EfficiencyOne

IN THE MATTER OF *The Public Utilities Act*, RSNS 1989, c. 380, as amended

-and-

IN THE MATTER OF An Application for Approval of a New Benefit-Cost Analysis Test for Evaluating Demand Side Management Plans

Reply Submissions of EfficiencyOne

M12282

Filed with the NOVA SCOTIA ENERGY BOARD

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1. INTRODUCTION

EfficiencyOne ("E1") is providing these reply submissions in accordance with the procedural process established by the Nova Scotia Energy Board (the "Board") at the hearing of matter M12282 on September 23, 2025. Interested parties have set out their positions on this issue in closing comments provided to the Board, three of which align with the position of E1, being the Consumer Advocate ("CA"), Small Business Advocate ("SBA") and East Coast Environmental Law ("ECEL"), as well as the letters of support provided by Kwilmu'kw Maw-klusuaqn and the Assembly of Nova Scotia Mi'kmaw Chiefs, and Efficiency Canada, collectively representing a broad range of stakeholder perspectives.

In these reply submissions, E1 responds to points made by the three intervenors which do not align with the position of E1 on its application, being those of the Industrial Group ("IG"), Eastward Energy and Nova Scotia Power Incorporated ("NS Power").

2. RESPONSE TO THE INDUSTRIAL GROUP

2.1 LEGISLATIVE INTERPRETATION & JURISDICTIONAL LIMITS

The IG contends that the Board, under the *Public Utilities Act* ("*PUA*"), is not empowered to consider broad societal impacts or non-energy benefits when evaluating the cost-effectiveness of DSM.[1] According to this view, the Board's mandate is strictly confined to reducing electricity costs for ratepayers. The IG maintains that broader policy factors, such as sustainability, may inform statutory interpretation, but cannot override the statute's clear language, which prioritizes cost-effectiveness and ratepayer interests. The IG states:[2]

> E1 has misinterpreted the new strategic electrification provision and the *ERBA* as prioritizing sustainability and sustainable development globally. The Industrial Group suggests instead that the addition of strategic electrification in the way it has been drafted allows E1 to expand its programming to include items such as conversion of oil to heat-pumps within its programming, which was previously funded by the government rather than ratepayers. It grants this Board the authority to consider sustainability in assessing specific proposals brought before it, including programs which may or may not pass the "primary" cost-effectiveness test, but it does not shift the meaning of energy efficiency.

[1] M12282, IG Closing Submissions, page 2, page 5, page 7, and page 9.
[2] *Ibid*, page 10.

> Sustainability should only be considered in the context of E1's mandate of energy-based efficiency and cost-effectiveness.

E1 disagrees with the IG's conclusions. E1 wants to be clear that it is presenting the host customer non-energy impacts as part of the proposed benefit-cost analysis test ("Proposed BCA") because it believes it is the best practice to do so – not for the purpose of prioritizing a nebulous environmental agenda. By including host customer non-energy impacts, the test is symmetrical, allowing for both costs and benefits to be analyzed. In addition to E1's own experts, Ms. Lane (Synapse, consultant to the Board Counsel) and Mr. Wyatt (on behalf of the CA) also agree that this is the appropriate approach to take in proper cost-benefit test development.[3] E1 submits that the legislative amendments provide the Board with the jurisdiction to approve a cost-benefit test which takes these host customer non-energy impacts into account.

In response to the IG, first, the Proposed BCA does not prioritize sustainability and sustainable development goals above other policy goals. As has been stated repeatedly in E1's evidence, the Proposed BCA includes <u>all</u> of the considerations which were previously considered in the Total Resource Cost (TRC) test.[4] E1 is asserting that additional considerations, such as host customer benefits, should also be included for consideration as part of the cost-effectiveness test. The Proposed BCA test does not place those considerations above other costs and benefits being analysed in the test. In fact, the effect of the host customer benefits is expected to be minor. As noted by Dr. Hill (EFG) in the hearing: [5]

> We also think, though, that the scale of non-energy benefits, some of the illustrative results that we provided in our report demonstrate that while counting non-energy benefits, host-customer non-energy benefits is important in theory, these are relatively small compared to the other impacts; say, the savings of other fuels or the quantified impacts for greenhouse gas emissions reductions and those types of things.

Second, the IG's interpretation effectively whittles down the broad legislative changes that have recently been enacted to do nothing more than to allow the Board to do what it has always done – take additional

[3] M12282, E1 Closing Submissions, page 19, line 20 – page 20, line 1.
[4] *Ibid,* page 11, lines 1 – 7.
[5] M12282, Hearing Transcript, 22 September 2025, page 83 lines 1 – 9.

relevant policy goals into consideration when making discreet DSM decisions.[6] This approach effectively suggests that the recent amendments which address sustainable development and sustainable prosperity – including the repeal and replacement of an entire act that guides the Board's mandate (the repeal of the *Utility and Review Board Act,* being replaced by the *Energy and Regulatory Boards Act*) – have no real impact on the regulation of DSM in Nova Scotia. According to this approach, the amendments are superfluous to powers the Energy Board previously had. It suggests they are simply "admirable and important" environmental goals (to use the language of the IG),[7] but do not actually provide any concrete ability for the Board to do anything about them. Yet this is contrary to the principle of legislative interpretation that legislation is assumed to have meaning: "the legislator does not speak in vain".[8]

Third, E1 agrees that the Board must give "appropriate consideration" to matters of sustainable development and sustainable prosperity, and asserts that the optimal means to do so is through the cost effectiveness screening test as provided in E1's Proposed BCA, as opposed to developing an alternative approach for this purpose. The Proposed BCA test provides the Board with a clear framework to appropriately consider matters of sustainable development and sustainable prosperity when making decisions with respect to cost-effectiveness of DSM. The test is grounded in best practice through the adherence to the National Standard Practice Manual (NSPM) development process and Principles and can be applied consistently across all DSM resources. Consideration of these matters has been embedded in the Proposed BCA which has been transparently developed and undergone rigorous analysis throughout the DSMAG discussions and the application process. As modified by the Partial Consensus Agreement (PCA), the Proposed BCA test is endorsed by four different experts (EFG [Dr. Hill and Mr. Neme], Ms. Lane, Mr. Wyatt and Ms. Whitten [on behalf of the SBA]) and followed the expert-supported guidance of the NSPM, which the IG's own expert recognizes for its value as a seminal, policy-neutral framework.[9] Therefore, E1 submits the Proposed BCA test is the appropriate tool for the Board to use to give "appropriate consideration" to matters of sustainable development and prosperity.

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[6] For example, the Board has accepted the balanced plan approach to guiding the development of DSM plans, pursuant to M07543, EfficiencyOne Application for Approval of 2016-2018 DSM Resource Plan Matter deferred for DSM Advisory Group Collaboration, NSUARB Letter to E1, September 13, 2016, page 2; also, in M10437, NSUARB Decision, E1 2023-2025 DSM Plan, (Re) 2022 NSUARB 137, though declining to make a specific finding on the issue, the Board at page 36, para 98 found that it had did not have an obvious lack of jurisdiction to accept what the IG described as E1's "policy decision to subsidize low-income and underserved communities".
[7] M12282, IG Closing Submissions, page 9.
[8] 50 A.G. (Que.) v. Carrières Ste-Thérèse Ltée, 1985 CanLII 35 (SCC), [1985] 1 SCR 831, para 28; Bell ExpressVu Ltd. Partnership v. Rex, 2002 SCC 42, para 37.
[9] M12282, Hearing Transcript, 23 September 2022, page 401, line 3 – page 402, line 1.

Fourth, E1 also disagrees that giving "appropriate consideration' to matters of sustainable development and sustainable prosperity results in requiring the Board to set aside sustainable development and sustainable prosperity considerations for all important DSM matters under *PUA*. The IG states:[10]

> While the environmental goals articulated by E1 are admirable and important, the Board must breathe life into the specific provisions of the *PUA* and not effectively re-write legislation with certain policy objectives it deems most important. E1's role is constrained by statute. E1's franchise mandate continues to relate to achieving electricity-based efficiency and conservation. It remains outside the legislative framework to evaluate cost-effectiveness that has no direct impact on the furtherance of its statutory mandate to reduce costs.

As noted by the IG, when conducting statutory interpretation, one must consider "[w]hat are the consequences of adopting a proposed interpretation?"[11] By framing E1's mandate as simply being to reduce costs and achieve cost-effectiveness, to the exclusion of all other policy goals required by legislation, the IG is limiting the *Energy and Review Board Act's* s. 6(2) for all Board DSM decisions. If one follows the IG's proposed interpretation to its end, the Board is prevented from ever considering sustainable development or sustainable prosperity in its decisions on DSM matters, save for in very minor ways. This is incongruous with the legislative context. The *Energy and Regulatory Boards Act*, s. 6(2) provides the Board with authority – and direction – to consider the policy goals set out therein when the Board makes decisions with respect to all matters over which it has authority – even decisions that specifically relate to rates, tolls and tariffs, which are decisions that are clearly linked to economic concerns.

Further, the host customer non-energy impacts included in the Proposed BCA test do indeed address cost-effectiveness – they address costs and benefits that are being born by host customers. Just because the host customer non-energy impacts do not directly address costs and benefits of a utility does not mean they are not addressing cost-effectiveness in general.

[10] M12282, IG Closing Submissions, page 9 – 10.
[11] *Ibid*, page 3.

Fifth, E1 warns against conflating the cost-effectiveness review with the full DSM Plan review. As part of the DSM Plan application, additional tests, analyses, and information is provided to the Board, which includes the Rate and Bill Impact Analysis (RBIA). This information addresses how the proposed DSM activities impact electricity costs. The purpose of the cost-effectiveness test, is not intended to, alone, address how DSM reduces electricity costs. It is intended to analyze the total benefits and costs of DSM.

Sixth, E1 submits that sustainability *is* only being considered in the context of E1's DSM mandate. Sustainability is addressed in discreet parts of a cost-effectiveness test whose purpose is to determine cost-effectiveness of DSM. This is within its mandate. Aside from electrification, the recent legislative changes do not expand E1's mandate; they simply provide additional considerations as part of carrying out its mandate. Nor does the inclusion of sustainable development and sustainable prosperity in the approved BCA screening test for DSM in Nova Scotia expand E1's mandate in any way. E1 expects any future DSM Plan to include programs that achieve its mandate as defined by the *PUA*[12], specifically energy efficiency and conservation, peak demand reduction, and strategic electrification. E1 does not expect these legislative amendments to change this nor focus of performance targets to achieve these objectives.

For these reasons, and those outlined in E1's Closing Submissions, E1 submits the Board is empowered to appropriately consider societal impacts and non-energy benefits when evaluating the cost-effectiveness of DSM, and that the Proposed BCA test is an effective tool by which it can do so.

2.2 CRITIQUE OF HOST CUSTOMER NON-ENERGY IMPACTS AND SOCIETAL IMPACTS

The IG critiques the inclusion of non-energy impacts and broad societal costs, which are characterized as vague, subjective, and unsupported by evidence.

E1 disagrees. The proposed proxy values and non-energy impacts are supported by a substantial body of academic literature and regulatory precedent. Merely because the IG's expert, Mr. Bowman, disagrees with them does not negate the fact that other experts (EFG, Ms. Lane, Mr. Wyatt and Ms. Whitten) have all confirmed their comfort with these values and impacts.[13] In fact, Mr. Bowman, who the IG did not make available to participate in any of the DSMAG discussions on the cost-effectiveness test development,[14]

[12] *PUA* RSNS 1989, c 380, s 79A(b.)
[13] M12282, E1 Closing Submissions, page 12, lines 7-13. .
[14] M12282, Hearing Transcript, 23 September, 2025, page 400, lines 3 – 8.

appears to be the only expert who disagrees on this point. There has also been evidence put forward that these figures are conservative,[15] and have justification.[16] E1 has undertaken to continue to develop the evidence on this matter through a robust evergreening process.

2.3 RECOMMENDATION FOR THE PROGRAM ADMINISTRATOR COST (PAC) TEST

The IG recommends the Program Administrator Cost (PAC) test as the primary cost-effectiveness test, citing its alignment with other Canadian jurisdictions and its focus on utility costs and benefits.

The IG takes issue with the fact that "E1 has been unable to point to any Canadian jurisdictions which have accepted this approach or that quantify or value such host customer impacts".[17] Yet by doing so, the IG is focusing on the wrong issue. The question before the Board is not: "Does this cost-effectiveness test line up with other Canadian provinces?" The question is: "Does this cost-effectiveness test line up with Nova Scotia's legislation?" E1 has focused its work on the latter question in appropriately responding to the Board's directive on this matter[18] and submits that all the evidence before the Board supports finding that the answer to that question is "yes".

The energy and regulatory landscape of each Canadian province can be expected to be unique. In developing an optimal cost effectiveness test for DSM In Nova Scotia, E1 did not conduct jurisdictional research to determine the rationale behind each Canadian jurisdiction's cost effectiveness test for DSM and what led to that decision. E1 has undertaken extensive work to present a cost-effectiveness test that appropriately responds to Nova Scotia's legislation, relying on the NSPM's expert-supported guidance. On the other hand, the suggestion that simply copying the cost-effectiveness testing applied in most other jurisdictions falls short of the standards set by the NSPM and in no way confirms that the adopted test appropriately responds to Nova Scotia's legislative and regulatory context. Furthermore, such a comparison is not informative to developing an optimal test for Nova Scotia following the NSPM.

[15] M12282, E1 Closing Submissions, page 14, lines 1 – 2.
[16] Courtney Lane acknowledged that she received some justification with regard to NEB proxy values: M12282 Hearing Transcript, 23 September 2025, page 500, line 8 – page 501, line 5.
[17] M12282, IG Closing Submissions, page 15.
[18] M10473, NSUARB Decision, E1 2023-2025 DSM Plan (Re), 2022 NSUARB 137, September 6, 2022, page 26, para 73.

As concerns the IG's contention that the PAC is the appropriate cost-effectiveness test due to its focus on utility costs and benefits, E1 notes that neither NS Power (the utility), nor the CA, nor SBA (who combined represent a large segment of the customers incurring electricity costs) support the use of the PAC test.

E1 maintains its position that the PAC test is not the most appropriate test for cost-effectiveness screening at the portfolio level in Nova Scotia, as elaborated on in its Closing Submissions.

2.4 BROAD INTERPRETATION AND SOCIAL COST OF CARBON

The IG warns that adopting a broad societal test could have unintended consequences for other utilities, potentially leading to inconsistent and unreasonable outcomes. Specifically, the IG argues that the social cost of carbon is not reflected in Nova Scotia energy prices and should not be used. They state that "[i]t is unreasonable to conclude that programming for E1 should be evaluated based on benefits that do not affect Nova Scotians".[19]

However, just because a price hasn't been allocated by the Nova Scotian government for the social cost of carbon does not mean that carbon emissions are not impacting, or causing costs to, Nova Scotians. Nova Scotians are not exempt from the detrimental impacts of climate change. The social cost of carbon represents real costs borne by society, even if not directly priced.

2.5 CONSISTENCY

The submission also highlights concerns about inconsistency across distributed energy resources (DERs), suggesting that the BCA test would require expansion to other areas and create regulatory challenges. The IG states that the Proposed BCA is inconsistent with the current Integrated Resource Plan (IRP), and NS Power capital asset treatment. It argues that the cost effectiveness testing used by E1, ought to be closely tied to that of NS Power, especially while acting as its franchise holder. Therefore, the IG suggests that the utility cost test, or PAC, is the more appropriate test to use.

E1 disagrees. First, the matter in this application is focused on a discrete issue: what cost-effectiveness test is optimal for DSM in Nova Scotia? In fact, the NSPM was specifically designed for DERs – particularly

[19] M12282, IG Closing Submissions, page 16.

energy efficiency, demand response, distributed generation, distributed storage, electric vehicles, and building electrification.

Second, E1's proposal is to treat all DERs resources consistently. The application does not extend beyond the DSM resource categories.

Third, the current use of the TRC test is not currently linked to the electric utility's IRP or capital asset assessments. This has not been a concern in the past and it need not be a concern going forward either.

Finally, E1 notes that NS Power itself does not support the use of the PAC test.

2.6 ALTERNATIVE APPROACH FOR ELECTRIFICATION PROGRAMS

Regarding electrification programs, the IG proposes a modified PAC test that includes increased revenues from electrification as a benefit, aiming to better assess true system costs. E1 maintains its position as set out in its Closing Submissions at section 6.4.2 that the failure of the PAC test to address strategic electrification without manipulation suggests that it contains a "fundamental flaw as a primary test, as noted by Dr. Hill.[20] The PAC test is not "an optimal DSM cost-effectiveness testing methodology" for Nova Scotia.

In addition, the IG's proposed test for strategic electrification is not actually a test of cost-effectiveness. Rather it is a test of rate impacts, which both Mr. Bowman himself, and the NSPM acknowledge, should not be used for cost-effectiveness screening.[21] While the use of a Rate Impact Measures (RIM) test may very well be assistive in assessing the rate impacts of strategic electrification and whether it "reduces overall electricity costs" per the *PUA* definition, this should be used for that specific purpose, similar to the RBIA that is included in E1's DSM Plan Applications. It is not meant to test cost effectiveness.

[20] M12282, Hearing Transcript, 23 September 2025, page 266, line 2.
[21] M12282, E-14, Evidence of Patrick Bowman, page 18, lines 20 – 21; E-1, Application and Evidence, Table 4, PDF page 32, Principle 8: "Conduct BCAs Separately from Rate Impact Analyses" and Appendix A, Attachment 2, Table S-1, PDF page 95.

2.7 SUPPORT FOR PRIMARY AND SECONDARY TESTING

The IG supports both primary (PAC) and secondary tests for DSM cost-effectiveness specifically the Proposed BCA and relevant information on the host customer or Participant Cost test ("PCT") at the measure level.[22] The IG suggests that:[23]

> […] E1 has retreated from or refined its original position that the test should apply at the portfolio level with all other tests to be provided for 'informational purposes' or 'informational only'. E1 has explained it is committed to various levels of testing for cost-effectiveness, that is consistent with past practices.

E1 wishes to be clear its original position has not been refined or retreated from: cost-effectiveness screening is to be carried out at the portfolio level, pursuant to the new section 79H(2) of the *Public Utilities Act*, which states:

> The Energy Board, in evaluating a franchise holder's application pursuant to Section 79L, shall evaluate the proposed cost-effective demand-side management at the portfolio level that would be the aggregate amount of demand-side management programs.

E1 acknowledges and expects that for the Board can and will continue to consider various tests and information at various levels of granularity.

3. RESPONSE TO EASTWARD ENERGY

E1 notes that several of the issues addressed by Eastward Energy are not specifically related to the Proposed BCA test application, but they are nonetheless addressed in the sections below.

3.1 MEMBERSHIP IN THE DSMAG

In Eastward Energy's submission, the question of membership in the Demand Side Management Advisory Group (DSMAG) is raised. Eastward Energy asserts that it should be accepted as a full member, arguing that its participation would enhance collaborative energy planning in Nova Scotia.

[22] M12282, IG Closing Submissions, page 18.
[23] *Ibid*, page 6.

E1 acknowledges Eastward Energy's valuable information regarding natural gas hybrid heating for inclusion in strategic electrification however, it maintains that Eastward Energy's participation in the DSMAG is not the most appropriate means by which to engage with their electricity-related interests. The current membership of the DSMAG is made up of representatives who have a common mandate of advancing interests of electricity ratepayers.[24] Members are generally interested in all aspects of DSM – not just one. Eastward Energy does not share this broad perspective on the concerns of electricity ratepayers, and it has only shown interest in engaging on one discreet aspect of DSM work (being strategic electrification, and more specifically the use of natural gas towards that goal). E1 has committed to one-on-one discussion with Eastward Energy regarding these topics.[25]

3.2 HYBRID PEAKING RESOURCES

Eastward Energy expresses the following concern:[26]

> There simply does not appear to be the level of acknowledgement of the significant value hybrid heating can bring to the integrated electricity system, and the focus on this item which Eastward would expect from E1.

This assumption is incorrect. At the hearing, when asked whether E1 generally acknowledges the potential value of hybrid heating, Ms. Thompson confirmed that E1 has acknowledged that potential value.[27]

Hybrid heating is not specifically relevant to the question before the Board in this application: what is the optimal DSM cost-effectiveness testing methodology for Nova Scotia? E1's minimal discussion of hybrid heating in this application should not be taken to suggest that it is not interested in hybrid heating.

3.3 AVERAGE VS. MARGINAL EMISSIONS RATES

Eastward Energy contends that E1 should use marginal, rather than average, emissions rates in its modelling.

[24] M12282, Hearing Transcript, 22 September 2025, page 60, lines 6 – 17.
[25] M12282, E-24, E1 Rebuttal Evidence, page 20, lines 22 – 25.
[26] M12282, Eastward Energy Closing Submissions, page 8.
[27] M12282, Hearing Transcript, 22 September 2025, page 59, lines 11 – 14.

E1 maintains its position that the use of average emissions rates aligns with NSPM guidance and is more accurate for long-term planning than using the emissions intensity of the generator on the margin, so long as the IRP inputs and assumptions remain valid.[28]

3.4 NATURAL GAS TO ELECTRIC CONVERSIONS

With respect to natural gas to electric conversions, Eastward Energy raises concerns with regard to an illustrative example regarding conversion of gas heating systems to electric heat pumps, noting that it "is concerned that E1 believes it could potentially put forward a justification for such a measure".[29] Eastward Energy suggests the Board provide guidance to E1 "with respect to the level of justification that would be required to possibly justify a measure that would have such a negative benefit and a benefit cost ratio substantially below 1.0."[30]

On this matter, E1 is of the opinion that Eastward Energy is putting the cart before the horse, addressing hypothetical matters to be considered as part of DSM planning. E1 has repeatedly stated that the information provided regarding the conversion of gas heating systems to electric heat pumps represented an illustrative example only. These are not intended to reflect actual results and were presented to assist the reader.[31] Further, E1 again confirms that in the event the illustrative example was accurate, under existing Board directives, it would be required to provide justification to the Board for inclusion of these measures in any future DSM plan.[32] Guidance has already been provided by the Board on this issue.

3.5 RELIABILITY IMPACTS

Eastward insists that benefit-cost analyses must fully account for the reliability advantages of natural gas systems, and that any loss of reliability from electrification should be explicitly considered.

The Proposed BCA test has been designed to address both costs and benefits, and therefore can address the above issues. E1 has already agreed, in principle, that if a customer's reliability decreases as a result of electrification this should be considered as part of the host customer proxy impacts. However, this situation would only occur in if:

[28] M12282, E-24, E1 Rebuttal Evidence, page 17, lines 25 – 27.
[29] M12282, Eastward Energy Closing Submissions, page 9.
[30] *Ibid.*
[31] M12282, E-24, E1 Rebuttal Evidence, page 18, lines 12 – 14.
[32] *Ibid*, lines 18 – 19.

- An existing natural gas customer fully electrifies (removing any back-up natural gas capability at the facility or appliance level)
- The customer previously had the capability of operating natural gas appliances without electricity (e.g., the customer had back-up power at the facility or appliance level, or appliances that require no electricity to operate).

E1 has noted that where such circumstances arise, "E1 would consider including reduced customer reliability within the host customer impact proxy adder",[33] as part of the evergreen process.

Eastward Energy insists that this adjustment be made now, and not wait for a future evergreen process. However, it has not provided any evidence or confirmation that the situations outlined above are expected to take place within the timeframe of the next DSM plan.

Eastward Energy also suggests that E1 seek explicit confirmation from NS Power "that ancillary service costs, peak costs and system reliability are in fact embedded in the avoided cost values provided by them."[34]

E1 is comfortable with its assumption that NS Power's avoided costs incorporated the costs associated with ancillary services. NS Power heard that assumption and has not contested it on the record. However, should the Board think it appropriate to seek more explicit confirmation on this point, E1 would be happy to make the request of the NS Power.

3.6 CONSENSUS AGREEMENT

Eastward challenges the valuation of non-energy impacts in the PCA, arguing that values for Beneficial Electrification should be adjusted downward the factors of amenity, empowerment, and pride are set to zero.

E1 maintains that the umbrella values for Beneficial Electrification are appropriate. Even Ms. Lane and Ms. Whitten, who originally expressed concerns with the three values attributed to the factors of amenity,

[33] *Ibid*, page 20, lines 1 – 2.
[34] M12282, Eastward Energy Closing Submissions, page 10.

empowerment and pride, have agreed that they are comfortable with the proxy values set forth in the PCA.[35] Eastward Energy has not put forward any expert evidence which explains that a further reduced value attributable specifically to beneficial electrification is more appropriate than those set out in the PCA.

3.7 SUSTAINABLE DEVELOPMENT AND PROSPERITY CONSIDERATIONS

Eastward cautions against overemphasizing sustainable development and prosperity in benefit-cost tests, advocating for a balanced approach that considers all legislative requirements.

E1 maintains that its Proposed BCA test does just that: it addresses societal impacts as only one of many factors within the test.

Eastward Energy warns that the use of the social cost of carbon may not be warranted for other Board matters and that no finding in this matter should presume an outcome in another.

E1 agrees that the matter before the Board in this application is specifically whether or not to approve the Proposed BCA test, as the test to replace the current TRC test for cost-effectiveness testing of DSM Plans.

4. RESPONSE TO NS POWER

NS Power's position regarding the Proposed BCA was first communicated to E1 and the DSMAG in its Closing Submission.

The Closing Submission invites the Board to narrow Nova Scotia's DSM cost-effectiveness framework back to the current TRC approach (modified for strategic electrification), to exclude host-customer non-energy benefits, to confine GHG treatment to a "net-tonnage" check for strategic electrification, to include other fuel impacts, namely the costs associated with displaced fuel for strategic electrification and to substitute NS Power's Weighted Average Cost of Capital (WACC) for the social discount rate.

This position is fundamentally inconsistent with:

[35] M12282, E1 Closing Submissions, page 14, lines 24 – 25.

i) the post-2022 statutory landscape (the *PUA* amendments and the 2024 *Energy Reform Act* creating the *Energy and Regulatory Boards Act* and the *More Access to Energy Act*);

ii) the record in this proceeding (including the (PCA)); and

iii) the NSPM methodology.

The Board should reject NS Power's proposed reversion and approve E1's Proposed BCA with the PCA clarifications, including the 2% real discount rate, portfolio-level screening per *PUA* s.79H(2), and the inclusion of utility system, other fuel, host-customer, and societal (GHG & criteria air pollutants) impacts with calibrated proxy values.

4.1 THE LEGISLATIVE FRAMEWORK

4.1.1 PUBLIC UTILITIES ACT AND ENERGY REFORM ACT

The *PUA* establishes the DSM franchise arrangement and the Board's mandate to evaluate *cost-effective demand-side management at the portfolio level* when reviewing a franchise holder's DSM plan and supply agreement. The text and structure of the *PUA* make the portfolio-level evaluation a distinct statutory obligation under s. 79H(2), read in the context of s. 79L and the franchise scheme.

The *Energy and Regulatory Boards Act* requires the Board, in "**all other matters over which the Energy Board has authority**," to "**give appropriate consideration**" to whether decisions "**support sustainable development and sustainable prosperity"**, among other purposes [emphasis added]. [36] The *More Access to Energy Act* embeds these as energy-sector purposes and ties them to Nova Scotia's GHG goals in the *Environmental Goals and Climate Change Reduction Act*.[37]

The implementation of a cost-effectiveness screen, as outlined in this Application, constitutes a "matter" requiring the Board to adhere to the statutory obligations of the *Energy and Regulatory Boards Act.* E1's Closing Submissions further detail both the scope of this authority and the manner in which the Proposed BCA fulfills these requirements. The NS Power TRC approach fails to satisfy the statutory requirements.

[36] Energy Reform (2024) Act, SNS 2024, April 2024, Part I: Energy and Regulatory Boards Act (Schedule A), s 6(2).
[37] *Ibid*, Part II: More Access to Energy Act (Schedule B), s 2.

NS Power contends that the DSM provisions within the *PUA* supersede the application of both the *Energy and Regulatory Board's Act* and the *More Access to Energy Act*. E1 maintains there is no statutory conflict triggering *generalia specialibus non derogant*; rather, the *PUA* prescribes <u>what</u> should be evaluated (namely, cost-effective DSM at the portfolio level), while the *Energy and Regulatory Boards Act* and the *More Access to Energy Act* guide <u>how</u> the Board ought to assess matters within its purview, which includes considerations of sustainability and greenhouse gas objectives. The Proposed BCA integrates these statutes in alignment with the modern purposive approach to statutory interpretation.

E1 asserts that the Proposed BCA is the optimal means to appropriately consider sustainable development and sustainable prosperity in the assessment of DSM Plans as described in section 2.1 (page 3, lines 11-25).

4.1.2 WHY M08888 IS NO LONGER DETERMINATIVE

Nova Scotia Power submits that "the Board's decision in M08888 issued April 15, 2020 holds".[38]

M08888, reviewed in the context of the legislative framework that existed at that time, asked the question:

> In assessing proposed electricity efficiency and conservation activities, does the NSUARB have the jurisdiction to take into account non-energy impacts in cost-effectiveness testing?

Having considered the applicable legislation of the time, the Board answered "no" to this question. However, as noted by NS Power, since that decision, two major legislative changes have occurred:

1. The *PUA* amendment redefining DSM to include strategic electrification (that reduces both GHG emissions and electricity costs); and
2. the introduction of the *Energy and Regulatory Boards Act* and the *More Access to Energy Act*, which explicitly require the board to give "appropriate consideration" to factors such as sustainable development, sustainable prosperity and GHG reduction goals.

[38] M12282, NS Power Closing Submissions, page 4.

Further, and in addition to the above, specific language of the *PUA* was amended with respect to s. 79L - Board's approval of agreements. This section was specifically noted by the Board as establishing "the basis for the Board's evaluation of a proposed agreement between NS Power and a franchise holder."[39]

> 79L (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 Section 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.

Section 79L(9) has been repealed, thereby removing the statutory obligation to specifically consider the affordability of proposed electricity efficiency and conservation activities as previously defined. E1 recognises that the Board has consistently treated affordability as a central component of its regulatory assessments and intends to maintain this approach. Nonetheless, it is noteworthy that affordability is no longer designated a specific statutory consideration under the updated legislative framework, as it was during the consideration of E1's application in M08888.

That said, NS Power appears to conflate the appropriate factors to consider under the cost effectiveness test and its specific purpose, with the broader considerations the Board must assess when determining whether a DSM Plan is in "the best interest of NS Power customers". This issue is further addressed at section 4.2.

The Board's decision in M08888 expressly relied upon the provisions of both sections 79 L (8) and (9):[40]

[39] M08888, NSUARB Decision, April 15, 2020, page 7, para 10.
[40] *Ibid*, page 13, para 26 and page 15, para 35.

> Sections 79L (8) and (9) guide the Board's assessment of these activities. The Board must be satisfied 'the proposed electricity efficiency and conservation activities' that are the subject of the agreement are in the best interest of NS Power's customers and the Board must take into account 'their affordability to Nova Scotia Power Incorporated's customers along with any other matter considered appropriate by the Board or as may be prescribed.'

and

> With regard to EfficiencyOne specifically, the Legislature has given the Board **further instruction with respect to affordability** and the best interests of ratepayers. [emphasis added]

In interpreting the *PUA* (as it then was) the Board rejected the more expansive interpretation of its jurisdiction to consider non-energy benefits finding that "The Board does not interpret anything in the amendments to the *Public Utilities Act* as establishing **an environmental mandate or jurisdiction** under the *Act*."[41] [**emphasis added**]

Despite NS Power's arguments to the contrary, much has changed since the Board's decision in M08888. The "further instruction" with respect to affordability, provided by the legislation, has been repealed; the definition of DSM has been amended to include strategic electrification; a specific environmental consideration relating to the reduction of overall greenhouse gas emissions has been added, as well as the introduction of the required "appropriate consideration" requirements of *Energy And Regulatory Boards Act* and the *More Access To Energy Act*.

The Board's consideration of the Proposed BCA must be considered in the context of these legislative amendments. They are not merely "policy objectives" as suggested by NS Power. There was a legislative intent with each amendment to the *PUA* and the passage of the *More Access to Energy Act* and the *Energy and Regulatory Boards Act.* The "optimal cost-effectiveness testing methodology or BCA for Nova Scotia"

[41] *Ibid*, page 17, para 38.

must account for these legislative requirements. Any test which does not, including the NS Power TRC test, must be rejected on the basis it fails to comply with legislative direction.

4.2 CONFLATING DSM PLAN CONSIDERATIONS WITH COST-EFFECTIVENESS SCREENING

E1 takes no issue with the "operational requirements" interpretation of NS Power with respect to the approval of DSM programs. However, this Application is not a broad determination of how this Board approves DSM programs - it is a request by E1, supported by several key stakeholders, to adopt a new cost effectiveness screening test aligned with the current legislation. It would be inappropriate to conflate the adoption of the Proposed BCA screening test with the broad DSM plan approval processes of the *PUA* generally. This Application addresses the statutory requirements of s. 79H (2) of the *PUA*. The Board, can and does, consider a host of other criteria [42] in ultimately carrying out its mandate under s. 79 H (1) – to "determine the cost-effective demand-side management that must be undertaken for the purposes of this Act".

NS Power's recommended approach seeks to embed "rate stability and rate affordability"[43] directly into the cost-effectiveness test, rather than treating affordability as a separate consideration. E1, in its evidence, acknowledges the necessity, and importance, of including information such as the RBIA for the Board's fulsome consideration of a DSM Plan. However, the NS Power approach fails to properly separate cost-effectiveness from affordability. Affordability is addressed through the DSM investment amount, RBIA analysis, and targeted program design (as supported through the Balanced Plan Approach) - not by altering the screening methodology.

This inappropriate conflating of the issues is further noted where NS Power comments:[44]

> Nova Scotia is in the midst of an electricity system transformation that is creating upward pressure on customer rates. Any customer-funded DSM programs that risk adding to customer costs that do not improve affordability must be carefully evaluated[.]

[42] Including the Board adopted Balanced Plan Approach; the program and measure level screening results which presently include both TRC and PAC evaluations; and Rate and Bill Impact analysis.
[43] M12282, NS Power Closing Submissions, page 13.
[44] *Ibid*, page 10.

Customer costs of DSM programs are not determined by the cost effectiveness screening process. Rather, the screening test is designed to objectively measure all relevant benefits and costs to determine, in the case of Nova Scotia, whether the DSM portfolio, delivers net benefits to ratepayers. It is a technical assessment to ensure that only economically justified portfolios are considered for approval. It is not intended to account for how costs are distributed among NS Power ratepayers. This later issue is addressed in reviewing the DSM Plan itself.

The correct approach is to first apply a comprehensive cost-effectiveness test, aligned with statutory objectives. Affordability, by contrast, concerns the impact of DSM costs on ratepayers and whether these costs are equitably shared, including as between rate classes and among vulnerable populations. These affordability concerns must then be addressed through separate mechanisms such as rate and bill impact analysis and detailed program design considerations such as rate class equity, consideration of marginalized and/or vulnerable ratepayers - all of which the Board presently considers through the lens of the Balanced Plan Approach, which ultimately leads to a Board approved DSM investment amount.

Affordability is a critical regulatory concern, but it is not a criterion for DSM cost-effectiveness screening as suggested by NS Power. The Board must preserve the integrity of DSM screening as a statutory tool for resource evaluation, while addressing affordability through separate considerations.

4.3 APPROPRIATE DISCOUNT RATE

NS Power asserts that the WACC should be the discount rate for DSM cost-effectiveness screening.

NS Power's reliance on WACC as the appropriate discount rate is both legally and conceptually flawed for several reasons:

1. It mis-applies the NSPM Principle 1[45] requiring DSM to be treated comparably to other resources. The expert testimony of EFG noted that WACC reflects utility shareholder risk and financing cost, and not the broader perspectives mandated under Nova Scotia's legislative framework.

[45] M12282, E-1, E1 Evidence and Application, Table 4: NSPM BCA Guiding Principles, PDF page 32.

2. Post the aforementioned legislative changes, the Board must consider sustainability and multigenerational impacts. WACC fails to consider the long-term benefits associated with GHG reductions and resilience.

While WACC is appropriate for NS Power's internal investment decisions, regulatory cost effectiveness tests are intended to serve a different purpose. In the context of the Proposed BCA, the discount rate is intended to appropriately value the net economic impacts for purposes of evaluation. Utilizing WACC to value long-lived benefits (i.e., electrification, deep retrofits, GHG reductions) systematically undervalue DSM measures and fails to provide the Board with appropriate primary evaluation results. Notably, the PAC test results which are provided by E1 with all DSM Plan applications applies WACC as the discount rate.

EFG's report provides clear evidence on the record of this proceeding that a 2% social discount rate is appropriate for DSM cost-effectiveness screening in Nova Scotia.[46] This rate aligns with federal guidance, reflects societal time preference, and ensures that long-lived benefits—such as GHG reductions and strategic electrification—are properly valued. Adopting WACC would contradict legislative mandates and NSPM principles, systematically undervaluing programs that deliver long term ratepayer benefits.

5. REQUESTED BOARD ORDER

Based the evidence and analysis before the Board in this matter, including as set out in these Reply Submissions, E1 respectfully requests the Board approve the Proposed BCA as supplemented by the PCA, specifically:

- The Proposed BCA framework as set out in E1's Application to replace the TRC as the Board approved screening test for DSM in Nova Scotia at the portfolio level in accordance with *PUA* 79H(2);
- A real discount rate of 2%;
- The proxy values as set out in subsection (d) of the PCA are to be applied for the 2027-2031 DSM Plan; and

[46] M12282, E1 Closing Submissions, page 15, lines 2 – 13.

- subsection (f) of the PCA, the evergreen process will be used for all DSM plan applications subsequent to the 2027-2031 DSM Plan.