repeatedly emphasized during the hearing by stakeholders other than EfficiencyOne, a higher level of efficiency investment is currently absorbed within electricity rates. This higher level of investment - $53 million - was re-purposed in 2015 for a one-time repayment of an outstanding fuel bill. This one-time event, endorsed by most stakeholders, was not intended to give permission to NS Power to indefinitely claim ownership of funding earmarked for efficiency to pay for other costs, including fuel bills. As the level of efficiency outlined in the Quantum Agreement is significantly less than the $53 million currently embedded in rates, the level of DSM in the Quantum Agreement - on its own - will not impact rates. This is an important short-term affordability consideration.

In addition, the level of energy savings proposed by EfficiencyOne and supported in the Quantum Agreement will result in more than $400 million in saved electricity over the life of the measures, as well as avoid additional capacity and fuel costs. All are important long-term affordability considerations. In all timeframes, efficiency is the lowest-cost supply at or below

$0.03 per kilowatt hour saved; versus an average $0.12 per kilowatt hour used. Based on this, it is respectfully submitted that the Quantum Agreement should be given full consideration by the Board in assessing EfficiencyOne's proposed Plan.

EfficiencyOne understands not all stakeholders view affordability through the same lens as those representing significant ratepayer groups. Throughout the lead-up to the hearing and during the course of the hearing itself, NS Power has maintained that EfficiencyOne's proposed Plan is not affordable. Instead, NS Power put forward a number of alternative scenarios ranging in annual investment from $22 million to $37 million; ultimately asserting a $22 million annual investment in efficiency is the one they would support.

EfficiencyOne has a number of concerns with the proposed alternative scenarios put forward by NS Power. These concerns include, but are not limited to, the following:

- the conflict of interest inherent in a utility which sells electricity determining the appropriate and affordable level to invest in energy efficiency;
- the purported affordability of NS Power's scenarios;
- the practicality of these scenarios;
- the fairness of these scenarios to all customers; particularly to residential customers;
- the benchmarking used in part to recommend the lower levels of investment proposed by NS Power;
- the assumptions contained within NS Power's alternative DSM scenarios; and
- NS Power's analysis of system requirements.

In contrast, EfficiencyOne has developed and proposed a Plan that is consistent with DSM proposals that have been filed with and approved by the Board since 2008. To that end, EfficiencyOne considered the analysis of the 2014 Integrated Resource Plan (IRP), which demonstrated that an even higher level of DSM (the Mid-DSM scenario) is the lowest-cost and therefore most affordable option over the 25-year planning period. EfficiencyOne developed its Plan to achieve 405.9 GWh of energy savings, which is 78 percent of the Mid-DSM savings level (97 percent of the Base-DSM level of savings). However, at the Quantum Agreement investment level, the energy savings will be realized at 62 percent of the Mid-DSM investment

level (89 percent of the Low-DSM level of investment). In addition to providing significant energy benefits, EfficiencyOne's DSM Plan avoids new capacity additions, whether required for capacity or desired for economics, until 2032. Simply put, EfficiencyOne's proposed Plan takes both a short and long-term view of affordability in a manner that NS Power's suggested alternative scenario fails to accomplish.

EfficiencyOne, as the Efficiency Nova Scotia franchise holder, is recognized under subsection 79L(6) of the *Public Utilities Act* as having expertise in the development and delivery of DSM programs. Under this provision, EfficiencyOne is also primarily responsible to provide information and evidence to the Board in support of the present application. These facts, coupled with the endorsement during the course of the hearing by a large number of stakeholders of a DSM Resource Plan developed by EfficiencyOne, should carry considerable weight in the Board's assessment of EfficiencyOne's proposed Plan.

In this closing argument, EfficiencyOne will illustrate that its proposed Plan is consistent with and is, in fact, at a lower unit cost than prior proposed Plans. The Plan also aligns with prior achievements. EfficiencyOne's proposed Plan balances long-term and short-term considerations relating to the IRP and short-term rate impacts, avoids capacity additions until 2032, provides near-term benefits to participants and longer-term net benefits to all rate classes, and maintains the energy efficiency industry in Nova Scotia without causing the potential for significant rate impacts should higher DSM investment levels be required in the future.

In sum, EfficiencyOne respectfully submits that its proposed Plan, developed with sound evidence-based modelling, will provide cost-effective, reasonably-available energy savings for Nova Scotians through the delivery of a program portfolio consistent with approved DSM Plans to date and appropriately addresses the legislative requirement of affordability. In contrast, NS Power's suggested alternative scenario simply does not. For these reasons, and for the reasons that are set out below, EfficiencyOne respectfully requests that the Board accept the Quantum Agreement along with EfficiencyOne's proposed 2016-2018 DSM Resource Plan.

Finally, the agreement reached between NS Power, the Consumer Advocate, the Small Business Advocate, the Industrial Group, the Affordable Energy Coalition and the Ecology Action Centre, filed with the Board as Exhibit 62 during the course of the hearing (hereinafter referred to as the "Consensus Agreement"), represents the willingness of all Parties who filed evidence to revisit various issues through the forum of the DSM Advisory Group, recognizing that the ultimate Decision on these matters will be dealt with through submission to the Board. EfficiencyOne requests that the Board accept the broad-based agreement reached under this Consensus Agreement.

MATTERS AGREED TO IN QUANTUM AND CONSENSUS AGREEMENTS AND RELATED ITEMS

Evaluation and Verification Reports and Additional Reporting

The Consensus Agreement addressed evaluation and reporting[1], by which there would be annual program impact evaluations, as well as process evaluations at the organizational level, with program process evaluations if required. EfficiencyOne would also provide a full report on its 2016-2018 Performance Requirements and Performance Indicators within its Annual Progress Report filed in 2019. EfficiencyOne would also explore methodologies of demand savings evaluations with its evaluator.

Under the agreed procedure, EfficiencyOne would also provide explanations for "substantial changes", which are defined as "variance in energy savings or investment of 25 percent or more at a program level"[2]. Similarly, EfficiencyOne would be required to provide advance notice of its intent to implement mid-course adjustments by program and their customer rate class impacts. The Parties to the Consensus Agreement acknowledge EfficiencyOne's position that it is not able to provide advance notice of its intent to implement mid-course adjustments by program resulting from third-party evaluations, as these changes are made immediately. EfficiencyOne would file notice of these changes in its Q1 report to the UARB.

Lastly, under the agreed procedure, and dependent on an approved cost allocation methodology, EfficiencyOne would undertake reasonable efforts to avoid program changes that would result in substantial changes to any customer rate class on an annual basis.

With respect to the timing and content of reports, the Parties have agreed to the details included in Schedule 1 of the Consensus Agreement, subject to revisions which may be agreed to or determined by the Board as a result of discussions within the DSM Advisory Group.

In light of the consensus of the Parties, EfficiencyOne respectfully submits that the evaluation reporting procedure set out in the Consensus Agreement be approved by the Board.

[1] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 5.
[2] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 5(d).

Program Cost Allocation

In the Consensus Agreement, the Parties agreed to discuss further the issue of cost allocation.[3] Accordingly, EfficiencyOne respectfully asks the Board to approve the terms and conditions set out in the Consensus Agreement regarding DSM cost allocation.

As noted by the EfficiencyOne panel on Friday, June 19, the issue of the 2014 Balance Adjustment was not addressed in the Consensus Agreement. It is EfficiencyOne's assertion that the lack of inclusion of this topic was an omission and EfficiencyOne supports its inclusion in the cost allocation discussions to be held by the DSM Advisory Group.

Rate and Bill Impact Analysis

In the Consensus Agreement, the Parties agreed to a process regarding rate and bill impact analysis[4].

Under this agreement, EfficiencyOne has agreed to develop, in consultation with the DSM Advisory Group, further assumptions to its rate and bill impact analysis. This will include, but is not limited to, the inclusion of contribution to fixed costs. Once complete, the revisions will be included in future filings of the analysis. Under the terms of the Consensus Agreement, EfficiencyOne has also agreed to file historical-looking rate and bill impact analyses by October 31st of each year. It is therefore respectfully submitted that, given the broad form of consensus between the various Parties on this issue, the foregoing approach should be approved by the Board.

However, should the Board determine that the foregoing approach is unacceptable, EfficiencyOne wishes to reiterate its assertion that the rate and bill impact analysis currently filed with the Board by EfficiencyOne should not be dismissed, as suggested by NS Power. Rather, it

[3] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 4.
[4] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 6.

is again submitted that the analysis should be used in a way that recognizes its intent and limitations, as suggested by the Board's consultant Tim Woolf of Synapse[5]. The intent of the analysis is to provide longer-term, high-level impact trends of a particular DSM Resource Plan in relation to alternatives (currently included as the 2014 IRP DSM scenarios), not to provide specific impacts that are expected to be accurate at a detailed level over the lifetime of the DSM benefits. EfficiencyOne would again state the limitations are the result of NS Power not providing information or feedback in time to be incorporated in this filing.

Lastly, regarding the results of EfficiencyOne's analysis filed with the Board, EfficiencyOne reiterates that the high-level results identify that all NS Power customers benefit over the long-term from DSM programs, and participants of the DSM programs benefit to a greater extent. It is respectfully submitted that this determination is of critical importance to the issues currently before the Board.

Performance Targets, Indicators, and Thresholds

In the Consensus Agreement, the Parties came to an agreement with respect to Performance Targets, Indicators, and Thresholds.[6] The Parties agreed that Performance Targets would be set over the three-year contract period, as opposed to setting them on an annual basis. The Parties also agreed there would be two Performance Targets: cumulative annual energy savings and cumulative annual peak demand savings[7].

Further, in the Consensus Agreement, the Parties agreed that EfficiencyOne is deemed to be in substantial compliance with approved Performance Targets if it achieves a threshold of at least 90 percent on each Performance Target. If EfficiencyOne does not achieve at least 90 percent of the Performance Targets, then the Parties agree that a regulatory process would be triggered.

[5] Exhibit 37. Direct Evidence from Synapse, Page 26, line 16 to Page 27, line 2
[6] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 3.
[7] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 3.

The Parties also agreed that the following would be used as Performance Indicators to monitor EfficiencyOne's progress towards its Performance Targets:

- annual incremental energy savings;
- cumulative annual energy savings;
- lifetime energy savings;
- annual incremental peak demand savings;
- cumulative annual peak demand savings;
- total ratepayer benefits;
- total spending;
- customer satisfaction;
- analysis of impact on rates through implementation of the 2016-2018 programs; and
- reporting on low income program participation, expenditures, and savings[8].

Further, the Parties agreed that, for the Performance Indicators reported by program, EfficiencyOne would also report on them by rate class as soon as available, and not later than within its Q3 report.[9]

In the Quantum Agreement, the Parties also agreed on terms regarding cumulative energy and demand savings Targets[10]. The Parties agreed that the Performance Target for cumulative annual energy savings over the three-year contract period would be 405.9 GWh, and the Performance Target for cumulative annual peak demand savings over the same period would be 62.5 MW, as set out in EfficiencyOne's 2016-2018 DSM Resource Plan in Appendix A of its evidence filed on February 27, 2015[11].

Accordingly, EfficiencyOne respectfully asks that the Board approve the terms and conditions set out for the Performance Targets, Indicators, and Thresholds in both the Consensus and Quantum Agreements.

[8] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 3.
[9] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 3.
[10] Exhibit 61. Quantum Agreement. Appendix "A", Paragraph 3.
[11] Exhibit 61. Quantum Agreement. Appendix "A", Paragraph 3.

Establishment of a Reserve Fund

EfficiencyOne withdrew its request for the establishment of a reserve fund[12] upon signing the Consensus Agreement[13].

In lieu of the establishment of a reserve fund, the Parties agreed they would not challenge EfficiencyOne's ability to seek recourse to the Board for recovery of funds to address extraordinary or unforeseen circumstances. "Extraordinary or unforeseen circumstances" are those situations which are outside the regular operations of EfficiencyOne[14]. No Party is precluded from challenging the merits of any such application brought by EfficiencyOne.

EfficiencyOne further agreed to return any budget surplus at the end of the three-year contract to NS Power for the benefit of ratepayers.

It is EfficiencyOne's position that this approach is a balanced concession, which provides it with the assurance that it can seek recourse to the Board in the face of extraordinary or unforeseen circumstances with appropriate public and Board oversight.

Establishment of a Standardized filing for future applications to approve DSM Supply Agreement

The Consensus Agreement addresses the establishment of a standardized filing for future applications[15]. Accordingly, EfficiencyOne asks that the Board approve the terms and conditions of this agreement on standardized filing for future applications to approve a DSM Supply Agreement.

In the Consensus Agreement, the Parties agreed to the establishment of a standardized filing for future applications to approve a DSM Supply Agreement. The Parties agreed that the substance

[12] Transcript, July 15, 2015, Page 100, lines 4-8.
[13] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 2.
[14] Transcript, June 19, 2015, Page 1044, line 19 to Page 1045, line 22.
[15] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 1.

of this standardized filing would be vetted through the DSM Advisory Group for the Board's approval. The Parties further agreed that this standardized filing would include a program description template based on that of Efficiency Maine, with the addition of lifetime energy and demand savings, annual participation and participation rates by program, cost-effectiveness testing analysis results by program, levelized cost of saved energy for each program, a detailed description of the rate and bill impact analysis, and any other items agreed to in the DSM Advisory Group. The Parties also agreed that EfficiencyOne is not precluded from providing additional information it deems relevant. Finally, the Parties also agreed that EfficiencyOne will provide technical data in its Plan filing.

STATUS OF 2013 AND 2014 RECOMMENDATIONS

Neither the 2014 evaluation report nor the 2014 verification report was challenged by the formal Intervenors during the course of the hearing. EfficiencyOne therefore continues to rely on the evidence filed with the Board on February 27, 2015 with respect to the efforts undertaken by EfficiencyOne pursuant to the 2013 and 2014 verification and evaluation recommendations. Specifically, Appendix C to that evidence[16] provides further detail on the measures undertaken by EfficiencyOne related to 2013 recommendations. EfficiencyOne will file an update on 2014 evaluation and verification recommendations in its Q2 report to the UARB.

STATUS OF KPMG PROCUREMENT RECOMMENDATIONS AND OTHER PROCUREMENT ISSUES

The status of the KPMG procurement recommendations was not raised during the course of the hearing before the Board.

[16] Exhibit 1. EfficiencyOne Evidence, Filed February 27, 2015, Appendix "C".

As such, EfficiencyOne continues to rely on the assertion made in its evidence filed with the Board on December 8, 2014 with the results of the internal audit undertaken by KPMG regarding procurement practices.

In addition, EfficiencyOne filed its remaining internal audits performed by KPMG on April 30, 2015, after sharing them with the DSM Advisory Group. EfficiencyOne will begin developing the scope of its cost containment audit with the DSM Advisory Group, to be implemented during the 2016-2018 contract period, per the 2015 DSM Resource Plan Settlement Agreement

HST

Under the former DSM administration structure, following the advice of experts, Efficiency Nova Scotia Corporation ("ENSC") (as it then was) sought a ruling from the Canada Revenue Agency. Specifically, ENSC sought a ruling as to whether it was making a taxable supply to NS Power and, as a consequence, was required to charge and collect HST on the payments received from NS Power and whether it was entitled to claim full input tax credits for the HST paid on expenses incurred in the course of delivering DSM programs.

In April 2012, the Canada Revenue Agency ruled that ENSC was not making a taxable supply to NS Power and consequently was unable to claim full input tax credits. ENSC appealed this decision and on February 25, 2015, ENSC received a Notice of Confirmation from the Canada Revenue Agency's Appeals Division, confirming the April 2012 ruling.

ENS Transition Corporation has since filed an appeal to the Tax Court of Canada on this decision. EfficiencyOne is currently in negotiations with NS Power as to the funding of this appeal. Therefore, during the appeal process the HST receivable continues to be an asset of ENS Transition Corporation.

It is EfficiencyOne's position that HST became a cost of the prior model of DSM administration, which drove up ENSC's costs because of its inability to claim input tax credits. As NS Power has

been collecting HST from its customers, it is EfficiencyOne's position that its customers were effectively paying twice the HST under the prior model. It remains EfficiencyOne's position that ENSC was providing a taxable supply by delivering DSM programs and that it was entitled to claim full input tax credits.

Moving forward, under EfficiencyOne's proposed Supply Agreement with NS Power, and consistent with its HST legal advice, EfficiencyOne is claiming and receiving input tax credits in 2015. As a result, the corresponding HST cost will not be included in the cost of DSM that is borne by ratepayers. Ultimately, this will mean that the customers will only have to pay HST once as opposed to twice.

COMPLIANCE WITH THE *PUBLIC UTILITIES ACT*

It is EfficiencyOne's position that its proposed 2016-2018 DSM Resource Plan[17] is in compliance with the *Public Utilities Act.*

PROPOSED 2016-2018 DSM RESOURCE PLAN, OUTSTANDING ITEMS OF THE SUPPLY AGREEMENT AND RELATIONSHIP OF THE PROPOSED 2016-2018 DSM RESOURCE PLAN TO THE 2014 INTEGRATED RESOURCE PLAN

Agreed Form of Supply Agreement

With respect to the agreed form of Supply Agreement, EfficiencyOne respectfully maintains that this negotiated Agreement is in full compliance with the relevant provisions of the *Public Utilities Act* dealing with this issue. These requirements are dealt with at 79J (2) of the *Act*, which provides:

[17] Exhibit 1. EfficiencyOne's Evidence filed February 27, 2015, Appendix "A".

(2) Each agreement must

(a) be for a term of 3 years, ending on December 31st of the third year of the agreement;

(b) not be terminable or terminated unless the franchise holder`s franchise is terminated or the termination is approved by the Board pursuant to s. 79N;

(c) describe the electricity efficiency and conservation activities that the franchise holder will provide to Nova Scotia Power Incorporated; and

(d) identify the amount that Nova Scotia Power Incorporated will pay to the franchise holder for the supply of electricity efficiency and conservation activities[18].

With respect to the foregoing, EfficiencyOne respectfully submits that the form of agreement submitted for approval to the Board, subsequent to determination of the two remaining outstanding issues, will, in all material respects, comply with the statutory provisions governing this Agreement as set out in the *Public Utilities Act*.

Proposed 2016-2018 DSM Resource Plan

EfficiencyOne respectfully submits there is ample evidence before this Board to justify the approval of the 2016-2018 DSM Resource Plan as filed by EfficiencyOne and as modified by the Quantum Agreement, recommending, *inter alia* DSM investments for the requisite period of:

(1) $36.9 million in 2016

(2) $37.8 million in 2017[19]

(3) $38.8 million in 2018[20]

for an aggregate contract period investment of $113.5 million in 2016 dollars[21].

[18] *Public Utilities Act*, RSNS 1989, c 380, s 79J (2).
[19] $38.6 million in 2017 dollars.
[20] $40.5 million in 2018 dollars.

EfficiencyOne submits that the aforementioned investment level should be established as the "amount that Nova Scotia Power Incorporated will pay to the franchise holder for the supply of electricity, efficiency and conservation activities"[22] over the course of the contract.

In conjunction with these investment levels, EfficiencyOne commits through its evidence to generate a contract period cumulative annual net energy savings at generator of 405.9 GWh and a cumulative annual net demand savings at generator of 62.5 MW. Notably, these energy and demand savings levels remain consistent with the EfficiencyOne Application, notwithstanding the proposed investment level reductions set out in the Quantum Agreement and now adopted by EfficiencyOne by reference.

EfficiencyOne submits that the modified 2016-2018 DSM Resource Plan has been developed with an emphasis on producing affordable and achievable results, balancing short-term DSM investment levels and long-term requirements for energy savings within a balanced approach to portfolio design. The considerations and inclusions used in the development process include:

(1) Results of Nova Scotia Power's 2014 Integrated Resource Planning Process;
(2) Additional analysis completed by Nova Scotia Power;
(3) Balance of long-term and short-term considerations;
(4) Affordability considerations;
(5) Cost efficiency opportunities; and
(6) Balanced portfolio considerations.[23]

In the Quantum Agreement, the Parties agreed that the 2016-2018 DSM programs would be as proposed in EfficiencyOne's DSM Resource Plan as filed in its evidence on February 27, 2015[24].

[21] Aggregate investment is $116 million in nominal dollars (please refer to Exhibit 68, Undertaking U-3).
[22] *Public Utilities Act*, RSNS 1989, c 380, s.79J 2(d).
[23] Exhibit 1. EfficiencyOne Evidence filed February 27, 2015, Pages 26-42.
[24] Exhibit 61. Quantum Agreement. Appendix "A", Paragraph 4.

As part of the process of developing its 2016-2018 DSM Resource Plan targets and investment, EfficiencyOne engaged Navigant, which used its Electricity Resource Assessment Model (EL-RAM) to assess the cost-effectiveness and potential achievability of the Plan. As per the requirements of the *Public Utilities Act*, EfficiencyOne has proposed a DSM Resource Plan that is cost-effective and affordable, as analyzed in NS Power's 2014 IRP and subsequent analyses.

It is clear that NS Power has called into question the affordability of the proposed program developed by EfficiencyOne. These concerns will be addressed in further detail below. However, as per its initial evidence filed with the Board on February 27, 2015, and the terms of the Quantum Agreement, EfficiencyOne respectfully maintains that the proposed DSM Resource Plan developed with the expert assistance of Navigant is cost-effective, reasonably available, and affordable and should be accepted by the Board.

OUTSTANDING ISSUES OF DSM SUPPLY AGREEMENT

Position of EfficiencyOne

Appendix J to the EfficiencyOne 2016-2018 DSM Filing set out the form of DSM Supply Agreement negotiated between EfficiencyOne and Nova Scotia Power Incorporated ("NS Power") prior to the filing of this Application. As noted by both EfficiencyOne and NS Power in its evidence, the parties were unable to reach final agreement at the time of Application filing. EfficiencyOne's list of outstanding issues is set out at Appendix B to its Application and includes, *inter alia*:

(1) Quantity of electricity efficiency and conservation activities (DSM);
(2) Contract deliverables; and
(3) Contract price.

Item 2 – Contract deliverables – dealt with the proposed three-year contract deliverable of cumulative energy and peak demand savings. EfficiencyOne's evidence supported by the

Dunsky Report – DSM Performance Indicators[25], recommended that the approved Performance Target include a cumulative annual energy and peak demand savings (the 3-year total at the portfolio level). This previously outstanding issue was resolved by the Consensus Agreement, in the following provision:

> **3. (a) The parties agree to the following Performance Targets and Performance Indicators:**
>
> **(i) Performance Targets are set over the three-year contract period, rather than annually.**
>
> **(ii) EfficiencyOne is deemed to be in substantial compliance with the approved Plan Performance Targets if 90 percent achievement or greater is reached on the two Performance Targets as listed below. If less than 90 percent of any Performance Target is achieved, a regulatory process will be triggered.**
>
> **(b) Performance Targets consist of:**
>
> **(i) Cumulative annual energy savings**
>
> **(ii) Cumulative annual peak demand savings[26]**

Given the resolution of Item 2, the remaining outstanding items to be determined by this Board (together with approval of the entirety of the Supply Agreement) are (1) quantity of the DSM, and (3) contract price. Both of these outstanding Supply Agreement issues are dealt with individually in these closing submissions.

[25] Exhibit 1. EfficiencyOne Evidence filed February 27, 2015, Appendix "G".
[26] Exhibit 62. Consensus Agreement. Appendix "A", Paragraph 3.

Regarding the inclusions for Schedule A of the supply agreement, as stated in its evidence,[27] EfficiencyOne respectfully suggests that Schedule A of the supply agreement consist of its contracted deliverable: Performance Targets (the three-year cumulative energy and peak demand savings) and associated investment. EfficiencyOne is including Schedule A as Attachment 1 to these closing submissions.

Similarly, regarding the inclusions for Schedule B of the Supply Agreement, EfficiencyOne is including an updated Schedule B as Attachment 2. The Schedule has been revised to reflect the Quantum Agreement.

Position of Nova Scotia Power

NS Power indicated in its evidence that the EfficiencyOne DSM Plan (at the original investment level of $121.5 million for the 3-year contract) was neither cost-effective nor affordable on the grounds that the Plan recommended DSM spending that was among the highest in Canada on both the per capita and per customer basis.[28] Its evidence further advocated for a plan with a spending level of approximately $22 million per year on the basis that it would be consistent with the average cost per kWh of DSM spending among Canadian jurisdictions surveyed.

In support of its suggestion, NS Power relied upon the findings of Mr. Pickles, Vice President of ICF International. In arriving at his determination that the cost of certain EfficiencyOne DSM programs was excessive, Mr. Pickles referred to the jurisdictional review that he had conducted, outlining residential and non-residential DSM investments on a dollar per kWh basis.[29]

EfficiencyOne submits that the basis on which NS Power concluded that EfficiencyOne's proposed 2016-2018 DSM investment is excessive, flawed, and incorporates inaccurate data and analysis. Mr. Dunsky, having reviewed the analysis conducted by Mr. Pickles, made the following conclusions:

[27] Exhibit 1, EfficiencyOne Evidence, Appendix B, page 1, lines 24-25.
[28] Exhibit 33. NS Power Revised Evidence. Page 3, lines 17-18.
[29] Exhibit 33. NS Power Revised Evidence, Appendix "A", Page 10 of 100.

> **I have reviewed Mr. Pickles' benchmarking exercise, and find no support whatsoever for his conclusions. To the contrary, a more careful examination of the facts suggests that Efficiency Nova Scotia's past performance is squarely in line with its Canadian peers, and likely of a lower cost than its U.S. counterparts. Most importantly, I find that going forward, E1's proposal, if implemented, offers *lower cost savings* than its peers.[30]**

During the course of the hearing, the Board heard testimony relating to the methodology followed by Mr. Pickles, noting a number of irregularities with regard to choice of jurisdiction, application of historical to forward-projecting data and source information. Under cross-examination by NS Power counsel, the following exchange took place:

Mr. Clarke: Mr. Dunsky, in terms of benchmarking, would you agree with me that benchmarking is not exact but gives an idea of where a jurisdiction's DSM plan stands in relation to other jurisdictions?

Mr. Dunsky: If done correctly, yes.

Mr. Clarke: And you would agree with me that its far from a perfect science, benchmarking?

Mr. Dunsky: Yes, and again they are – within that imperfection there are different ways of doing it and you can do it to a much greater degree of precision or you can do it to a much higher degree of, let's say, imprecision or inaccuracy.

Mr. Clarke: Mr. Pickles used a number of Canadian jurisdictions for which he had information in terms of his benchmarking didn't he?

Mr. Dunsky: Yes.

[30] Exhibit 46. EfficiencyOne Reply Evidence. Appendix "B", Page 5, lines 18-22.

Mr. Clarke: **He also included two U.S. jurisdictions, Maine and Wisconsin; correct?**

Mr. Dunsky: **That is correct.**

Mr. Clarke: **And could we turn to Exhibit 46, please? And that's Table 1, Page 12. That's not it.**

[Short pause]

Mr. Clarke: **Thank you. Mr. Dunsky, you suggest an alternative set of jurisdictions in this table, and your alternate jurisdictions, you`ve removed six Canadian administrators, which Mr. Pickles included. You removed Newfoundland Power and Newfoundland Hydro; didn`t you?**

Mr. Dunsky: **I'm sorry; if you give me one moment, I just want to –**

Mr. Clarke: **Sure.**

Mr. Dunsky: **-- Refresh my own memory here. Right, so this was more specifically for the forward-looking benchmarking. Mr. Pickles produced a number of different things, but one was the benchmarking that actually combined Nova Scotia's forward-looking plan with others' past results.**

And so one thing I feel is important to do, and that is what we do systematically, is compare apples to apples, and so we went about to actually do two different things, and one is look at past, so you know, past versus past, and then separately, future versus future.

And so we did both of these, and the table you are pointing to me here is not the numbers we used for benchmarking but merely the process through which we went about choosing benchmark regions for the future against future exercise.

Mr. Clarke: Right.

Mr. Dunsky: And…

Mr. Clarke: I'm sorry; I didn't mean to cut you off.

Mr. Dunsky: No, that's fine. I was just going to say one of the reasons we did that is because we looked at Mr. Pickles' evidence and went a little bit further, I believe, and actually looked into the source materials and those utilities actually filed plans, we found there to be very material differences between the actual plans and the results that were reported in Mr. Pickles' evidence, and so we didn't feel it appropriate to retain those numbers.[31]

[emphasis added]

EfficiencyOne respectfully suggests that the foundational support for Mr. Pickles' assertion, that both residential and non-residential portfolio costs in the EfficiencyOne 2016-2018 DSM Resource Plan are excessive, is fundamentally flawed.

Firstly, the comparison is based upon historical 2013 data, which is then compared against forward-projecting 2016 through 2018 Plan data of EfficiencyOne. This historical comparison of data to forward-projecting costs ignores the reality of a maturing energy efficiency market as well as certain factors such as code changes which would have the effect of creating upward cost

[31] Transcript, June 15, Pages 150-152.

pressure.[32] By comparison, the analysis prepared by Mr. Dunsky, comparing achieved first-year unit costs among Canadian jurisdictions, demonstrates that EfficiencyOne's investments are "squarely in line with – or lower than – the unit cost achieved elsewhere".[33]

Furthermore, a comparison of forward-looking plans, as noted in Figure 2 of Mr. Dunsky's report[34], similarly indicates that the proposed EfficiencyOne Plan offers "cost of savings that appear to be more economic than those of other regions examined"[35].

EfficiencyOne submits that the per capita spending metric proposed by Mr. Pickles provides data that is entirely irrelevant, or in the word of Mr. Dunsky, "meaningless"[36]. As noted by Mr. Dunsky, a per capita spending metric merely indicates the magnitude of spending in a region overall without any regard to the uniqueness associated with the residential makeup of apartments to homes, small businesses to large businesses, and other related demographics. This observation was confirmed by Mr. Pickles in a question raised by Board Member Dhillon:

Mr. Dhillon: **I guess the other point I ---other question I have is that – and maybe from Mr. Pickles, I guess. The argument made – one of the argument made is that the cost of DSM in Nova Scotia is higher per capital or some other basis in – compared to other jurisdictions. Isn't the average jurisdiction is unique in a way for DSM purposes?**

Mr. Pickles: **If I understand your question correctly, I would say that, yes, each jurisdiction is unique and needs to make its own determination based on all of the balancing issues that are available to it. I think it's informative to look at other jurisdictions and what they have been able to achieve with an eye to what their policy constraints and considerations are. But, yes, I think each jurisdiction is unique and that's perhaps evidenced by the fact that every jurisdiction comes to,**

[32] Transcript, June 18, Page 712, Lines 9-13.
[33] Exhibit 46. EfficiencyOne Reply Evidence. Appendix "B", Page 6, lines 25-26.
[34] Exhibit 46. EfficiencyOne Reply Evidence. Appendix "B", Page 7, Figure 2.
[35] Exhibit 46. EfficiencyOne Reply Evidence. Appendix "B", Page 6, lines 27-28.
[36] Exhibit 46. EfficiencyOne Reply Evidence. Appendix "B", Page 8, line 17.

> **you know, oftentimes a very different conclusions as to what the appropriate level of energy efficiency is and cost of energy efficiency should be.**[37]
>
> **[emphasis added]**

With regard to the choice of jurisdictions, it is submitted that the selection of jurisdictions made by Mr. Pickles for purposes of his comparisons was largely wrong to effect a specific result; namely, dealing with analysis that showed higher unit costs than related jurisdictions. It is respectfully submitted that this analysis is flawed on the basis of jurisdictions and source data chosen. Specifically:

(1) Failure to include jurisdictions with similar climates such as Massachusetts, New York, New Hampshire, Vermont and New Jersey; however, including Maine (potentially on the basis that Maine's unit costs are lower than the aforementioned jurisdictions);
(2) Failure to include jurisdictions such as Vermont or Oregon whose delivery structures closely resemble that of EfficiencyOne (notably both Vermont and Oregon's costs are higher than the average noted in those jurisdictions chosen by Mr. Pickles);
(3) Inclusion of ESource data that does not align with source data filed or published by the jurisdictions selected;
(4) Inclusion of unverified/self-reported results in the case of Manitoba.

Based on the foregoing, it is respectfully submitted that the benchmarking data constructed by Mr. Pickles on behalf of Nova Scotia Power is at best, fundamentally flawed and potentially self-serving. Furthermore, as is indicated in the evidence, the source data relied upon by Mr. Pickles was drawn largely from a data aggregator as opposed to original administrator source data which was relied upon by Mr. Dunsky in his comparison.[38]

[37] Transcript, June 19, 2015, Page 959, line 22 to Page 960, line 12.
[38] Transcript, June 18, 2015, Page 666, line 13 to Page 667, line 2.

NS Power Alternate Scenarios

In its evidence, NS Power has advanced four "alternate scenarios" and suggests the ones in the range of $22 million per year would be "best aligned with the near and mid-term needs of Nova Scotia Power's system and customers".[39] NS Power has suggested that it was appropriate to offer these "alternate scenarios" for review by the Board and other stakeholders in the absence of EfficiencyOne offering any lower cost scenarios than that set out in its 2016-2018 DSM Resource Plan. EfficiencyOne rejects the proposition that it is appropriate to file and defend multiple scenarios in a DSM Plan Application filing. EfficiencyOne stands as the franchise holder, granted by the Minister of Energy pursuant to 79(c) of *Public Utilities Act*. In accordance with the legislation, it is the Board that shall determine the cost-effective electricity efficiency and conservation activities that must be undertaken.[40] Section 79(L)(6) of the *Act* provides:

> **Notwithstanding subsection (5), in the application, the franchise holder is primarily responsible to provide information and evidence to the Board to justify the electricity efficiency and conservation activities that it proposes to undertake for Nova Scotia Power Incorporated, and Nova Scotia Power Incorporated is entitled to rely upon the expertise of the franchise holder in respect of the delivery of the electricity efficiency and conservation activities.**

Despite a period of extended negotiation, NS Power and EfficiencyOne were unable to reach agreement on the appropriate investment level for electricity efficiency and conversation activities (DSM). Consequently, and in accordance with the legislation, EfficiencyOne proceeded to develop what it considered to be the appropriate DSM Plan for the contract period 2016-2018. In doing so, it relied upon a number of factors, including:

(1) The franchise holder's historical knowledge of the Nova Scotia marketplace;
(2) The 2014 Integrated Resource Plan;

[39] Exhibit 33. NS Power Revised Evidence, Page 39, lines 12-13.
[40] *Public Utilities Act*, RSNS 1989, c 380, s 79(h).

(3) Affordability to Nova Scotia Power ratepayers;

(4) Feedback received from NS Power during negotiations;

(5) Maintaining a viable DSM delivery system within Nova Scotia.

Having regard to all of the foregoing, EfficiencyOne developed a detailed DSM Plan utilizing a sophisticated modelling process, informed by market research and in a manner, in all material respects, consistent with the level of detail and information provided to the Board and stakeholders in all previous DSM Plan Applications. EfficiencyOne maintains that there is nothing within the *Electricity Efficiency and Conservation Restructuring (2014) Act*[41], which requires or necessitates a change to the level of information and/or detail provided to this Board for approval of a DSM Plan. While the legislation does contemplate a negotiation between NS Power and EfficiencyOne in an effort to reach agreement on a proposed DSM Resource Plan, it is clearly left to the Board to ultimately determine whether any such agreement which might have been reached is in the best interest of NS Power customers. The legislation also contemplates a situation where despite good-faith effort, no agreement has been reached between NS Power and the franchise holder.[42] EfficiencyOne strongly objects to NS Power's suggestion that the Application brought before this Board for approval in this proceeding in any way lacks the level of detail, content, comparative data or any other factor necessary to allow a fulsome review of the Application during a regulatory process. As a public utility, NS Power did not file the level of detail for the DSM Plans it filed, as interim DSM administrator, for 2008-2011, despite now asserting such detail is required for appropriate review and approval purposes.

To the specific alternate scenarios (a), (b), (c) and (d), it is notable that NS Power itself acknowledges they are not advancing any of them for approval by the Board. Rather, they appear to be presented to establish an expectation of EfficiencyOne's ability to generate peak demand and energy savings ranging from 279-387 GWh and 33-60.5 MW over the contract period for the investment levels presented. While Nova Scotia Power points to these as indicative, the evidence is clear they have not been advanced as alternate plans for approval. It is submitted that this is in part based on the obvious fundamental flaws in methodology and results that are included in

[41] *Electricity Efficiency and Conservation Restructuring (2014) Act*, SNS 2014, c 5.
[42] *Public Utilities Act*, RSNS 1989, c 380, s 79(j)(3) .

each of these scenarios. Respectfully, EfficiencyOne submits that little value, if any, can be placed on these scenarios given the marked departure from appropriate DSM model construction.

Throughout their testimony, NS Power went to considerable length to emphasize that these are not definitive plans which could or should be approved by this Board:

> **Mr. Gogan: These are not advanced as plans in and of themselves?**
>
> **Mr. Pickles: None of these is a plan which the company is proposing be adopted in this hearing.[43]**
>
> **…**
>
> **Mr. Gogan: But again, these are scenarios that you are advancing. As Mr. Pickles has said, they're indicative. They are not plans in and of themselves; is that correct?**
>
> **Ms. Curtis: That is correct[44].**
>
> **…**
>
> **Mr. Blunden: Mr. Gogan, just before we do, because I realize this is a good time to interject, because I think we're only halfway through this exercise. I just wanted to remind the Board as to what we are looking at and why. *These are alternative scenarios that we put forward. They're not definitive plans…*[45]**
>
> ***[emphasis added]***

[43] Transcript, June 18, 2015, Page 724, lines 5-8.
[44] Transcript, June 18, 2015, Page 726, lines 1-5.
[45] Transcript, June 18, 2015, Page 747, lines 5-11.

During cross-examination of scenario (c):

> **Mr. Gogan: This scenario has an allocation of DSM investment of 75 percent to B&I sector and 25 percent to the residential sector. Do you agree with that?**
>
> **Mr. Boutilier:I believe that's correct, yes.**
>
> **Mr. Gogan: Do you believe this is an appropriate – in your opinion, at least, this is an appropriate equity allocation of DSM across residential and business sectors?**
>
> ***Mr. Boutilier: What it is, is the result of a specific methodology used, and it is not intended to be a plan or even an implementable scenario as such…***[46]
>
> ***[emphasis added]***

Inconsistency of NS Power's Scenario Positions

In its evidence, NS Power suggests that it would be appropriate for EfficiencyOne to design a DSM Plan of approximately $22 million to achieve approximately 100 GWh per year over the contract period, arguing that this would be in the best interest of Nova Scotia Power customers. Notwithstanding its stated position on the $22 million per year investment, its evidence has presented the (a) through (d) alternate scenarios which, on an annual basis, range from $21.7 million per year (scenario (d)) to $36.7 million per year (scenario (a)). Under cross-examination, NS Power acknowledged that only two of the scenarios proposed suggest that demand savings required to avoid capacity additions until 2032 can be attained for approximately $22 million per year:

[46] Transcript, June 18, 2015, Pages 748-749, lines 9-22.

Mr. Gogan: But in your – in the evidence of Nova Scotia Power, it talks about expenditure levels of $22 million and that – clearly that takes out options A – scenario A and scenario B. So is it Nova Scotia Power`s position that it is advancing C and D as alternate scenarios for consideration, or all of the scenarios?

Ms. Curtis: As Mr. Pickles points out there are a number of different scenarios here. Scenarios C and D do have some alignment with Nova Scotia Power's proposal to pursue $22 Million of DSM investment for a savings of 100 gigawatt hours a year.

Mr. Gogan: And it's the $22 million expenditure that's being advanced to the Board as an appropriate level of investment; is that correct?

Ms. Curtis: What Nova Scotia has – Nova Scotia Power has suggested is that we believe that 100 gigawatt hours of energy savings programs with associated demand savings into the future is an appropriate level of DSM for Nova Scotia into the future and we have asked that EOne redesign the budget for – to meet that amount of energy savings and demand.

Mr. Gogan: Suggesting, if you will, that that can be done at an approximate cost of $22 million per year?

Ms. Curtis: We have developed two scenarios which suggest that can be done at $22 million.[47]

[emphasis added]

[47] Transcript, June 18, 2015, Page 724, line 17 to Page 725, line 22.

Under cross-examination, Mr. Pickles testified as to the manipulation of inputs to the EL-RAM model for the various scenarios presented. His testimony acknowledged that in certain instances, logic within the EL-RAM model was revised, partly in an effort to drive a specific output – GWh of savings.[48] EfficiencyOne respectfully suggests that this Board should place no weight whatsoever on indicative scenarios designed using the EL-RAM model where NS Power admittedly altered inherent logic within the model. As the Board is aware, the EL-RAM model is a sophisticated tool used in developing and designing DSM plans. The EL-RAM has been used as a DSM planning tool by over 50 DSM administrators, being subjected to regulatory scrutiny since 2008. The sophistication of the model is based in part on the interactive components of the model, including measure uptake, interactions between incentive and administrative costs, and fixed cost allocation. Individually, the acknowledgement by NS Power that calculated variables such as participation rates[49] were specifically altered largely renders the result meaningless as does adjusting outputs of the model without re-running them as inputs to determine resulting impacts.

It is respectfully submitted that the evidence before the Board is clear in regard to the manner in which the "alternate scenarios" were developed. NS Power themselves acknowledged that they are not being advanced as plans. These alternate scenarios provide little, if any value in assessing reasonably anticipated energy and demand savings that can be accomplished through an investment at or near $22 million per year. It is submitted that this Board should place no weight on these scenarios.

AFFORDABILITY

Section 79L of the *Public Utilities Act* deals with the Board's requirement for approval of agreements. Significant amongst these requirements, as it relates to this Application, are ss 79L (8) and (9):

[48] Transcript, June 18, 2015, Page 731, line 9 to Page 733, line 11.
[49] Transcript, June 18, 2015, Page 737, lines 9-19.

> **(8) The Board shall approve an agreement pursuant to this section if, in addition to any other matters considered appropriate by the Board, it is satisfied that the agreement, including the proposed electricity efficiency and conservation activities that are the subject of the agreement, is in the best interests of Nova Scotia Power Incorporated's customers and satisfies the requirements of s. 79J;**
>
> **(9) The Board's assessment of the proposed electricity efficiency and conservation activities for the purpose of the approval must take into account their affordability to Nova Scotia Power Incorporated's customers, along with any other matters considered appropriate by the Board or as may be prescribed.**[50]

These two statutory provisions, one dealing with the best interests of NS Power's customers and the other dealing with affordability, are factors which must be considered by this Board in any approval and/or determination of the appropriate level of DSM investment on the basis that such amounts will ultimately be recoverable from NS Power customers.

EfficiencyOne submits that the concept of "best interest of Nova Scotia Power's customers" represents an overarching provision which has always been, and remains, a primary concern for the Board in determining matters which ultimately affect NS Power's customers. It is EfficiencyOne's submission that section 79L(8) does not impose any additional test or consideration that has not otherwise been considered by this Board in previous approvals of DSM Plan Applications.

Subsection (9) also encompasses a requirement which, EfficiencyOne would submit, has been the subject of consideration by this Board in previous DSM hearings. EfficiencyOne submits that affordability to NS Power ratepayers is always an appropriate consideration in determining spending approvals, general rate application cases, capacity additions related to NS Power, and now through DSM investment levels for EfficiencyOne.

[50] *Public Utilities Act*, RSNS 1989, c 380, ss 79L (8) & (9).

In developing its DSM Resource Plan Application for 2016-2018, EfficiencyOne considered affordability. The CEO of EfficiencyOne stated in his opening statement:

> **The 2016-2018 Plan for energy efficiency we've proposed balances all views. It meets the affordability test on all fronts:**
>
> - **It's cost effective – 3 cents per kWh saved vs. 12 cents to produce and deliver it.**
> - **It's based on a lower unit cost in prior proposed plans.**
> - **It will not impact rates.**
> - **It considers the long-term requirement of efficiency to position the industry to be able to deliver more when required.[51]**
>
> **[emphasis added]**

Mr. Crandlemire subsequently provided additional details:

> **Our plan reflects this guidance and considers the many different ways affordability can be viewed.**
>
> **Affordability can be considered over the long term. It's this view that Nova Scotia Power's Integrated Resource Plan takes. The objective of this process - concluded this past fall - is to identify the lowest cost mix of sources for our electricity system over a 25-year timeframe.**
>
> **The IRP concluded yearly levels of efficiency in the $50 to $60 Million range are required to ensure long-term affordability for Nova Scotians. The plan we've submitted reflects this direction. After all, energy efficiency is a long-term 'supply', with long-term savings, and we are always in the long term as well as the short term.[52]**
>
> **[emphasis added]**

[51] Exhibit 51. Opening Statement of EfficiencyOne. Page 4.
[52] Exhibit 51. Opening Statement of EfficiencyOne. Page 3.

EfficiencyOne has factored in affordability to its Quantum Agreement investment level of $113.5 million:

- It is $69 million, or 38 percent, less (over the three-year term) than the Mid-DSM level of the IRP's Preferred Resource Plan. The Mid-DSM scenario resulted in the lowest revenue requirement over the 25-year planning period, rendering it the most cost-effective and therefore affordable for Nova Scotians over the long term.

- The Quantum Agreement investment level brings annual DSM investment less than a level that existed in 2011 and significantly below ratepayer-funded DSM Plans in 2012, 2013, and 2014.

- The proposed Plan balances short and long-term affordability by considering the $53 million for DSM in 2014 rates that was repurposed in 2015 for the FAM repayment and will be available in 2016. This ensures that EfficiencyOne's proposed investment, which is significantly lower than $53 million, is not the driving factor for an increase in rates while not causing negative impacts on EfficiencyOne's ability to achieve Mid-DSM levels, as per the IRP, in the future as required.

- In an effort to ensure that more customers are able to be participants, the Plan proposes an investment level and range of programs that allows for greater participation than NS Power's alternative DSM scenario while also reflecting an appropriate balance of participation opportunities between Residential and Business, Non-Profit, and Institutional (BNI) sectors and programs, unlike NS Power's alternative scenario that achieves 75 percent of energy savings from the BNI sector.

- It establishes a foundation level of investment that considers short-term affordability while ensuring that DSM can be gradually "ramped up" in future years, as needed.

- It addresses long-term affordability through avoidance of new capacity additions until 2032.

None of the above factors were successfully challenged and/or rebutted during the hearing.

The evidence filed by Mr. Paul Chernick on behalf of the Consumer Advocate also helps to illustrate the importance of having a DSM portfolio that takes into consideration a balance of interests:

> **Q: In deriving its $22 million DSM budget and Alternative Plan, did NS Power take into consideration the importance of developing a well-balanced portfolio?**
>
> **A: No. Despite NS Power's concern about affordability, 75% of the end-use- specific DSM expenditures that it eliminated from EfficiencyOne's plan were in residential end-use categories. While NS Power reported in its 2014 compliance cost-of-service study that the residential class constituted 47% of energy load and 53% of revenues, NS Power's proposes to spend only 25% of the DSM budget on the residential class and would deliver only about 27% of the DSM savings to that class. The NS Power proposal is thus heavily tilted toward the commercial and industrial customers.**
>
> **In contrast, EfficiencyOne proposes to spend 48% of the DSM budget on residential customers and get 43% of the portfolio energy savings from that class; these values are much closer to the residential share of NS Power's load and revenues.[53]**
>
> **[emphasis added]**

Similarly, the evidence of Mr. Tim Woolf, filed by counsel to the Board, also supports the position that NS Power's proposed definition of affordability provides a narrow, unbalanced approached to the issue:

> **NSPI's alternative DSM plan is not more affordable than E1's DSM Plan. It will result in higher electricity costs and bills, will create lost opportunities, will create**

[53] Exhibit 42. Direct Evidence of Paul Chernick. Page 38, lines 6-20.

customer inequities, and is not consistent with best practices in DSM program design.[54]

…

NSPI discusses affordability almost entirely in terms of the amount of budget spent on the DSM programs. The Company's evidence focuses on reducing the cost of saved energy and reducing the DSM budgets, implying that these two factors are the only indication of affordability.[55]

[emphasis added]

Mr. Woolf's evidence also supports the assertion that there are other, more important, indicators of affordability than those included in NS Power's Plan:

… In my view, the most important indicator of the affordability of a DSM plan is its impact on electricity system costs, as measured by the net present value of revenue requirements (PVRR). The revenue requirements indicate the amount of money that customers will be expected to pay for electricity services over the long term. Those resource plans and portfolios that result in the lowest PVRR will result in the lowest costs to customers, and therefore will be most affordable to customers.

When screening DSM resources, the PAC test provides a direct indication of the potential for DSM resources to reduce utility system PVRR. Therefore, the results of the PAC test are a good indicator of the affordability of DSM programs. This is one of the reasons that I support the proposal to use the PAC test for screening DSM resources in Nova Scotia...[56]

[emphasis added]

[54] Exhibit 37. Direct Evidence of Synapse. Page 3, lines 6-9
[55] Exhibit 37. Direct Evidence of Synapse. Page 29, lines 11-15.
[56] Exhibit 37. Direct Evidence of Synapse. Page 29, lines 17-26.

Affordability has always been, and remains, a key consideration of EfficiencyOne (and before that, Efficiency Nova Scotia) in its DSM Plan development. EfficiencyOne recognizes that affordability means different things to different people. However, respectfully, it is EfficiencyOne's position that affordability in the context of the legislative requirements is most closely aligned to customers' actual costs – their electricity bills. DSM investment must be undertaken in a way that reduces electricity costs to Nova Scotia ratepayers. The Consumer Advocate's opening statement echoed this consideration, wherein it stated:

> **In light of the fact that the cost of DSM programs and thus the cost of reducing demand is significantly cheaper than satisfying the demand, one might well ask why there is any hesitation as to the amount of DSM programming that is to be implemented. It should be as much DSM programming as can be shown to reduce demand as long as the cost of programming is less than the cost of generation.**[57]
>
> **[emphasis added]**

The uncontradicted evidence presented in the hearing established an estimated average generation cost of 12 cents per kWh while the corresponding cost of avoiding this kWh of generation through DSM equated to less than 3 cents per kWh. By any reasonable measure, DSM investment at a cost of at or less than 3 cents per kWh is affordable to Nova Scotia ratepayers when the corresponding cost of such generation is approximately 12 cents per kWh. As a result of the Quantum Agreement, EfficiencyOne has agreed to achieve its energy and peak demand savings for an investment of 1.7 cents per kWh.[58]

Investing in DSM is about bill savings to Nova Scotia electricity customers. It is not solely an issue of generation avoidance or renewable electricity standards as has been suggested by NS Power.

[57] Consumer Advocate Opening Statement, Page 29, Lines 17-22.
[58] Using 2016 dollars and a 16-year measure life, per Navigant's EL-RAM modelling used to develop EfficiencyOne's 2016-2018 DSM Resource Plan.

The evidence has established that the EfficiencyOne Plan, the only plan presented for consideration during this Application, was developed with key underlying principles on a basis consistent with previous DSM Plan submissions approved by this Board. The heightened attention to the consideration of affordability was expressly considered in EfficiencyOne's Plan development and was specifically noted by Ms. Vincent during the NS Power cross-examination:

> **When we looked at the concept of affordability when developing this plan, there were sort of three main areas that principally guided our thinking. There were many others. The first is looking at the IRP and in terms of the balancing of those long-term and short-term implications or impacts, and so looking at the benefits over the long term where the IRP did show that higher levels of DSM was the lowest-cost option for ratepayers and then balancing that against a shorter-term rate impact of an immediate short-term ramp-up or increase to those preferred resource plan levels, so we looked at balancing that long-term and the short-term while being guided by the IRP.**
>
> **Also in the short-term consideration, considering the 53 million of 2014 DSM investment that was repurposed in 2015 for the one-time repayment of the FAM.**
>
> **One of the other things that we looked at was stability. So the plan level that we proposed is at a stable, consistent level of DSM investment every year since 2010 in terms of program activity. So rather than – you know, I think I've used the term – probably over-used it in terms of step changes.**
>
> **What we wouldn't want to see is a stable level that has been achieved over the past four or five years drop significantly and then have to go back up when sort of that stable level of activity – and I mean in the Province's energy report that one of the things that customers wanted was they preferred – they wanted stability in their rates, so we were looking at the stable level of investment.**

And the third thing would be that balance between rates and bills so that while – when you're talking about affordability, rates often come up but rates are only one part of the equation. And really, its rates times consumption that equals bills.

And so we really felt strongly that to consider affordability, you had to look at the whole – the whole equation which is looking at the bills as well.[59]

[emphasis added]

Under cross-examination by NS Power counsel, Mr. Crandlemire noted that affordability cannot be solely considered to be a short-term rate impact issue.

Mr. Clarke: Okay. Do you accept that Nova Scotians are more concerned about affordable bills over the next three years as opposed to the potential bill impacts 25 years from now?

Mr. Crandlemire: I think Nova Scotians would have concerns on two counts. I think absolutely they would be concerned about their bills in the short term, say, over the next 2 or 3 years. I don't think for a minute that they would want to jeopardize their bills in the medium to longer term for the sake of short term benefit if they recognized that they were going to pay a premium for that in the longer term[60].
[emphasis added]

In developing its 2016-2018 DSM Resource Plan, the evidence has shown that EfficiencyOne has carefully considered short-term, medium-term, and long-term impacts. The evidence flowing from the 2014 IRP is clear in that a DSM investment level of approximately $60 million per year over the contract period will result in the lowest utility revenue requirement over the 25 year planning period. While there was considerable discussion on the issue of optimization of the

[59] Transcript, June 16, 2015. Page 473, line 20 to Page 475, line 15.
[60] Transcript, June 16, 2015, Page 537, line 21 to Page 538, line 11.

Plan, EfficiencyOne would assert that the results flowing from the IRP, particularly as they relate to optimal DSM investment levels over the 25-year planning period, were not successfully discredited in any meaningful way through the hearing. While Nova Scotia Power, through its evidence, has maintained that "more could be done for less", the thrust of its evidence was pointed at near-term potential rate impacts. This issue was highlighted during a line of questioning by both the Consumer Advocate and the Board Chair. Under cross-examination by the Consumer Advocate, Nova Scotia Power asserted that the issue of affordability is "how much can customers then afford to have on their bills effective January 1, 2016?"[61]

DSM Included in Rate Impacts

During the hearing, NS Power vigorously rejected the concept that any monies were "in rates" for DSM on the basis that the DSM rate rider was to be effectively removed from bills effective January 1, 2015. Moreover, the clear suggestion of NS Power was that any amounts expended on DSM may ultimately have the effect of increasing electricity customers' rates and therefore it was "not affordable". To suggest such is simply an obfuscation of reality. DSM investment has been funded by Nova Scotia ratepayers at levels ranging from $41.9 million in 2011 to $53.6 million in 2014. The suggestion by NS Power that a DSM investment on an annual basis of $22 million per year has the significant potential to drive rate increases ignores the reality of historic DSM investment in Nova Scotia.

The repurposing of the DSM rate rider for the 2015 FAM repayment cannot reasonably be expected to suggest that DSM is no longer included in rate impacts. This is highlighted through the following exchange between Mr. Blunden of NS Power and the Board Chair:

> **The Chair: But the fact of the matter is, $53 Million was in rates for 2014 and it was simply diverted for a year. It is still in rates; the rates weren't reduced?**
>
> **Mr. Blunden: The rates weren't reduced. The charge came off customers' bills. So, Mr. Chair, we look at it in two buckets.**

[61] Transcript, June 18, 2015, Page 778, line 14 to Page 786, line 3.

On the non-fuel rates, the charge came off of the bills and the costs then, beginning on January 1 of 2015, were now deferred as opposed to being collected from customers. Independent of that, there was adjustments that would have happened regardless on fuel.

The Chair: Right, but there's $53 Million in rates that was put there in order to pay for demand-side management, and on a go-forward basis what Efficiency Nova Scotia is asking us to do is to approve a program of approximately 37 Million, plus we have the eight-year deferral, one year of it to collect next year.

And so I have to say, I don't understand the logic of saying – I mean, Nova Scotia Power had used the money for other purposes, with the Board's permission, but that money was in rates for DSM.

Mr. Blunden: Sorry; maybe we're – I'm talking past. There was no money in rates in 2014 for DSM. It was covered – so if we look at our base cost –

The Chair: Right, it was in a rider.

Mr. Blunden: It was in a rider, that's correct.

The Chair: And the rates stayed the same –

Mr. Blunden: That's correct.

The Chair: ---as if the rider still existed.

Mr. Blunden: And we are not collecting that from customers in 2015. We were –

The Chair: But you're collecting the same rates?

Mr. Blunden: Same rates for non-fuel costs, but we are not collecting for a rider. So, effectively, the non-fuel costs in 2015, there was a rate reduction.

The Chair: So how did the rate reduction occur? The rates haven't changed.

Mr. Blunden: The non-fuel costs didn't change. The rate rider came off the bill and the price of fuel went up.

The Chair: Right. So Nova Scotia Power, for a year at least, has been allowed to expropriate that money for another purpose?

Mr. Blunden: No. We're not collecting that from customers. The rate rider that was paying for DSM came off the bills on January 1st and we're not collecting that from customers.

The Chair: Sorry, I don't follow that. So rates haven't gone down; in other words, customers this year are paying the same as they did last year?

Mr. Blunden: They are in total, but absent the increase in fuel, which would have happened regardless to some extent, the rates would have gone down.

…

The Chair: Right, but the reason the money was there and available to reduce fuel costs was because it was there for DSM and as a result of legislative change that money was freed up for a year. And Nova Scotia Power didn't ask us to do this. In fact, Nova Scotia Power opposed it.

Mr. Blunden: That's right.

The Chair: But other customers wanted that money used to reduce their fuel deferral. So to all of a sudden to make energy efficiency the villain if Nova Scotia Power needs a rate increase, I have to say I don't understand that.

Mr. Blunden: That's certainly not our intention.

The Chair: That's what you're doing.

Mr. Blunden: Our intention is – and through the conversations we had with stakeholders on fuel was the fuel bill had to increase to both cover the FAM balance that was outstanding at the end of last year, as well as the expected increase in fuel. And so the references that it was a one-time are somewhat surprising to us. I think – our understanding was the intention was that the majority of that $50 plus million on a fuel adder would get added to the base cost of fuel in 2016.

The Chair: Was that the decision?

Mr. Blunden: No, it was not[62].

[emphasis added]

Through a subsequent exchange, NS Power was questioned on the basis of whether it was appropriate that the DSM investment, as the "one outstanding variable that [NSPI has] now"[63] be used as the "filler" for what should be spent on DSM. This position was challenged by the Board Chair in the following exchange wherein Nova Scotia Power accepted that such an approach was clearly not correct:

[62] Transcript, June 18, 2015, Page 781, line 7 to Page 784, line 1 and Page 784, line 22 to Page 786, line 2.
[63] Transcript, June 18, 2015, Page 824, Lines 19-22.

The Chair: So is DSM the Delta here; that Nova Scotia Power gets to recover all of its costs, and whatever is left over on the table gets to be spent on DSM? Is that the approach here?

Mr. Blackburn: I guess that was what I was trying to get, Mr. Chair, to –

Mr. Blunden: It is the one outstanding variable that we have now, Mr. Chair.

The Chair: But a rate case is based on all of your costs.

Mr. Blunden: It is, but as I had indicated, it is the one outstanding variable that we have at this point.

The Chair: So is that how we set DSM on a go-forward basis?

Mr. Blunden: No[64].

[emphasis added]

A level of consistency in investment is one of the underpinning concepts of appropriate DSM Plan development and one which was considered by EfficiencyOne in the development of its 2016-2018 DSM Resource Plan. The evidence before this Board has established that EfficiencyOne has carefully taken into consideration affordability for electricity ratepayers, both in the short-term and the long-term, in its Plan development. Recognizing the potential impact to rates in the short-term through adoption of the IRP Mid-DSM scenario, EfficiencyOne has sought to balance short-term and long-term affordability by reducing the revenue requirement in the short term but also preserving long-term benefits gained through DSM through a stable, structured, evidence-based plan.

[64] Transcript, June 18, 2015, Page 824, line 19 to Page 825, line 12.

In this proceeding, the Board is being called upon to define "affordability" in the context of DSM portfolio investment for this 3-year contract period and future contracts. In doing so, EfficiencyOne respectfully submits that the Board should fundamentally reject a definition of affordability grounded largely in short-term rate impacts or an approach that focuses only on the "here and now" as espoused by NS Power. EfficiencyOne maintains that the appropriate definition of affordability is one which balances the short-term, mid-term and long-term in a manner which recognizes the fundamental, ongoing value of DSM to Nova Scotia electricity ratepayers, recognizes the need for stability in investment levels, allows for a balanced portfolio of measures and ultimately a program portfolio that is delivered on a cost-effective basis. Should near-term rate impacts be of particular concern, the *Public Utilities Act* allows for the amortization of DSM investments to a cap of $100 million. Although EfficiencyOne takes no position on amortization, amortizing all or a portion of specific years can help to "smooth" out rate impacts while avoiding negative consequences of reducing investment in DSM activities, which are lower-cost than supply-side options and have benefits that greatly exceed the costs. EfficiencyOne further submits that based in part upon the Quantum Agreement, the definition and approach to affordability incorporated in the EfficiencyOne 2016-2018 DSM Resource Plan is supported and accepted as the appropriate interpretation of this statutory requirement by the Agreement signatories.

Ultimately, the Board is tasked with making a determination that is of critical importance not only to the present application, but future applications. In the process of making this determination, the Board must make an interpretation of the concept of affordability that will also govern future applications. Such a determination and interpretation must be made on practical, cogent evidence which considers both short- and long-term affordability. EfficiencyOne respectfully submits that it has provided such evidence and its proposed Plan should therefore be approved over any of the scenarios put forth by NS Power or over a Plan developed using the types of limited assumptions proposed by NS Power.

COST-EFFECTIVENESS SCREENING

In its Application, EfficiencyOne requested approval to change the primary cost-effectiveness testing methodology from the TRC to the PAC for subsequent DSM Resource Plans.[65] In support of this request, EfficiencyOne has filed evidence by Dunsky Energy Consulting[66] who recommended two options to rectify issues with the effectiveness of TRC screening. Ultimately, EfficiencyOne, through its Application, advanced approval of a PAC test, citing the following key factors:

(1) The PAC test is inherently balanced. It requires no regulatory effort to balance appropriately which could likely be significant for a modified TRC-based approach;

(2) The PAC is more reflective of a ratepayer value approach. It allows fairer competition between supply-side and demand-side planning options; and

(3) The PAC cost is consistent with a least-cost procurement view which aligns with the *Public Utilities Act*.[67]

In its evidence, NS Power suggested that a move from TRC cost-effectiveness testing to a PAC test would result in a lessening of the standard:

> **The PAC test excludes participants' costs, and as a result is a more relaxed hurdle for DSM to pass. Relaxing the cost-effectiveness threshold could lead to less-than-optimal choices in future as a result.[68]**
>
> **…**

[65] Exhibit 1. EfficiencyOne Evidence filed on February 27, 2015, Page 56, Lines 24-27.
[66] Exhibit 1. EfficiencyOne Evidence filed on February 27, 2015, Appendix "I".
[67] Exhibit 1. EfficiencyOne Evidence filed February 27, 2015, Pages 57-58.
[68] Exhibit 33. NS Power Revised Evidence, Page 43, Lines 13-15.

> **In the context of the ongoing high unit costs proposed by E1 and the central issues of affordability in this proceeding, NS Power believes the Board should be enhancing rather than reducing the focus on cost-effectiveness. [69]**
> **[emphasis added]**

EfficiencyOne rejects the proposition that a shift from TRC testing to PAC testing is, in any way, a lessening of the standard. Rather, EfficiencyOne sees this shift as necessary to ensure the test under which DSM is screened is unbiased and inherently fair. DSM programs having passed screening under a biased application of the TRC in the past does not change the fact that the TRC as applied in Nova Scotia is biased against energy efficiency by including all the costs but only a portion of the benefits resulting from DSM activities. EfficiencyOne also maintains that DSM should be screened using industry "best practices" consistent with leading jurisdictions across North America. As noted in his evidence, Mr. Dunsky commented:

> **As a result, the majority of leading DSM regions across North America had either sought to modify their TRC to account for the missing (non-energy) benefits, among other changes, or moved towards other test such as the Program Administrator Cost (PAC) test. These jurisdictions include four of the "top 5" and eight of the "top 10" states as rated by the most recent American Council for an Energy Efficient Economy (ACEEE) scorecard.**
>
> **In the same vein, the National Efficiency Screening Project (NESP) recently developed a best practice guidelines that similarly call for either wholesale changes to the TRC, or a shift toward the PAC test.[70]**
> **[emphasis added]**

[69] Exhibit 33. NS Power Revised Evidence, Page 43, Lines 17-19.
[70] Exhibit 1. EfficiencyOne Evidence filed February 27, 2015, Appendix "I", Pages 1 and 2.

EfficiencyOne submits that there is no evidence before the Board to demonstrate that a shift from TRC screening to PAC screening would in any way result in a "relaxing" of applicable standards.

The Quantum Agreement deals with this issue at paragraph 7, stating:

> **7. Cost Effectiveness Testing**
>
> **(a) Through collaboration within the DSM Advisory Group, the parties agree to work to achieve consensus as to the methodology and assumptions of the cost-effectiveness screening test to be applied to future DSM Resource Plans.**[71]

In accordance with this commitment made by EfficiencyOne, EfficiencyOne respectfully requests that the Board refer this issue to the DSM Advisory Group for further consideration, with the expectation that Parties to the DSM Advisory Group can reach a consensus opinion for future cost-effectiveness screening. This opinion would ultimately be brought before this Board for consideration of approval and adoption.

INCENTIVES

During the course of the hearing before the Board, both NS Power and the Industrial Group, through their respective counsel, made great effort to advance the argument that EfficiencyOne cannot count energy savings unless it provides incentives to its customers. Flowing from this argument is a concern that incentives may not be necessary for certain measures and that EfficiencyOne is essentially placing excessive resources into customer incentives. With respect, EfficiencyOne submits that each of these assertions is wrong.

[71] Exhibit 61. Quantum Agreement. Appendix "A", Paragraph 7.

On the issue of necessity of incentive programs, as stated above, any proper consideration of this issue is naturally tied into the market assessment undertaken by EfficiencyOne, which can lead to mid-course adjustments. On this issue, the joint testimony of Mr. Faulkner and Mr. Dunsky, on behalf of EfficiencyOne, is instructive.

Mr. Merrick: All right.

We know from Mr. Drazen's evidence that he put forward the proposition that some programs are so good that they do not need to be incented. Are you aware of any evidence that this is the case?

Mr. Faulkner: I'd like to suggest that Mr. Dunsky and I will tag team on this one. But I'll start by saying that we've done research on – as recently as a year ago on business clients that shows very clearly that customers are not necessarily doing this without incentive, that often the largest barrier to participation in programs is the cost and that the need for incentives is necessary. I think Mr. Dunsky would add to that.

Mr. Dunsky: So I understand the question to be whether it's possible that there are programs or that there are measures that do not need incentives? Is that -

Mr. Merrick: It is a phenomena that you've run into before where programs are so beneficial there's no need to provide incentives?

Mr. Dunsky: So measures are – measures on their own are very beneficial?

Mr. Merrick: Yes.

Mr. Dunsky: That does happen. And that's the professional judgment, I think, that if any good program administrator makes in looking at all of the opportunities. There may be opportunities where you don't need to incent and there are many

opportunities where you do need to incent. One thing I'll say is that there is only way to know and that's through understanding the market[72].

[emphasis added]

In his opening statement, filed on behalf of the Industrial Group, Mr. Drazen proposed a two-part test; Part 1, requiring that EfficiencyOne demonstrate that a measure is cost-effective (the TRC test) and Part 2, that EfficiencyOne's investment in each measure should be inversely proportional to the TRC ratio. In effect, Mr. Drazen directly suggests that there may be instances where a measure is so cost-effective that no incentive is required. With respect, EfficiencyOne maintains there has been no evidence placed before this Board that would show that incentives provided by EfficiencyOne with respect to specific measures are excessive. Rather, the evidence advanced by Mr. Drazen and others suggest a theoretical correlation between a measure's cost-effectiveness and the specific need for incentive, essentially, the development of an algorithm that would establish appropriate incentive levels. Under cross-examination, Mr. Drazen noted that this algorithm approach included certain inherent assumptions such as understanding the value of the potential savings associated with adoption of a measure:

Mr. Gogan: So it assumes that participants understand the value of the bill savings. If I put it that way, would that be – would you accept that as an assumption inherent in this model?

Mr. Drazen: Yes.

Mr. Gogan: Does it assume that participants would believe that the benefits that are suggested to them from the measure are true?

Mr. Drazen: Yeah I think that's correct[73].
[emphasis added]

[72] Transcript, June 15, 2015, Page 174, line 12 to Page 175, line 20.
[73] Transcript, June 19, 2015, Page 1017, lines 5-14.

During further cross-examination, Mr. Drazen accepted the notion that establishment of incentives cannot be entirely formulaic and, by necessity, must include market behavioural research:

> **Mr. Drazen: I guess like any pricing, it's part art or part science or, you know, (inaudible) engineering problems are ones that try to apply some science to the art, you know. And any time you price something partly it's based on what the cost is and partly based on what the reaction will be[74].**
> **[emphasis added]**

This point was addressed by Mr. Dunsky in his testimony:

> **Mr. Dunsky: Thank you. Just to explain a little bit more. So we do some of this work from time to time. We've done it for Efficiency Nova Scotia and others where we'll go out and, first of all, do primary research to understand what the actual cost differential is in a specific market.**
>
> **Once we've done that, speak with the full supply chain, as well as end users or -- and consumers, to get a sense of what their market barriers are. So just for example, I know it was raised in someone's opening arguments, I guess it was, the example of a commercial dishwasher where you had an extraordinarily low payback, and I think it was under one year. We just literally, I think it was last week, just completed market research for the Federal Government into why energy efficient equipment in the commercial kitchen space is not flying off the shelves given that it's so cost-effective.**
>
> **And so one of the things that we'll do is do a barrier analysis. And this is really critical to understanding how much incentive to provide. If the barriers are**

[74] Transcript, June 19, 2015, Page 1024, Lines 3-10.

> **pervasive, then we know that we need to provide very significant incentives. If the barriers are minimal or if we can focus on those barriers and actually remove them, then we may need very few incentives.**
>
> **So in this example of commercial kitchen equipment, we found very pervasive barriers. You know, examples like in most cases when you're looking at restaurant chains or hotel chains, for example, the purchasing department, which is responsible for specifying the equipment, is very different from the operations and maintenance department, which is responsible for paying the bills.**
>
> **So purchasing actually doesn't really care about payback because they never see the payback. When you have that sort of a barrier, you know that unless you have reason to believe that you can actually have one-on-one discussions with, let's say, a large industry and change their entire internal practices, you need to provide extremely high incentives, because payback never actually makes it to the decision-maker.**
>
> **It's just one example of a whole series of barriers that we examine in each case to try to understand how far you need to go.**[75]
> **[emphasis added]**

A similar point was made by Mr. Dunsky in cross-examination by Ms. Rubin, with regard to her questioning on making payback estimators available to clients. Mr. Dunsky testified that it is difficult to provide customers with an average "payback" as it will vary greatly from customer to customer[76]. He also went on to advise that these estimates can be helpful to some customers while being frustrating to others, whose experience does not match the average value[77].

During the hearing, EfficiencyOne was questioned specifically on the manner in which incentive levels were established. There is significant information in evidence before the Board to suggest

[75] Transcript, June 16, 2015, Page 483, line 14 to Page 485, line 14.
[76] Transcript, June 16, 2015, Page 350, lines 15-18.
[77] Transcript, June 16, 2015, Page 351, lines 6-20.

a multi-faceted approach to establishment of incentive levels within the EfficiencyOne portfolio. EfficiencyOne has testified that incentive levels are driven by factors including comparisons to other jurisdictions, market knowledge gained through historical program operation, market research and consumer pricing information. This approach was articulated during an exchange between the Board Chair and the EfficiencyOne panel:

> **The Chair: I want to come back to the issue of incentives, which was talked about this morning in cross-examination. And there may have been an answer to this question, but if there was, I didn't hear it.**
>
> **How does Efficiency Nova Scotia or EfficiencyOne satisfy itself that the incentives paid are not too much?**
>
> **Mr. Faulkner: So there are a few factors we consider. When we're designing a new program, one of the common things we would do is look at other jurisdictions to see if they offer similar programs and what incentives they offer to reach out to them and understand how they arrived at that, was there research, etc.**
>
> **But even in our – whether it's an established program or a new program for us, there are a number of things that we would base our decision on. One of them is research. If we have data or if we can get data on what the customer's desired price point is, we would look at that.**
>
> **We – on a – for larger product basis, we do things like negotiate with the customer directly and determine what their required incentive is and ask them to document that in a contract for us.**
>
> **A number of programs we've done research on already so financing, green heat – and what was the other one we got here? Instant savings. We've looked at the optimal price point for the customer and we set it accordingly.**[78]
> **[emphasis added]**

[78] Transcript, June 16, 2015, Page 480, line 12 to Page 481, line 18.

In determining the appropriateness of the level of incentives, Mr. Faulkner, in cross-examination by Ms. Rubin of the Industrial Group, advised that free ridership, change in price of products over time, and the optimal price point for customers are all important factors to consider:

> **… Obviously, if the incentives are too low, free ridership is higher, because it's not having any influence on the customers' decision. And then our historical results influence the inputs to the RAM model, which, of course, is one of the considerations that are used when incentives are estimated for the RAM model.**
>
> **And another factor that we have to consider is that prices of products change over time. And one of the reasons we need flexibility to make mid-course adjustments is because of the change of the -- you know, change in product prices over time. So if the price of LED lighting drops 50 percent over the three-year plan, we would make adjustments accordingly.**
>
> **And the final thing I'll add is that we have done research with customers that show that the --you know, in some cases we've made adjustments to incentives for products like efficient products where usually -- usually what we find is that there's an optimal price point for customers to buy a certain product, and our research will tell us whether those incentives are enough to provide, you know, that customer motivation based on that optimal point[79].**
>
> **[emphasis added]**

Mr. Faulkner also advised that based on previous qualitative analysis, it is EfficiencyOne's position that "incentives are the highest motivator to participation and the cost is the highest barrier"[80]. On the same point, Mr. Dunsky testified that barrier analysis is also a focus of the establishment of incentives. On this point, Mr. Dunsky stated:

[79] Transcript, June 16, 2015 Page 340, line 17 to Page 341, line 16.
[80] Transcript, June 16, 2015, Page 342, Lines 2-3.

> **Mr. Dunsky: …And so one of things that we'll do is a barrier analysis. And this is really critical to understanding how much incentive to provide. If the barriers are pervasive, then we know that we need to provide very significant incentives. If the barriers are minimal or if we can focus on those barriers and actually remove them, then we may need very few incentives.[81]**
> **[emphasis added]**

Mr. Dunsky also noted that the current framework allows EfficiencyOne the flexibility to constantly revisit and work towards minimizing its incentives:

> **Right, exactly. So just one thing that comes to mind about the framework is that notion of flexibility. So right now the way the framework is, you have a capped budget and you need to hit the goal.**
>
> **And what that does is it forces Efficiency to constantly drive to revisit their incentives to minimize them so that they can free up that money to put to other savings opportunities. And that only works if you have that flexibility to shift things around.**
>
> **If that flexibility is lost, then you might end up with a sort of concern that you have which is, you know, if you no longer have the flexibility to move money from -- you know, from, what did they say, from dogs to -- the analogy works but, you know, from things that aren't working, or areas where you're spending too much into areas that could be more high performance, if you no longer have that flexibility then you're not going to be incented to do so.[82]**
> **[emphasis added]**

[81] Transcript, June 16, 2015, Page 484, lines 10-16.
[82] Transcript, June 16, 2015, Page 489, line 11 to Page 490, line 6.

EfficiencyOne respectfully submits that there is significant evidence before this Board which establishes the need for a research-based approach to establishment of incentives. Notwithstanding the position advanced by Mr. Drazen – the concept that incentives should be inversely proportional to TRC (the cost effectiveness of a measure) or to an average payback, the evidence has established that customer take-up of a particular measure is driven by a number of factors beyond simply a cost-effectiveness screening approach. To rigorously adhere to an algorithmic approach to incentive establishment risks the adoption of a poorly designed DSM portfolio and one which risks being significantly less effective than one informed by direct market research.

EfficiencyOne, as the DSM franchise holder in Nova Scotia, is recognized pursuant to legislation as having an expertise in respect of the delivery of electricity efficiency and conservation activities.[83] In its Application, EfficiencyOne has detailed its approach to the establishment of incentives and has indicated through its testimony the manner in which incentives are determined. Absent direct evidence to the contrary that such an approach is incorrect on a measure-specific basis, it is respectfully submitted that the Board should accept this methodology as reasonable and appropriate in the circumstances.

EfficiencyOne has sound logic models and program theory for all of its operating programs. It is EfficiencyOne's position that its program theory has certainly been validated by the experience of program operation. There are also costs to formalizing every detail of the program logic in every case, where an iterative approach may produce effective results.

Further, EfficiencyOne submits that an important step in producing its incentive levels is consulting with trade allies and customers, something it has done for the introduction of many of its successful programs.

The issue of incentive levels arose during the latter stages of the proceeding, and had not been questioned or addressed in previous DSM applications. Accordingly, in furtherance of an undertaking provided at the time of the hearing, EfficiencyOne has filed Undertaking U-4 which

[83] *Public Utilities Act*, ss. 79(I)(6).

details EfficiencyOne`s assessment of its incentive level and methodology. The evidence before the Board establishes a structured and disciplined approach to incentive establishment relying on factors such as:

(1) EfficiencyOne`s historical professional experience as Program Administrator in Nova Scotia dating back to 2010;

(2) The use of primary and secondary research;

(3) Benchmarking across comparable jurisdictions; and

(4) Monitoring of market reaction and changes.

In addition to these processes internal to EfficiencyOne, incentive levels are also assessed by way of evaluation and verification reports. These evaluation reports assess, in part, the impact of financial and other incentives offered by EfficiencyOne under a particular measure. The evidence placed on the record in the form of these reports, indicates that in certain instances, program changes to incentives are occasioned as a result of the evaluation, both through specific reference to incentive levels and through the evaluation of free-ridership[84]. While EfficiencyOne and its predecessor ENSC have always assessed, on an ongoing basis, the appropriateness of incentive levels and either decreased or increased them as applicable, it is also important to note that EfficiencyOne's programs are screened, and determined to be cost-effective, after accounting for free-ridership levels, which is standard, and conservative, industry practice.

It is respectfully submitted that the uncontradicted evidence before this Board has established that incentive levels of EfficiencyOne are developed using a defined methodology that:

(a) Is in keeping with industry standards; and

[84] Exhibit 68. Undertaking U-4, Page 6, line 24 to Page 7, line 6 and Attachment 4.

(b) Is subject to third party evaluation and verification.

EfficiencyOne respectfully submits there has been no evidence brought before the Board to show that the incentive methodology performed by EfficiencyOne is manifestly wrong. EfficiencyOne further submits that its methodology leads to appropriate incentive levels. Research to date (filed as Undertaking U-4) indicates that, with the exception of the 2013 Appliance Retirement incentive, EfficiencyOne's incentives are not higher than the level required to encourage participation; they are, in fact, at or below the appropriate level. Upon receiving results of the Appliance Retirement research, EfficiencyOne lowered the incentive to the minimum required to encourage program participation.

EfficiencyOne will continue to research, benchmark, and revise its incentives in order to achieve its results at the lowest cost possible while maintaining balanced portfolio principles. Accordingly, EfficiencyOne respectfully submits there is no reason to require a variance of EfficiencyOne's incentive methodology.

LEGISLATIVE FRAMEWORK

The introduction of the *Electricity Efficiency and Conservation Restructuring (2014) Act* in 2014 brought with it a revised legislative framework for the delivery of demand side management activities in Nova Scotia.

Among other matters, the legislative regime directs that NS Power undertake cost effective electricity efficiency and conservation activities by entering into an agreement with the franchise holder - EfficiencyOne.[85] Subsection 79J(2) of the legislation specifically contemplates a negotiation between the franchise holder and NS Power which would ultimately determine:

(c) the electricity efficiency and conservation activities that the franchise holder will provide to Nova Scotia Power; and

[85] *Public Utilities Act* 79 i(1)(2).

(d) the amount that Nova Scotia Power will pay to the franchise holder for the supply of electricity efficiency and conservation activities.[86]

The legislative framework goes on to vest the Board with the responsibility and authority to determine the appropriate level of such electricity efficiency and conservation activities. Notably, it directs that the Board take into account "affordability"[87] when establishing such investment levels. However, the legislation offers no definition of affordability. Throughout this proceeding, the Board has heard varying interpretations on this definition, ranging from the here and now to the twenty-five (25) year timeline established through the 2014 IRP. The absence of a direction with respect to affordability has, in the view of EfficiencyOne, made it exceptionally difficult to reach a negotiated agreement with NS Power. EfficiencyOne's approach encompasses a short-term and a long-term view – one which considers near-term ratepayer impacts with what has been clearly established to be the significant longer-term benefits of DSM in Nova Scotia.

EfficiencyOne believes that future negotiations, as contemplated under the legislation, would benefit greatly from a Decision by the Board that more clearly defines affordability.

That being said, EfficiencyOne points to the Quantum Agreement reached with the Consumer Advocate and the Small Business Advocate, together with the Affordable Energy Coalition and the Ecology Action Centre, as support for the proposition that EfficiencyOne has "found the right balance" in defining "affordability". Each of the Parties to the Quantum Agreement approached this hearing with significantly different perspectives, yet all were able to reach agreement on a recommended DSM investment level and energy and demand savings Targets. This Quantum Agreement strikes the right balance – it recommends a DSM investment for 2016-2018 that is affordable to Nova Scotian ratepayers.

[86] *Public Utilities Act* 79j(2).
[87] *Public Utilities Act* 79l(9).

CONCLUSION

EfficiencyOne respectfully requests an Order from the Board approving:

(1) The 2016-2018 DSM Resource Plan[88], as modified by the terms of the Quantum Agreement and the Consensus Agreement as applicable; and

(2) The agreed form of Supply Agreement[89].

(3) Schedules A and B to the Supply Agreement, provided herein as Attachments 1 and 2.

[88] Exhibit 1. EfficiencyOne Evidence Filed February 27, 2015, Appendix "A".
[89] Exhibit 1. EfficiencyOne Evidence Filed February 27, 2015, Appendix "J".

Schedule A
Scope of Services

The figure below identifies the scope of the contracted deliverables (3-year Cumulative Annual Net Energy and Net Peak Demand Savings) associated with carrying out Electricity Efficiency and Conservation Activities over the 2016-2018 Term.

	Cumulative Annual Net Energy Savings at Generator	**Cumulative Annual Net Peak Demand Savings at Generator**
	(GWh)	(MW)
Scope of Service - Deliverables (2016-2018 Term)	**405.9**	**62.5**

The planning details to achieve the above deliverables are as set out in EfficiencyOne's 2016-2018 DSM Resource Plan, filed February 27, 2015, subject to UARB approval.

Schedule B

Compensation

The schedule below identifies the monthly payments (not including HST) by Nova Scotia Power Inc. (NSPI) to EfficiencyOne for the Contract Price of $116 million (in nominal dollars) over the term of the 2016-2018 Agreement for delivery of energy and demand savings as provided in Schedule "A". The monthly payments reflect the variable nature of energy savings realized and the influence of such on the organization's monthly expenses. EfficiencyOne will invoice NSPI monthly in accordance with this schedule, plus the applicable HST. Payments will be due the first day of each month.

	2016	2017	2018
January	$3,145,976	$3,290,912	$3,452,900
February	$2,864,944	$2,996,933	$3,144,450
March	$3,073,205	$3,214,789	$3,373,029
April	$3,264,898	$3,415,314	$3,583,425
May	$2,759,469	$2,886,599	$3,028,685
June	$2,563,897	$2,682,017	$2,814,034
July	$2,631,615	$2,752,855	$2,888,358
August	$2,653,913	$2,776,180	$2,912,832
September	$3,365,601	$3,520,656	$3,693,952
October	$4,392,480	$4,594,844	$4,821,015
November	$3,107,660	$3,250,831	$3,410,846
December	$3,076,343	$3,218,072	$3,376,474
Total per Year	$36,900,000	$38,600,000	$40,500,000
Cumulative Total	$36,900,000	$75,500,000	$116,000,000