EB-2013-0352

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Sch.B, as amended;

AND IN THE MATTER OF an Application by Enbridge Gas Distribution Inc. for an Order or Orders approving the clearance and disposition of certain deferral and variance accounts.

NON-CONFIDENTIAL REDACTED FINAL ARGUMENT ON BEHALF OF THE SCHOOL ENERGY COALITION

March 19, 2014

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1 INTRODUCTION AND SUMMARY

1.1 *Introduction*

1.1.1 On November 8, 2013 Enbridge Gas Distribution Inc. filed an Application to clear its DSM accounts for 2012. The Application was later amended, on January 21, 2014, to correct a material error in the calculation of one of the DSM accounts. Thereafter, the Application was tested through interrogatories, but neither an ADR nor an oral hearing took place.

1.1.2 This is the Final Argument of the School Energy Coalition.

1.1.3 The issues addressed in this proceeding are similar to the DSM-related issues that arose in the Union Gas EB-2013-0109 proceeding, on which a decision of the Board is currently pending. Some of what has arisen in this case is simpler than the Union situation, but many of the same concerns with DSM claims still arise.

1.1.4 The similarity to the Union Gas case has two procedural implications.

1.1.5 First, since much of the background analysis of the issues is the same, SEC has, in this Final Argument, included significant components of its EB-2013-0109 submissions. In particular, Section 2, and parts of Section 3, of this Final Argument are copied almost verbatim from our submissions in that proceeding. This appeared to us to be the most efficient way to handle it, rather than wasting time, and ratepayer money, rewriting an analysis that had already been done.

1.1.6 Second, in the Union Gas case there was an oral hearing, and much of the salient evidence casting doubt on the amounts being claimed by the utility arose through cross-examination of the utility's experts. That was not available in this proceeding. SEC's ability to provide full information to the Board on the issues has thus been more limited, but we have attempted, within the procedural steps that were available in this case, to identify where the issues arise, and propose reasonable inferences from the evidence provided.

1.1.7 We note that the onus is on the Applicant, Enbridge, to provide sufficient evidence to support their claim for more than $11 million from the ratepayers. To the extent that the evidence provided by Enbridge is – in the absence of a hearing - ambiguous, in our submission that insufficiency of evidence goes to undermine their claim. In short, it is not SEC's responsibility to provide evidence opposing the Enbridge claim; rather, it is Enbridge's responsibility to provide evidence proving their claim.

1.1.8 In this proceeding, unlike most others, this Final Argument has not benefited from input and perspectives from other parties. SEC appears to be the sole intervenor taking issue with the DSM claims of the Applicant.

1.2 *Summary of Submissions*

1.2.1 This Final Argument contains an analysis of the issues in this proceeding. The following is a summary of that analysis.

1.2.2 ***Custom Projects.*** SEC's concern is with the lifetime m^3 savings claimed by Enbridge for industrial and commercial custom projects. This comprises some 87% of their volume claim, and thus all of their shareholder incentive and their DSMVA claim. It also affects their LRAMVA claim, which likely should be a much larger refund to customers.

1.2.3 The problem is one of calculation of savings. The basic principle should be that the gas usage with the Enbridge-induced conservation measures in place is compared to the gas usage had the Enbridge program not been there. In SEC's submission, Enbridge and its verification contractors are supposed to answer the question: "How do the results compare to what otherwise would have happened?" Instead, they sometimes answer a different, and incorrect, question: "How much technical savings arise from the conservation measures relative to the existing status quo?" SEC believes that this is inconsistent with the Board's DSM Guidelines.

1.2.4 By way of example only, if Enbridge convinces an industrial customer to implement new, efficient equipment (with a 20 year life) in 2012, instead of waiting until they would normally have done so, in 2017, SEC believes that the savings from the program last for 5 years. Enbridge apparently believes that the savings last for the life of the equipment, and the last 15 years are accounted for in the free ridership rate.

1.2.5 SEC submits that the Board's DSM Guidelines are intended to incent Enbridge for savings they actually cause to happen. The review and audit system are designed to measure actual savings, not fictional savings. In this example, an advancement of a measure only generates savings for the period of the advancement, and that's all that should be incented. The same principle applies in other cases where the baseline or base case is not realistic. There are a number of examples in the Enbridge custom projects.

1.2.6 ***DSM Issues - Conclusion.*** SEC submits that the Board should respond to the Applicant's requests for clearance of the DSM deferral and variance accounts as follows:

(a) ***DSMIDA***. Reduce the amount of the shareholder incentive of $8,817,529 by $5,498,484, being the amount of the incentive related to volumes. When the volumes for custom projects are corrected for errors, Enbridge does not meet the volume threshold needed in order to qualify for a shareholder incentive on this part of the scorecard. The remaining claim of $3,319,045 should be

approved as filed.

(b) ***LRAMVA.*** Direct the Applicant to recalculate the 2012 LRAM by removing all custom project volumes in excess of the minimum incentive threshold. This will result in a further refund to ratepayers, which we cannot estimate at this time.

(c) ***DSMVA.*** Deny the claim for a DSMVA in its entirety, on the basis that Enbridge only qualifies for DSMVA recovery if it achieves its volume targets, and is using DSMVA operating funds to achieve results above the target. In this case, Enbridge has not only missed the target, but missed even the minimum threshold.

1.2.7 ***Alternative Resolution.*** In the event that Enbridge seeks the Board's permission to file additional evidence in support of this Application, we propose that the Board grant that request. However, it should also order full discovery of the new evidence, and the late-filed confidential reports, and order an oral hearing so that the evidence can be tested fully through cross-examination.

2 DSM PRINCIPLES AND CONCEPTS

2.1 *General*

2.1.1 The problems that have surfaced in this proceeding relate to five interrelated DSM concepts or principles: free ridership, baseline or base case, effective useful life, persistence, and advancement.

2.1.2 Before looking at the specific evidence in this proceeding, it is useful to consider what these concepts mean, and how they are related each to the other.

2.2 *Free Ridership*

2.2.1 Free ridership is the first of these concepts.

2.2.2 The Board says, in the DSM Guidelines:

> *"A free rider is a "program participant who would have installed a measure on his or her own initiative even without the program.""*[1]

2.2.3 In the most basic terms, some customers will accept an incentive payment or other valuable assistance from the utility, even though they would have done what is being incented without the incentive.

2.2.4 There are actually, though, two types of free ridership. The first type, which we can call "conventional free ridership", is the one with which we are all familiar. The customer applies for the incentive, and doesn't tell the utility that the measure was already in their plans, or that their behaviour was not affected by the utility program.

2.2.5 Utilities regularly do studies to assess what percentage of program participants would have implemented the efficiency measures in the program anyway. These are normally done by way of survey. Surveys of this nature are designed to identify clues that program participants who nominally appear to have been influenced by the program were actually free riders.

2.2.6 There is a second type of free rider, however, which could be called "known free riders". Depending on how the utility rolls out a program, in the most extreme case it could simply identify those who have placed an order for an energy efficient product – perhaps through getting a list from manufacturers or distributors - and pay them an incentive amount even though it is having no impact on their behaviour. The incentive amount comes from the ratepayers, but by bringing these free riders into the program,

[1] Report of the Board EB-2008-0346, *DSM Guidelines for Natural Gas Utilities*, June 30, 2011 ("DSM Guidelines"), p. 22, quoting Dan Violette from a 1995 report for the International Energy Agency.

the utility qualifies for a shareholder incentive as well, which is incremental funding from the ratepayers direct to the shareholder.

2.2.7 It would be an unusual case in which a utility deliberately targets known free riders in this crass a manner. On the other hand, with large industrial customers utilities can develop a working relationship with those customers in which the utility identifies activities already planned by the customer that qualify for customer incentives. In the simplest case, the customer says "We plan to do A, B and C this year", and the utility representative says "Let me know when you do B, because we can give you a $40,000 incentive for that".

2.2.8 Another example might be the utility representative saying "Do you have a program to repair your steam leaks?", the customer saying "Yes, we typically repair about 250 per year under our normal program", and the utility representative saying "Let's see what kind of customer incentive we can give you for that".

2.2.9 Known free riders are quite different from conventional free riders. In the case of conventional free riders, the utility – using funds collected from the ratepayers – is honestly trying to influence the behaviour of customers to increase energy efficiency. Because it is not always easy to change customer behaviour, even with incentives, a utility that is successful in doing so is given a shareholder incentive as a reward for that success. The purpose of the customer incentive is to promote the public interest in energy efficiency, and the fact that there will be some free riders is an unintended but predictable consequence of that program. The actions of the utility are still directed at the public interest, and the existence and number of free riders is not within their control.

2.2.10 The situation is different with known free riders. Where a utility knows, or ought to know, that giving the customer an incentive is not causing any incremental efficiency to take place, the purpose of paying the customer is not energy efficiency, nor is it in the public interest. The payment of funds collected from the ratepayers in those circumstances is for only one purpose: generating an incentive for the shareholder by gaming the DSM system. If in that case the customer is given $50,000, and the shareholder "earns" an incentive of $500,000, the ratepayers spend $550,000 for nothing. No benefit is achieved, except for the shareholder.

2.2.11 In our submission, if a utility knows, or ought to know, that a customer would proceed with an energy efficiency measure without a utility incentive, it is inappropriate for the utility either to pay a customer incentive to the customer, or to claim credit for savings from the measure and seek an incentive. This would no longer be an unintended consequence of a program that is otherwise intended to generate efficiency. Once the utility knows in advance that the money is being wasted, it should not be doing so.

2.2.12 To the best of our knowledge, this, and the Union Gas EB-2013-0109 case, are the

first matters in which the issue of known free riders has come up with respect to the Ontario gas distributors. SEC always believed that the two gas utilities declined, as a matter of internal policy, from allowing customers to participate in their DSM programs if the utility knew that they would be free riders on the program. The literature on conservation and energy efficiency programming is replete with references to program design and other choices that will reduce the likelihood of program participation by customers who are probably or certainly free riders[2]. It is common for utilities to refuse to allow known free riders to participate.

2.2.13 On the other hand, if in their program design and implementation, the Ontario gas distributors believe that promoting DSM incentives to known or highly likely free riders is an acceptable use of ratepayer funds, this is a significant issue[3].

2.2.14 SEC submits that this is not an acceptable use of ratepayer funds, and the Board's DSM Frameworks – either previous or current - do not permit this approach. In our submission, the free rider percentage used to adjust program results is not intended to capture known free riders, and the Applicant cannot rely on that percentage to excuse paying ratepayer funds with no reasonable prospect of any benefit.

2.3 ***Baseline***

2.3.1 The second concept is baseline, also referred to as "base case".

2.3.2 The basic idea is that, in a bottom up approach to calculating the savings from energy efficiency programs, the results of a program have to be compared to a baseline or base case, i.e. what would have happened if the program had not been in place. The delta between the program and no-program scenarios is the savings caused by the program, and is thus the justification for the spending of funds collected from ratepayers on the program.

2.3.3 This is described in the DSM Guidelines:

> *"Estimated savings and costs of DSM programs need to be defined relative to a frame of reference or "base case" that specify what would happen in the absence of the DSM program. At a minimum, the base case technology should be equal to or more efficient than the technology benchmarks mandated in energy efficiency standards, as updated from time to time."*[4]

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[2] For example, it is common in many jurisdictions to exclude from programs measures that have very short paybacks, because of the high probability that they would be adopted without the need for incentives. See, e.g. Evaluation of FEECA, Univ. of Florida Public Utility Research Center, December 2012, p. 90.
[3] This question was put to Enbridge in SEC #7 (Ex. I/2/7), and Enbridge's answer, while unclear, could be read as stating that they are allowed to provide customer incentives to known free riders.
[4] DSM Guidelines, p. 19.

2.3.4 The most straightforward case would be that of a new construction project, in which the builder has to choose the heating system to be installed. The utility incents the builder to install a high efficiency system. Without the incentive, the builder would have installed something else, typically the system required by the building code, or the system that has been adopted as the standard in the marketplace. The savings are a straight-up comparison between the efficient gear and the less efficient gear that would otherwise have been installed. Typically, the period over which the savings will occur is the same in both cases.

2.3.5 One step more complicated is a replacement of a piece of equipment at the end of its useful life. At that time, the existing (old) equipment has an efficiency of 70. The building code requires new gear to have an efficiency of 80. The efficient equipment has an efficiency of 95. The baseline is not the existing equipment, of course, because it is being replaced with at least 80 in any case. The efficiency of the existing equipment is therefore irrelevant to the calculation. The baseline is the new gear required by the building code, i.e. what would have happened but for the program. The savings are the difference between 95 and 80, i.e. the delta between efficient case and base case. Again, the period of the savings is usually the same.

2.3.6 Baseline is relatively easy to calculate when a piece of equipment must be installed in any case, and there is a simple choice between more or less efficient options. Baseline is somewhat more difficult to calculate if a) the equipment being replaced is not at the end of its useful life, or b) the measure is not a piece of equipment, but an action or behaviour, or c) the gas usage in the future will be different than the existing gas usage, so that the pattern of savings will change over time. In these situations, issues of effective useful life, persistence, and advancement arise.

2.4 *Effective Useful Life*

2.4.1 Whether savings are measured using the TRC metric in place until 2011 (net present value of future benefits) or the volume scorecard metric in place starting in 2012 (lifetime cumulative gas savings), an important part of the calculation is the period of years over which the savings will arise for any given measure. That period is called the EUL (effective useful life) of the measure.

2.4.2 There are three related ideas that are part of this analysis.

2.4.3 First, there is the technical life of the measure. For equipment, that is the number of years until it normally must be replaced, essentially equivalent to the period over which depreciation would be calculated. For things like repairs, that is the period until the repair is likely to have to be done again.

2.4.4 Second, there is persistence. As discussed below, persistence is the period that the measure will actually be functional, whether or not it is as long as the technical life of

the measure.

2.4.5 Third, there is advancement. Advancement relates to both baseline and EUL. It describes a situation in which a measure would have been implemented in a future year, but is advanced to a current year. The life, for results measurement purposes, only continues until the time the measure would have been implemented anyway. This is often treated as a type of persistence (see below).

2.4.6 Enbridge and its CPSV contractors have sometimes treated the useful life of custom project measures as being the technical life, and have ignored the concepts of persistence and advancement. In doing so, SEC submits that they significantly overstate the savings from some custom projects.

2.5 *Persistence*

2.5.1 Persistence is the period a measure can reasonably be expected to produce savings relative to the base case.

2.5.2 The DSM Guidelines provide an explanation of persistence:

> *"Persistence of DSM savings can take into account how long a DSM measure is kept in place relative to its useful life, the net impact of the DSM measure relative to the base case scenario, and the impact of technical degradation. For example, if an energy efficient measure with a useful life of 15 years is removed after only two years, most of the savings expected to result from that installation will not materialize...*
>
> *Another aspect that can be considered as part of the persistence factor is whether a program participant would have implemented the DSM measure on its own in the future (e.g., in two years' time), but their implementation date was accelerated by the program offering. In this case, the savings resulting from the DSM program would only accrue for up to the period by which the adoption was accelerated (e.g., two years), instead of the entire useful life of the measure."*[5]

2.5.3 A simple example of persistence is low-flow showerheads. When these measures were first provided to customers, some customers didn't like them, and so removed them and re-installed their older, less efficient showerheads. A measure that had a technical life of 15 years actually lasted less than that on average. Throughout North America, gas utilities did studies to determine how long, on average, the low-flow showerheads continued to be used. That lesser number was the period over which savings were calculated.

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[5] DSM Guidelines, p. 24.

2.5.4 As noted above, the Board defines persistence to include advancement. We discuss that further below.

2.5.5 During re-examination in the EB-2013-0109 proceeding, Union witnesses noted[6] that the Board expects the utilities to do a persistence study for custom projects, to be applicable for future years. That study has not yet been done. This was put forth as a reason not to challenge how persistence is handled currently. The same considerations may arise with respect to Enbridge.

2.5.6 The study the witnesses referred to deals with a different aspect of persistence. The Board's definition of persistence includes changes in the pattern of future gas usage that affect the calculation of savings. It is that component of persistence on which the Board wants a study of custom projects persistence.

2.5.7 The Board describes this requirement in the DSM Guidelines as follows:

> *"Another important consideration in assessing the persistence of savings is the potential changes in usage pattern. For example, large custom commercial and industrial DSM projects with expected useful life of 20 years or more may not fully materialize if the business benefiting from the custom measure operates at lower levels or closes down its processes within that time period. Given the natural gas utilities' 15 years of experience delivering natural gas DSM programs in Ontario, the natural gas utilities should undertake an assessment of the historical persistence of savings of custom DSM projects and commercial and industrial DSM programs in general and provide the resulting information to and consult with their stakeholders to determine whether any persistence adjustments to the savings of those programs would be warranted going forward."*[7]

2.5.8 A study will indeed take place in the future. That has nothing to do with the issues in this case.

2.6 *Advancement*

2.6.1 Efficiency measures are not always implemented in new construction, or at the end of the life of old equipment. Sometimes old, inefficient equipment can be repaired or replaced before the end of its life, or before it would otherwise have been repaired, to generate efficiency now rather than later. This is referred to as advancement, and as noted above is considered by the Board to be a component of persistence.

2.6.2 In the DSM Guidelines, the Board describes advancement, and how to deal with it, as follows:

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[6] EB-2013-0109, Tr. 3:142.
[7] DSM Guidelines, p.24-25.

> *"A third type of equipment cost is the cost of the equipment that is assigned to a project when a replacement decision is "advanced" because of a natural gas utility's DSM programming efforts. Advanced replacements occur when an older, but still working lower efficiency technology, is replaced with a more efficient piece of equipment.* ***In these cases, the natural gas utilities should adjust both the equipment life and the project cost to reflect the advancement.***"[8] *[emphasis added]*

2.6.3 If an industrial customer has an inefficient boiler, it may expect to replace it in the ordinary course with a new boiler (more efficient) in ten years. A utility incentive could help convince them to accelerate or advance the replacement to today, thus starting the efficiency earlier. In that case, the useful life, or persistence, of the measure would be ten years, even though the equipment itself might last much longer.

2.6.4 We note that this is not free ridership. The customer is not free riding the program. Rather, the customer is generating efficiency and is being incented for doing so, but it is only for the period of the advancement. The program is working. It is just not working for the entire life of the new equipment. It is only producing savings until the new equipment would otherwise have been implemented.

2.6.5 There is a second aspect of advancement, which shows the relationship between advancement and the concept of baseline. Sometimes the new equipment in an advancement is not only installed earlier, but is also better than what would otherwise have been installed when the installation eventually occurred. The Board describes this in the DSM Guidelines:

> *"More generally, an important consideration when assessing the persistence of savings is the fact that some energy efficient equipment have a much longer life than the base case equipment. For example, if an efficient natural gas furnace (model A) with a 25-year useful life is used to replace a homeowner's furnace (model B) with a remaining useful life of 5 years, an assumption must be made with regard to what would have happened under the base case. Would the average homeowner have opted to replace its furnace for a more efficient furnace (model C) on its own in five years from now? If so, estimated savings for the first five years should be based on the savings of model A compared to model B, but the savings over the next 20 years should be calculated by comparing model A to model C."*[9]

2.6.6 It is important to note the Board's expectation that the utility will develop a reasonable assumption of what would otherwise have happened. Continuation of the savings compared to the existing equipment for the entire life of the new equipment is not

[8] DSM Guidelines, p. 13.
[9] DSM Guidelines, p. 24.

reasonable in these circumstances. **This is one of the key errors that Enbridge and its CPSV contractors made in their custom project savings calculations.**

3 APPLICATION OF THE PRINCIPLES AND CONCEPTS

3.1 *Introduction*

3.1.1 This Section and the next are intended to apply the principles and concepts set out in Section 2 to the evidence in this proceeding relating to the Enbridge 2012 DSM results.

3.1.2 SEC's submissions focus on the custom projects. SEC has no submissions with respect to the Applicant's prescriptive programs.

3.2 *Relief Requested*

3.2.1 The Applicant is seeking clearance of three different amounts for 2012, in aggregate $11,283,387:

(a) ***Shareholder Incentive.*** This is done through the DSMIDA under the new DSM Guidelines. The amount claimed is $8,817,529. Of this amount, $5,498,484 relates to the lifetime cubic meters claimed for Resource Acquisition programs[10]. Of the total volumes claimed of 1,000.9 million cubic meters, 870.7 million cubic meters, or about 87%, come from commercial and industrial custom projects[11], the ones reviewed in the CPSV process described below. Since the threshold for the DSMIDA is 615.3 million cubic meters, all commercial and industrial custom projects produce incremental incentive amounts[12].

(b) ***Lost Revenue Adjustment Mechanism.*** The LRAMVA claim is $40,652 payable to the ratepayers.

(c) ***Demand Side Management Allowed Overspending.*** The DSMVA amount claimed from the ratepayers is $2,506,510. The claim for the DSMVA amount is dependent on the Applicant exceeding its targets for the shareholder incentive. If, as a result of the Board's review, Enbridge has not exceeded its targets, then all or some of the DSMVA claim is not recoverable from ratepayers.

3.2.2 This Application is fundamentally different from the EB-2013-0109 Union Gas

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[10] SEC #1. Ex. I/2/1, p. 1.
[11] SEC #2. Ex. I/2/2, p. 1.
[12] By way of example only, the Applicant claims 144% of the volume target. If the results for commercial and industrial custom projects were reduced by just 20%, i.e. 174.1 million cubic meters, the $5.5 million volume incentive claimed would be reduced by $3.0 million to $2.5 million. The calculation is 870.7*20%= 174.1. At $1.735 per 100 cubic meters, that works out to $3,020,600. [SEC #3, Ex. I/2/3 for $1.735 figure.]

application, in that this case deals only with 2012. Many of the Union Gas complications – two years of claims, true-ups of prior clearances, lack of audit support for one of the years in issue, etc. – are not applicable here. The Applicant has filed the DSM Annual Report, the Audit Report, and the Audit Summary for 2012. The issue in this proceeding is whether those documents, supplemented through the discovery process, support the recovery of $11.3 million from ratepayers as proposed by Enbridge.

3.3 *The Various Roles*

3.3.1 The review of the Applicant's DSM results from custom projects has four steps, from four different entities, before being seen by the Board. The ability of each entity to do a full review, and the independence of each review, is an underlying issue in this proceeding.

3.3.2 ***Enbridge.*** The Applicant records the results from each custom project in its tracking system, and its employees review the custom project claims for reasonableness.

3.3.3 Enbridge employees have full access to all relevant information relating to each project. However, they are not independent. It is in the Applicant's interest to report the maximum justifiable DSM savings from each project.

3.3.4 ***CPSV Contractors.*** Starting in the fall of each year, the Applicant hires external reviewers to verify the results for a statistically valid sample of custom projects. This is not an audit. The external reviewers are hired by Enbridge, and their work is supervised by Enbridge. The results of their work are included in Enbridge's DSM Annual Report[13].

3.3.5 The three CPSV contractors undoubtedly have significant expertise in this area. Further, there is no evidence that the Applicant limited the access of the CPSV contractors to information they needed to do their work.

3.3.6 However, it is also clear that the information they used was limited by the scope of their jobs, as they perceived it[14].

3.3.7 SEC's key concern in this regard is the assumption by the CPSV contractors that the life of the measure would be equal to the technical life of the efficient equipment or repair, which we will discuss later. This appeared to be built into the scope of their work (i.e. looking at the baseline assumption critically was not part of the analysis), and so may have been a limitation on the information they considered.

3.3.8 In addition, there is an obvious question of the independence of the CPSV contractors.

[13] SEC #6. Ex. I/2/6.
[14] See, e.g. Landry Report, p. 1; BII Report, p. 6.

They did not do an audit, and in SEC's submission their work was neither tested nor supervised in an appropriate way by the Auditor in all cases (see below).

3.3.9 In SEC's view, the sole value of the CPSV contractors in this case was to spot technical errors in the calculations by customers and by Enbridge employees. Thus, they served to improve the *engineering accuracy* of the claimed results, but did not in any way help to improve, demonstrate or test the *reasonableness* of the claimed results.

3.3.10 ***The Auditor.*** Regulation of DSM activities by the Board has been dramatically improved in recent years by its ability to rely on the expertise and independence of specialized DSM auditors, supervised by a committee of the utility and stakeholders.

3.3.11 The DSM Guidelines provide assistance in understanding the role of the Auditor. The description includes:

> *"At a minimum the independent third party auditor should be asked to:*
>
> - *Provide an audit opinion on the DSMVA, LRAM and incentive amounts proposed by the natural gas utilities and any amendment thereto;*
> - *Verify the financial results in the Draft Evaluation Report to the extent necessary to express an audit opinion;*
> - *Review the reasonableness of any input assumptions material to the provision of that audit opinion; and*
> - *Recommend any forward-looking evaluation work to be considered.*
>
> *The independent third party auditor is expected to take such actions by way of investigation, verification or otherwise as are necessary for the auditor to form its opinion.* ***Custom projects should be audited using the same principles as any other programs.*** *The independent third party auditor's work will culminate in its final audit report (the "Audit Report").*[15] *[emphasis added]*

3.3.12 In short, the Board should not itself have to do as significant or time-consuming an investigation into DSM claims as it did in the past, because it can rely on an independent expert opinion as to those claims. In this respect, it is much like a financial audit. The Board can rely on certain aspects of the financial results of a utility, because an independent audit firm has opined on their financial statements according to rigorous rules relating to standards and independence. If the DSM audit

[15] DSM Guidelines, p. 41.

works as it should, the same level of reliance is possible.

3.3.13 In this case, there are two reasons to doubt whether the Board can rely on the Auditor's opinion as it relates to the Applicant's custom projects.

3.3.14 First, as discussed in more detail below, the work of the Auditor with respect to the CPSV contractors was supervised by Enbridge, but was not – and could not be – supervised by the stakeholder members of the Audit Committee, because they did not have access to the information (including draft reports and findings of the CPSV contractors) available to Enbridge and the Auditor.

3.3.15 Second, the Auditor did not in all cases take the necessary steps to "investigate and verify" the work of the CPSV contractors. Not only did the Auditor not supervise their work, but the Auditor apparently did not ask even the most obvious questions about the assumptions the CPSV contractors made or accepted. As we will note below in our analysis of individual projects, SEC is asking questions that were not asked by the Auditor, and should have been had the Auditor's scope of work been as broad as the DSM Guidelines require.

3.3.16 SEC submits that the work of the CPSV contractors, which was itself neither complete nor independent, was not properly reviewed or tested by the Auditor as required by Board policy.

3.3.17 ***Audit Committee.*** The final check and balance on the process is that the work of the Auditor is supervised by a committee that includes knowledgeable intervenor representatives. In this case, the audit committee included Vince de Rose, from CME, Judy Simon, from LIEN, and Chris Neme, from GEC. All three have experience in the review of DSM results, and Mr. Neme in particular is well-recognized as one of the top experts in the field.

3.3.18 The problem is that, with respect to the custom project results, the members of the audit committee other than Enbridge did not have access to the CPSV reports, and had no knowledge of the assumptions being used by the CPSV contractors, during the course of the audit. The first time the CPSV reports were available to them was when they had already been finalized, and it was too late for them to provide meaningful input.

3.3.19 This led to the result that the members of the audit committee were unable to guide the Auditor in its review of this work. The many questions that SEC is asking now could have been asked during the audit, and in our submission would likely have been asked if the audit committee members had seen the CPSV reports during the process, and thereby had been able to properly supervise the Auditor. Even though the Auditor failed to ask the questions that needed to be asked, the experienced members of the audit committee would have asked those questions had they seen the assumptions that

were being made.

3.3.20 In theory, there have been many layers of review of the DSM results. SEC submits that, on the evidence before this Board, in actual fact there has not yet been an independent review of the custom project results by anyone who had access to the information necessary to carry out such a review. That, unfortunately for the Board, leaves it up to the Board to make the first independent determination as to whether these results are reasonable.

4 REVIEW OF THE CPSV REPORTS

4.1 *Introduction*

4.1.1 In this Section, we review a selection of the projects listed in the three CPSV reports. We have not reviewed all of them, but have only highlighted a few to determine if there are material problems with the results.

4.1.2 SEC notes at the outset that the level of problems in these results does not appear to be as egregious as those we found in EB-2013-0109. While there are still undoubtedly results that do not meet the Board's requirements, there appear to be a larger percentage in which the claims are fair and reasonable, and a smaller percentage in which problems have arisen.

4.2 *Byron J. Landry & Associates Inc.("Landry")*

4.2.1 Landry reviewed 16 industrial projects, and one agricultural project. SEC has no comments on the agricultural project reviewed. Together the projects reviewed appear to be more than 50% of the total lifetime cubic meters claimed by Enbridge for all custom projects. One of the projects alone has a claimed lifetime cubic meters of 189.2 million, while three others for a single customer have a total claimed of 131.6 million[16].

4.2.2 ***Largest Project.*** The largest project Enbridge had in 2012 was RA.IND.EX.RT.021.12, the installation of a [redacted] for a [redacted] company. The total annual m^3 claimed was 7,569,432, with a 25 year life, for a total claim of 189.2 million m^3. The Landry Report does not provide any details on the cost of the project, or the incentive paid. However, from the evidence in this proceeding it is known that the shareholder incentive being claimed by Enbridge, for this project alone, is $3,273,000[17].

4.2.3 The problem with the results of this project is that there is no analysis of the baseline. The new, efficient [redacted] replaced an [redacted] which had the same function but was much less efficient. Landry apparently did not make any effort to determine the age of the [redacted] or whether it would have had to be replaced at some point in the future in any case. Instead, the CPSV contractor simply assumes that the [redacted] would have remained in place for 25 years, the technical life of the new [redacted] Without evidence to support that assumption, the Board should, in our submission, assume that it is unlikely to be correct.

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[16] All details from SEC #5, Attachment 1/Ex. 1/2/5/Attach 1 ("the Landry Report").
[17] At $1.735 per 100 lifetime m^3

4.2.4 SEC looked to the Audit Report[18] to see if the Auditor raised this question. There is no discussion with respect to this project, despite the fact that, by itself, it represents more than half of the shareholder incentive claimed for all Resource Acquisition programs. The only comment that the Auditor made on the industrial review was that it was surprised that, for 65% of the industrial projects, Landry accepted the claimed savings from Enbridge and the customer, and made no adjustments. The Auditor noted that was unusual, but accepted it because it is in line with past Enbridge results[19].

4.2.5 SEC also looked at the Audit Committee's Report to see if any issues were raised with respect to this project. It does not appear that the Auditor raised any issues in this regard to the committee, nor did the committee raise any issues to the Auditor.

4.2.6 On the face of it, SEC submits that a "verification" or "audit" of a $3.3 million shareholder incentive claim that includes no analysis of baseline whatsoever, nor any analysis of the age of the replaced equipment, should be considered by the Board to be unreliable, and should be ignored. In our submission, without further evidence supporting the claim, the savings claimed should be limited to one year.

4.2.7 However, there is also a second problem with this project. The Landry Report notes that the old [redacted] equipment "was retained following the retrofit". No explanation of this is given.

4.2.8 One possible explanation is that the installation of the [redacted] was not, in fact, a replacement, but an expansion of the facility. This would be consistent with the Landry Report, which says that the former [redacted] was [redacted] from two corporate sources, but the new [redacted] is intended to [redacted] from three sources in the future. On the other hand, if that were the case, then assessing this as a retrofit would be incorrect, and there would instead be evidence of the choices available to the customer for the expansion, other than the [redacted] Nothing is seen, and Landry makes clear that changes in actual usage over the first year (i.e. before any new source of [redacted] is implemented) are an appropriate way to estimate savings. This is only possible if it truly is a retrofit.

4.2.9 The second possible explanation is that the [redacted] will be used for something else. In that case, the "efficient case" would have to include the impact of using the [redacted] to burn gas elsewhere in the customer's facility. There is no such analysis.

4.2.10 The third possible explanation is that the [redacted] is being held in reserve, for example to operate if the [redacted] is out of service, or at peak times, etc. In that case, the future use of the [redacted] would have to be modeled in the "efficient case", but it was not.

[18] B/2/1, p. 15-16.
[19] B/2/1, p. 16.

4.2.11 The fourth possible explanation is that the [redacted] is being held for scrap or sale. If that were the case, though, that would suggest it is relatively old, confirming that the baseline should not assume 25 years of savings.

4.2.12 SEC therefore submits that, whether the CPSV contractor failed to review the appropriate baseline, or the CPSV contractor failed to assess the impact of the retained [redacted] the review by Landry is insufficient to support the claimed savings.

4.2.13 ***Three Related Projects.*** Three projects were completed by an [redacted] plant: RA.IND.EX.NRT.039.12, 040.12, and 041.12. The total annual savings claimed is 8,772,428 m^3, with a 15 year measure life, for a total claim of 131.6 million m^3. The resulting shareholder incentive with respect to these three related projects is $2,277,000[20].

4.2.14 The project appears to be the installation of an energy management system (EMS) to control an extensive ventilation system for various areas of the plant. Part of the project includes recirculating heated air that was previously being exhausted.

4.2.15 The primary problem with the savings claimed is measure life. Landry says "The plant's former EMS system, which controlled the operation of (109) Air Houses, was obsolete and remained out of service due to the unavailability of spare parts". Notwithstanding this fact, the CPSV contractor assumed that the period over which the new EMS would produce savings (relative to a baseline of no functional EMS at all) was 15 years, the engineering life of the new EMS.

4.2.16 In SEC's submission, there is no reasonable likelihood that this assumption is correct. With gas savings of almost nine million cubic meters annually, the payback on this project would be very short, so it is likely that project economics would dictate early implementation, without any utility incentive. SEC believes that the likeliest scenario, in fact, is that the customer was going to implement a new EMS anyway, as the rational action to take (i.e. they were a known free rider), and Enbridge gave them an incentive using ratepayer money in order to earn a shareholder incentive. The alternative scenario is that an Enbridge employee saw the non-functional EMS, asked when it was going to be replaced, and said "Enbridge will give you a cheque for $X if you implement the new EMS this year, rather than waiting until you had planned to do it". In the former case, no savings should be counted at all. In the latter case, the savings only should be counted from the time of installation until the time the installation would have taken place without the customer incentive.

4.2.17 Of course, it is also true that there is no evidence on the other side. That is, SEC has not provided any evidence that the assumption of no EMS for the next 15 years is wrong.

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[20] Shareholder incentive estimates for individual projects are not additive. The incentive is linear over 100% of target, but has a different trajectory below 100%, and no incentive is paid below the lower threshold.

4.2.18 SEC submits that, in these projects, as in the others described in this Final Argument, it is not incumbent upon SEC to supplant the claims of the Applicant[21]. The Applicant has a positive onus to provide enough evidence to support its claim. In our submission, that evidence must provide answers to obvious issues such as the one we are raising for these three related projects. If the Applicant's evidence does not support the assumptions that they have made – and it clearly doesn't – then it has not met its onus, and the claim should be dealt with accordingly.

4.2.19 ***Other Projects.*** In these submissions, we have only made specific comments on four of the projects dealt with in the Landry Report, because they represent the majority of the savings for the projects covered by the report.

4.2.20 However, we note that similar comments could be made with respect to:

(a) RA.IND.EX.NRT.007.12 (replacement of "old (worn)" equipment),

(b) RA.IND.EX.RT.012.12 (minor changes to furnace doors, with an unusually short payback period),

(c) RA.IND.EX.NRT.012.12 (25 year life for replacement of three old boilers), and

(d) RA.IND.EX.NRT.028.12 (25 year life for replacement of old coil tube steam boiler).

4.2.21 Based on our review, SEC concludes that the savings claimed by Enbridge for industrial custom projects are overstated by material amounts, and neither the CPSV process nor the Audit process have served to protect the ratepayers from these excessive claims.

4.3 *Building Innovations Inc.("BII")*

4.3.1 BII reviewed five commercial custom projects, of which two were new construction and three were retrofits[22]. The sizes of the projects reviewed in the BII Report are on average smaller than the industrial projects reviewed by Landry. We are unable to determine with accuracy the total m^3 claimed for these five projects, because measure lives are not provided, but SEC estimates that the likely total is under 15 million m^3.

4.3.2 The work by BII appears to be much more thorough than Landry, including in particular analysis for one of the projects of the appropriate baseline to use, depending

[21] Even if that would have been technically possible, which clearly it wasn't, given that we only got the unredacted Landry Report late in the evening of March 7th, long after evidence would have been due.
[22] Information in this para. from SEC #4, Attachment 2, Ex. 1/2/4/Attach 2 ("the BII Report").

on whether the project is considered replacement of existing equipment, or advancement of a replacement that would have happened in the future. While noting that this analysis was "outside of the scope of this review"[23], BII still provided it.

4.3.3 In general, SEC has immediate no concerns about the work done by BII to the extent that it is described in their report. They appear to have taken a professional approach to assessing the savings. However, we cannot assess for each project whether they have used appropriate baselines or measure lives, because the report does not include this information, and because although SEC asked for the spreadsheets Enbridge has which would include this information [24], Enbridge refused to provide it.

4.3.4 We do suspect that the protocol used by Enbridge and its CPSV contractors for base case is inconsistent with the Board's Guidelines, because BII describes the protocol as follows:

> *""New Construction" projects use minimum code as the base case, whereas retrofit may use the existing building operation as the base case."*[25]

4.3.5 Therefore, there may be problems with their results that we cannot see on the evidence currently before the Board. We cannot provide more detailed submissions based on the record in this proceeding.

4.3.6 We do have two general concerns arising out of the BII Report:

(a) As noted above, in the case of one project BII determined that Enbridge should have treated it as a Replacement, but reviewed it as an Advancement because such classification was not part of their scope. In our submission, excluding material factors from the scope of their work invalidates their savings estimates. Savings estimates for lifetime m^3 cannot be made without a baseline, efficient case, and measure life. The scope for BII clearly excluded assessing the appropriate baseline, at least for that project.

(b) In their general comments at the end, BII talk about the difficulties associated with "comprehensive projects", and state the following[26]:

"Other challenges lie when claiming a subset of a comprehensive retrofit across a wide range of building systems as a project. Although the entire project may have proceeded to construction, EGD may include costs and savings associated with a subset of this project. This may be caused by

[23] BII Report, p. 14.
[24] SEC #1. Ex. I/2/1, p. 1.
[25] BII Report, p. 17.
[26] BII Report, p. 17.

> *eligibility restrictions, or* ***attempts to define a project that meets TRC limitations.*** *" [emphasis added]*
>
> SEC believes that, if Enbridge is defining projects by reference to optimizing savings claimed, that is not appropriate and should not be acceptable to the Board.

4.3.7 SEC notes that the Auditor included two of the five BII projects in the Audit Report, but ultimately agreed with BII's conclusions. The report of the Audit Committee also follows up on some of BII's general comments in its report.

4.3.8 Subject to the two comments above, SEC has no further submissions with respect to the BII Report.

4.4 *MMM Group Limited ("MMM")*

4.4.1 MMM reviewed 22 commercial custom projects, with a total annual gas savings of 5,239,562 m^3. While the measure lives are not provided in all cases, it is reasonable to estimate that the total savings for all of these projects is around 100 million lifetime m^3.[27]

4.4.2 One project – a new [redacted] built under the OPA's High Performance New Construction program – accounts for about half of the savings claim[28]. There do not appear to us to be any problems with the claim for that project, or the analysis by MMM.

4.4.3 We note that the Auditor subsequently adjusted the savings allowed on this project upward by a small amount, as a result of Enbridge drawing to the Auditor's attention an error in the MMM calculations[29]. This is an example of the asymmetrical nature of the supervision of the Auditor during the CPSV process. While Enbridge had the CPSV draft reports and backup documentation, the members of the Audit Committee did not. As a result, the utility was able to influence a change to their benefit, but ratepayer representatives were not in a position to even identify – let alone influence - changes in the other direction.

4.4.4 The second largest project – installation of VFDs on twenty fan motors for a university building – has projected savings of about 11 million lifetime m^3. MMM appears to have done this savings calculation correctly. By way of example, the assumed lifetime is 13.2 years, based on the fact that the VFDs were installed on existing equipment, and so will generate savings consistent with the remaining lives of the equipment on

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[27] See SEC #4, Attachment 1. Ex. I/2/4/Attach 1 ("the MMM Report").
[28] MMM Report, p. 74.
[29] Audit Report, p. 23.

which they are installed[30].

4.4.5 With respect to one of the MMM reviewed projects, the Auditor noted[31] that Enbridge did not appear to be involved in the project prior to its implementation, and so may not have had any influence over the project. It was, according to the Auditor, approved after the fact. Enbridge advised the Auditor that its personnel were involved prior to implementation, but the Auditor notes that there was no documentation supporting this.

4.4.6 There is no reference to any of this in the MMM Report[32], and it appears that MMM was unaware that these issues existed. SEC believes the Board should be concerned about this. The project was rescheduling of the building automation system in a pair of [redacted] buildings heated through the Enwave district steam system. The payback period is not stated, but given the gas and electricity savings, and the project cost of less than $350,000, it is likely that it is around one year.

4.4.7 In SEC's view, the relatively short payback should have caused the Auditor to seek a proper demonstration of the utility's involvement, failing which the logical conclusion should have been that this was done without the utility's influence. Instead, the result is that the shareholder is claiming an incentive for this $350,000 project of $68,500[33] despite the lack of any proven influence.

4.4.8 For the remaining projects, there are a number in which older equipment is replaced with new equipment, but savings are claimed for the life of the new equipment rather than the remaining life of the old equipment[34]. This is clearly incorrect calculation of baselines, but the amounts are sufficiently small that SEC will not provide detailed comments.

4.4.9 We note that MMM refers to "the measure life assumptions that were provided"[35], in an apparent reference to some general set of measure lives that were part of the scope of their work. We do not have more detailed information, and so cannot provide further comments on this issue. SEC does believe that it should be of concern to the Board.

4.4.10 SEC therefore concludes that, on the largest projects, and many of the others reviewed, MMM provided reliable and thoughtful verification of results. However, with respect to at least some of the smaller projects, neither MMM nor the Auditor asked

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[30] MMM Report, p. 49.
[31] Audit Report, p. 25.
[32] MMM Report, p. 16-19.
[33] MMM Report, p. 19 says savings are 3,960,140 lifetime m^3. At $1.735 per 100, that is $68,500 for Enbridge's shareholder.
[34] E.g. p. 28.
[35] MMM Report, p. 28.

appropriate questions, and the results claimed were not properly verified or audited.

4.5 *SEC Recommendations*

4.5.1 The Applicants seeks an order approving clearance of over $11 million recovery from ratepayers. SEC believes that approval should be denied, and that recovery of only $3,319,047, less the recalculated LRAMVA, should be approved by the Board at this time.

4.5.2 ***Shareholder Incentive.*** With respect to the shareholder incentive claimed of $8,817,529, SEC submits that the incentive with respect to industrial and commercial custom projects has not been supported by proper evidence, and should not be approved. The amount that should be removed from the incentive calculation is the total for Resource Acquisition volumes, which is $5,498,484. The remainder, $3,319,047, should be approved as filed.

4.5.3 It is submitted that the problems identified in the Landry Report with the largest project, and the three related projects, are sufficient to reduce the custom projects savings claim of 870.7 million lifetime m^3 by at least 320.8 million lifetime m^3. The resulting amount of 549.9 million m^3, when added to the other volume claims for Resource Acquisition (130.4 million m^3), produces a result of 680.1 million m^3, which is only 64.8 million m^3 above the threshold below which there is no incentive for volumes[36].

4.5.4 Given the obvious problems with other projects reviewed by Landry, and some of those reviewed by BII and MMM, and given the fact that the projects reviewed are a statistical sample, with the results then to be applied to the remaining projects, it is submitted that the Applicant has not demonstrated that it has achieved volumes in excess of the minimum threshold required to gain an incentive.

4.5.5 ***LRAMVA.*** SEC submits that, upon recalculation of the volumes attributable to Enbridge, the LRAM must also be recalculated. This should increase the refund to go back to the ratepayers. In our submission, the recalculated amount of the LRAMVA should be deducted from the revised shareholder incentive proposed above.

4.5.6 ***DSMVA.*** To be eligible to recover a DSMVA, the Applicant must have met its volume targets, and be spending the additional operating funds to achieve results in excess of target. Where, as here, the target is not met, there is no eligible amount to be recovered for DSMVA purposes, and this claim should therefore be denied.

4.5.7 ***Alternative Submission.*** SEC recognizes that our proposed resolution involves a "penalty" to Enbridge of $8 million or more for failure to provide proper evidence

[36] i.e. 615.3 million m^3. See SEC #1.

supporting its claim.

4.5.8 SEC does not believe that Enbridge would be able, even if given the opportunity, to supplement its evidence in this proceeding sufficiently that any shareholder incentive, or DSMVA recovery, would be payable. However, we do believe that if Enbridge were to seek to have that opportunity, it would be appropriate for the Board to grant it.

4.5.9 In the event that the Board allows Enbridge the opportunity to supplement its evidence in support of its claims in this proceeding, SEC asks that the Board order full discovery of that supplementary evidence, and the late-filed confidential documents from the CPSV contractors. We would also ask that the Board provide for an oral hearing on this Application, so that SEC, and potentially other parties, can cross-examine the CPSV contractors and the Auditor, so that the Board will have a full record before it renders its decision.

5 OTHER MATTERS

5.1 *Costs*

5.1.1 The School Energy Coalition hereby requests that the Board order payment of our reasonably incurred costs in connection with our participation in this proceeding. It is submitted that the School Energy Coalition has participated responsibly in all aspects of the process, in a manner designed to assist the Board as efficiently as possible.

All of which is respectfully submitted.

Jay Shepherd
Counsel for the School Energy Coalition