APPLICATION FOR CLEARANCE OF DSM ACCOUNTS

Request for Approval and Clearance of 2015 DSM Deferral and Variance Accounts

1. Enbridge Gas Distribution Inc. ("Enbridge" or the "Company") is applying to the Ontario Energy Board ("OEB" or the "Board") pursuant to Section 36 of the *Ontario Energy Board Act, 1998,* as amended ("Act") for an Order or Orders approving the final balances in certain 2015 Demand Side Management ("DSM") Deferral and Variance Accounts. The Company is also seeking approval for the disposition of the balances in these accounts through a one-time adjustment in rates, within the next available QRAM following the Board's approval.

2. As outlined in the Filing Guidelines to the DSM Framework for Natural Gas Distributors (2015-2020) (EB-2014-0134) ("Guidelines"): "Consistent with past practices, recovery and disposition of DSM related amounts (i.e., DSM Variance Account ("DSMVA"), DSM Incentive Deferral Account ("DSMIDA"), and LRAM Variance Account ("LRAMVA")) will be filed by the natural gas utilities annually, based on the actual amount of natural gas savings resulting from the utilities' DSM programs in relation to the annual plans targets. The DSM amounts include program spending, shareholder incentive amounts and lost revenues in relation to the DSM programs delivered by the natural gas utility."[1]

3. The deferral and variance accounts which are the subject of this proceeding relate to DSM activities in 2015. Though the current Framework encompasses 2015-2020, the Board directed that 2015 would act as a transition year and the "gas utilities should roll-forward their 2014 DSM plans, including all programs and

[1] Filing Guidelines to the DSM Framework for Natural Gas Distributors (2015-2020) (EB-2014-0134), page 36

4. parameters (i.e., budget, targets, incentive structure) into 2015."[2] The accounts which are the subject of this Application and the balances recorded are as follows:

Table 1.

2015 DSM Deferral and Variance Accounts and Balances	
Demand Side Management Variance Account (DSMVA)	$ 825,460
Demand Side Management Incentive Deferral Account (DSMIDA)	$ 10,077,695
Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) (Reimbursable to Ratepayers)	$ (72,589)
Total Amount Recoverable	$ 10,830,567*

*Numbers may not add up due to rounding

5. New to the evaluation and audit process for the 2015 DSM year results, as directed by the Board, was the transfer of responsibility for oversight of the annual evaluation, measurement and verification ("EM&V") process from the utilities to OEB Staff. For reasons set out in the evidence below which detail Enbridge's concerns about the EM&V process which was followed and the results, this application reflects all 2015 verified program results as presented in the Evaluation Contractor's ("EC") final report: *The Ontario Gas DSM Evaluation Contractor 2015 Natural Gas Demand Side Management Annual Verification report* by DNV GL ("DNV" or the "EC") dated October 12, 2017,[3] ("the EC Report") with the exception of the incomplete Net-to-Gross ("NTG") Study findings (encompassing Custom Commercial, Custom Industrial and Run It Right offers).[4]

[2] EB-2014-0134, Report of the Board, DSM Framework for Natural Gas Distributors (2015-2020), Sect. 4.2, page 30
[3] Filed in EB-2015-0245
[4] In the process of preparing this Application, Enbridge determined there were a number of errors made by the EC in its calculation of verified 2015 DSM program results including its determination of DSM shareholder incentive and LRAM. These errors were also reflected in the audit opinion provided in the EC Report date October 12, 2017. Enbridge communicated these concerns in an email to Board Staff and the EC on November 20, 2017. At a meeting of the EAC on December 6, 2017, the EC acknowledged errors in their calculations. In an email to the EAC on December 13, 2017, the EC outlined corrected calculations and Enbridge expects that these corrected values

6. More specifically, Enbridge has identified the following primary concerns with the OEB Staff coordinated 2015 verification process and results:

   - The evaluation and audit process lacked the appropriate and necessary degree of transparency, collaboration, efficiency and balanced stakeholder input to ensure a fair and credible process and result;

   - The retroactive application of the NTG ratios from the NTG Study is inappropriate and contrary to the Board's earlier Direction and is both inappropriate and inconsistent with best practices.

   - The determination of NTG ratios in the NTG Study by DNV are inappropriate and flawed in that the NTG Study deviated from the appropriate scope of work and did not reflect industry best practice.

7. Each of the concerns listed above are described and explained within the body of this evidence. For the purposes of this application, Enbridge is applying for approval by the Board of the amounts listed in Table 1. These are the product of all 2015 verification results recommended by the EC with the exception of the flawed and inappropriate retroactive application of incomplete NTG Study results.

8. As outlined in the Guidelines: "The Board expects that the utilities will use the results of the Final Audit & Evaluation Report when they file for disposition of their respective DSM deferral and variance accounts."[5] Section 11.0 of the Guidelines states that:[6]

---

will be included by the EC in updated final reports. At the time of filing this application, no updated reports from the EC have been issued by the OEB, however the EC's corrected values have been incorporated into the determination of the Deferral and Variance Account balances outlined by Enbridge in this application.

[5] Filing Guidelines to the DSM Framework for Natural Gas Distributors (2015-2020) (EB-2014-0134), page 20

[6] Ibid., page 37

> "*The natural gas utilities should apply annually for the disposition of any balances in their LRAMVA and DSMVA and, if applicable, apply for a shareholder incentive amount associated with the previous DSM program year and disposition of any resulting DSMIDA balance.*
>
> *This application should include the final results as outlined in the Final Evaluation and Audit Reports, and information setting out the allocation across rate classes of the balances in the LRAMVA, DSMVA and DSMIDA*."

In accordance with Section 11.0 of the Guidelines and for comparative purposes, Enbridge provides the DSM values based on the EC's recommended amounts and Enbridge's application as seen in Table 2 below:

Table 2.

2015 DSM Achieved Savings, Shareholder Incentive, and Lost Revenue	Enbridge Pre-Audit	Audit Opinion of EC*	Enbridge Application
Shareholder Incentive	$10,318,594	$ 6,207,339	$ 10,077,695
Lost Revenue	$ 28,800	$ 16,405**	$ 28,216
DSMVA	$ 825,460	$ 825,460 (not reviewed)	$ 825,460

* As noted previously in footnote 4, Enbridge determined there were a number of errors made by the EC in its calculation of verified 2015 DSM program results. The Shareholder Incentive originally recommended in the EC's Final Verification report dated October 12, 2017 was $6,489,467. As a result of Enbridge identifying errors in the manner the EC had applied its verification adjustments to the program results, the EC undertook a review and provided revised figures (as outlined above) to the EAC on December 13, 2017. The EC has advised it will be updating the final reports originally dated October 12, 2017 to reflect these corrected values.

** The above table includes the EC calculated and the Enbridge calculated Lost Revenue values for comparison to align with audit opinion category presented in the EC's Annual Verification Report. For clarity, the LRAMVA value requested for disposition in this application is outlined in Table 1.

9. Notwithstanding the issuance of the EC Report, there are several reasons why it should not be accepted and relied upon for a final determination of amounts for Clearance. First, it undertook its calculations employing an approach, in

Enbridge's determination, which is contrary to Board decisions and policy – discussed further below.

10. Second, it excludes an important required feature outlined in the scope of work of the NTG Study, namely Enbridge/Union Gas program based determinations of spillover. While it does include a proxy deemed spillover value sourced from another study conducted in Massachusetts (applied as a result of an instruction given by Board Staff – to be discussed further below), Enbridge views the report as incomplete.

11. Third, the EC Report excludes another important feature of the NTG Study specified in the scope of work, namely Secondary Attribution. DNV quantified Secondary Attribution but did not apply these findings to final NTG Study results.

12. Fourth, the NTG outcomes are not credible and Enbridge does not have confidence in them as they do not reflect best practice approaches in undertaking self-report NTG studies.

13. Fifth, Enbridge uncovered a number of errors made by the EC throughout the verification process, including in the evaluator's individual project savings verifications, as well as in the EC's application of adjustments to arrive at verified 2015 DSM program results; most importantly errors were made in the EC's final determination of verified net cumulative savings and subsequently, the DSM shareholder incentive and LRAM. These errors primarily related to how the EC applied the CPSV verification adjustments across the total custom project results.

14. Finally, in Enbridge's efforts to gain understanding of NTG adjustments made by the EC, despite continued requests for detailed information to enable the Company to replicate the calculations used by the EC to arrive at its proposed NTG values, the EC failed to provide the details required for the Company to do this analysis.

Enbridge therefore had no ability to review live calculations or understand the consideration of participant responses to the NTG scoring algorithm. Given errors already uncovered by Enbridge, with great effort, in other areas of the verification where the Company was successful in obtaining data, Enbridge does not have confidence in the results and has no way to assess how the NTG calculations were done, if they were done correctly or what may need to be reviewed. This “black box” determination adds to Company’s uncertainty of the results.

15. For these reasons, discussed in further detail below, the utility is of the view that the Board should not have confidence in the determination of the NTG Study values.

16. This evidence has been organized based on the following general outline. Section 1 describes the 2015 EM&V process, highlights the significant delay, and concludes that a number of issues and events demonstrate a lack of transparency and create concern with objectivity within the current process that was prejudicial to the Company. Section 2 addresses the issue of retroactivity and the inappropriateness for inclusion of the EC’s NTG Study recommendations in the determination of 2015 program outcomes. Section 3 details many of the concerns with the NTG Study undertaken by DNV that cause the Company to conclude that the results are unreliable and should not be accepted in a number of material respects. Finally, Section 4 outlines the summary outcomes as a result, and forms the basis of the application by Enbridge made herein.

Section 1 – The 2015 EM&V Process

<u>The 2015 DSM Evaluation Process – Summary of Facts and Events</u>

17. The Board issued the Report of the Board, DSM Framework for Natural Gas Distributors (2015-2020) (EB-2014-0134) ("Framework") and the Guidelines on December 22, 2014. Previously, as directed by the Board, the evaluation process relating to DSM programs had been a function that the gas utilities managed with input from stakeholders throughout the process. The prior approach was supported by the Technical Evaluation Committee ("TEC") and the Audit Committee which included stakeholder representatives chosen by the stakeholder community.

18. In this framework, the TEC established DSM technical and evaluation standards for the natural gas utilities in Ontario. The TEC consisted of seven individuals: three intervenor members, a representative from Union, a representative from Enbridge, and two independent members with technical and other relevant expertise. The Audit Committee for each utility consisted of three intervenor members and one utility representative. In the 2015-2020 Framework however, the Board concluded that it was "in the best position to coordinate the evaluation process throughout the DSM framework period"[7] in collaboration with the gas utilities, supported by stakeholders with technical expertise. The Guidelines further specified that "the Board will take on the coordination function of the EM&V process."[8]

19. The Board subsequently issued two letters on August 21, 2015 and March 4, 2016 which further outlined the new evaluation process and the transition of the activities of the TEC to the OEB.

[7] EB-2014-0134, Report of the Board, DSM Framework for Natural Gas Distributors (2015-2020), Sect. 4.2, page 30
[8] Filing Guidelines to the DSM Framework for Natural Gas Distributors (2015-2020) (EB-2014-0134), page 15

August 21, 2015 Letter from the Board [9]

20. The Board's August 21, 2015 letter outlined a new DSM evaluation and audit governance structure. Specifically, this letter outlined the DSM evaluation governance structure, the evaluation approach, and the roles of the parties involved in the evaluation process. The letter also introduced the formation of an Evaluation Advisory Committee ("EAC") and explained that once the OEB had retained an EC, OEB Staff would work with the TEC to transition work already ongoing under the responsibility of the TEC to the EAC. In the meantime, the OEB directed the gas utilities and the TEC to continue working on the evaluation projects that they had initiated until the transition occurred.

21. As stated in the Board's August 21, 2015 letter, the EAC was to provide input and advice throughout the process, including the evaluation and audit of DSM results and the development of the Evaluation, Measurement & Verification Plan to be drafted by the EC.

22. The letter outlined that the EAC would be comprised of:
    - Experts representing non-utility stakeholders, with demonstrated experience and expertise in the evaluation of DSM technologies and programs
    - Expert(s) retained by the OEB
    - Representatives from the IESO
    - Representatives from each natural gas utility
    - Representatives from the Ministry of Energy (MOE) and the Environmental Commissioner of Ontario (ECO), who will participate as observers.

23. The Board's August 21, 2015 letter announced the appointment of the following non-utility stakeholders to the EAC: Marion Fraser, Marion Fraser Enterprises Inc.;

[9] Letter from the Board, 2015-2020 Demand Side Management Evaluation Process of Program Results, August 21, 2015 (EB-2015-0245)

Chris Neme, Energy Futures Group; and, Jay Shepherd, Shepherd Rubenstein Professional Corporation.

March 4, 2016 Letter from the Board [10]

24. The Board's letter dated March 4, 2016 outlined the transition of the, then current, ongoing DSM evaluation activities from the TEC to the EAC. Before the formation of the EAC and the hiring of an EC, a number of important evaluation activities were already underway. Among several key projects, the Custom Commercial and Industrial NTG Study was in progress. The TEC had previously completed a Request for Proposal ("RFP"), initiated a selection process, and had contracted DNV (previously DNV Kema) in May 2015 to complete the study. As acknowledged in DNV's scope of work (see Exhibit B, Tab 5, Schedule 2), the TEC had resolved in April, 2014 that "the primary objective of this project is a transparent, reputable study that produces strong, credible, and defensible NTG ratios to be used on a go-forward basis"[11] (emphasis added).

25. At the time the Board issued its March 4th letter, the TEC had done considerable work with DNV to refine the details of the study and DNV had also drafted an updated Scope of Work (see Exhibit B, Tab 5, Schedule 2) to the TEC outlining its approach. The objective for the study stated that the "goal of this evaluation is to develop transparent free ridership and spillover factors for custom commercial and industrial programs, to be used for future programs"[12] (emphasis added).

[10] Letter from the Board, Transition of Technical Evaluation Committee Activities to the OEB, March 4, 2016 (EB-2015-0245)
[11] Measurement of NTG Factors for Ontario's Natural Gas Custom Commercial and Industrial DSM Scope of Work for Ontario Natural Gas Technical Evaluation Committee (TEC), dated March 2, 2016, page 7
[12] Ibid., page 4

26. The March 4, 2016 letter acknowledged that the NTG Study work plan was to be presented to the TEC at its next meeting scheduled for March 10, 2016 (Board Staff was in attendance at this meeting). The letter further provided that "following input from the TEC, this study will be transitioned to OEB. The utilities will continue to manage contractual obligations and payments associated with this project. OEB Staff will assume oversight of the study and will confirm the completion of major milestones for the utilities to process payments of consultant's invoices."[13]

27. Importantly, the March 4, 2016 letter from the Board did not contemplate that OEB Staff could unilaterally alter or change the scope of DNV's work already underway.

Board Staff Coordinated 2015 EM&V Process

28. On May 5, 2016, an email was sent to members of the EAC from OEB Staff. The email announced that the Board had appointed Dr. Ted Kesik, University of Toronto and Bob Wirtshafter, Wirtshafter Associates, Inc. as independent experts on the EAC. The email acknowledged that Mr. Wirtshafter and Mr. Kesik had served as members of the former TEC that assisted in providing objective advice during the previous DSM Framework.

29. In April 2016, the Board selected the EC. The May 5, 2016 email outlined that OEB Staff had engaged DNV as the EC. It indicated that among the EC's responsibilities, DNV would oversee the annual verification of the 2015 DSM program results, including preparing a Final DSM Results Report. The EC was selected with no EAC or utility input or consultation. As outlined above, DNV had already been selected by the TEC the year prior to complete the custom commercial and industrial NTG Study as previously detailed.

[13] Letter from the Board, Transition of Technical Evaluation Committee Activities to the OEB, March 4, 2016 (EB-2015-0245)

30. The 2015 EM&V process took approximately 18 months (it should be noted however that in this timeframe the NTG study was not completed, as the spillover component is as yet incomplete). In the first year of the new OEB Staff led EM&V process, almost 22 months after the end of the utilities' 2015 program year, the OEB issued two reports on October 16th, 2017, developed by the EC, DNV, providing its calculations for 2015 DSM verification results.

31. It should be noted that the evaluation process envisioned by the Board was a "process coordinated by the Board, in collaboration with the gas utilities, and supported by stakeholders with technical expertise, will be one that results in a thorough evaluation of DSM programs in an efficient manner. By taking on a larger role in the EM&V process, the Board will consult and seek expert opinion from both the gas utilities and stakeholders as appropriate"[14] Unfortunately, the 2015 EM&V process did not exhibit the collaboration, transparency and efficiency intended by the Board which has led to much uncertainty, instability, and faulty outcomes.

Lack of Transparency and Collaboration within the Process

32. As outlined in the Guidelines, at a minimum the Board expects the independent third party auditor will be asked to[15]:
    - Review the draft evaluation reports prepared by the gas utilities and verify the components of the draft program results;
    - Conduct audits of DSM programs to ensure that the results proposed by the gas utilities are accurate;
    - Confirm the calculations of savings and the draft evaluations conducted by the gas utilities are consistent with the evaluation plans approved by the Board;

[14] EB-2014-0134, Report of the Board, DSM Framework for Natural Gas Distributors (2015-2020), Page 30
[15] Filing Guidelines to the DSM Framework for Natural Gas Distributors (2015-2020) (EB-2014-0134), page 19

- Provide an audit opinion on the DSMVA, lost revenues and shareholder incentive amounts proposed by the natural gas utilities and any subsequent amendments;
- Confirm any target adjustments have been correctly calculated and applied;
- Identify any input assumptions that either warrant further research or that should be updated with new best available information;
- Review the reasonableness of any verification work that has been undertaken by the gas utilities and included in the Draft Evaluation Reports;
- Recommend any forward-looking evaluation work to be considered; and,
- Prepare a Final Audit & Evaluation Report.

33. Though the EC is expected to act on this mandate, the lack of transparency and at times poor communication through overseeing the 2015 process, specifically the Custom Project Savings Verification process as well as the NTG Study leaves Enbridge with the belief that Board Staff chose to direct, rather than oversee, the EC without the benefit of Enbridge's experience and expertise in DSM, or more broadly without full consideration of all information and expertise provided through the EAC. Enbridge is of the view this is clearly contrary to the intention of the Board's specific articulation that Board Staff would be "coordinators", and therefore that the EC would remain an independent, third party auditor.

34. Of particular concern to Enbridge in the 2015 process were two significant examples where OEB Staff explicitly instructed the EC on how to proceed with: i) the application of the NTG study, and ii) the finalization of the spillover component of the NTG results.

35. As further discussed below, the outcomes of the NTG Study should not be applied to 2015 program results for the purpose of determining the Company's shareholder incentive. However, following the transition of the oversight of the NTG Study from

the TEC to Board Staff in March of 2016, Enbridge requested clarity and understanding of Board Staff's proposal regarding the application of NTG Study outcomes to 2015 program results. Ultimately, a year later, the day prior to the EAC receiving a copy of the EC's draft CPSV/NTG report, Board Staff emailed the two utilities on May 23, 2017, and confirmed it had instructed DNV to retroactively apply the NTG Study results (they were not in fact NTG values, they proposed free ridership values but did not include spillover) to 2015 DSM program results. Board Staff indicated this was in line with their understanding of the Board's direction. This action was neither appropriate in light of Board Staff's role as coordinator in the EM&V process; nor correct with respect to the Board's Decision and Order of January 20, 2016 and revised Decision and Order of February 24, 2016.

36. Further, during a conference call with the EAC on September 27, 2017, Board Staff communicated that the EC had been instructed to find a proxy deemed spillover value to be applied to the utilities' 2015 program results, notwithstanding the fact that the spillover study was still ongoing and incomplete (though when queried by various members of the EAC, it was unclear whether these instructions were provided to the EC by OEB Staff or the OEB). Board Staff indicated that, rather than wait for the final results of the EC's spillover research, the EC was directed to instead find and apply a deemed value to approximate spillover effects based on a spillover value in another jurisdiction and proceed to finalize the 2015 program results verification. Enbridge is of the view that Board Staff's priority at this point was simply to rush to complete the 2015 EM&V process, given the significant amount of time that had already transpired. Enbridge submits that taking such action is outside of Board Staff's role as coordinator of the EM&V process and consisted of a unilateral change to the scope of work outlined for the NTG Study.

37. On the issue of consultation with stakeholders, direction was provided by the Board in its 2015-2020 Framework for Demand Side Management. The Board clearly acknowledges the utilities' expertise and experience with regards to DSM:

> *"Although the Board's role will be increased, primarily with respect to oversight related to the evaluation process and annual updates to the input assumptions list, the Board continues to see the direct involvement of all key stakeholders, notably the gas utilities and intervenors with the required expertise, to be critical and necessary to ensure all elements of the gas utilities' multi-year DSM plans are considered during the program development, approval and evaluation stages."*[16]

38. In the Framework, the Board concluded that it was "in the best position to coordinate the evaluation process throughout the DSM framework period"[17] in collaboration with the gas utilities, supported by stakeholders with technical expertise. The Guidelines further specified that "the Board will take on the coordination function of the EM&V process."[18], however, no clear definition of OEB Staff's role as "coordinator" was provided, nor was there clear direction given regarding the relative roles and responsibilities of the EAC in regard to the decision making process, particularly with regard to input into the selection of evaluation experts, managing stakeholder input to evaluation scopes, and resolution of diverging viewpoints and conflicts of interest. The utilities were consistent in their request for clarity in this regard, including the repeated recommendation for the development of an EAC charter, clear project management oversight, the provision of detailed and maintained timeline plans, as well as the recording and distribution of EAC minutes.

39. Effectively, the Company believes the EAC's structure and the burden placed on OEB Staff, with limited prior experience, contributed to a lack of transparency and limited collaboration between Board Staff and members of the EAC. As a result,

[16] EB-2014-0134, Report of the Board, DSM Framework for Natural Gas Distributors (2015-2020), Page 36
[17] Ibid., Section 4.2, page 30
[18] Filing Guidelines to the DSM Framework for Natural Gas Distributors (2015-2020) (EB-2014-0134), page 15

the Company urges the Board to direct the Evaluation Advisory Committee to create a consensus-based charter that encourages cooperation between all parties, so that the expertise and experience from each party may be applied to the evaluative challenges inherent in the process. We understand Board Staff is currently drafting a charter in an effort to establish greater role clarity for the EAC.

40. Enbridge notes that it developed together with Union Gas and other DSM stakeholders a document entitled Joint Terms of Reference which was filed in draft and ultimately approved by the Board in EB-2011-0295. This document detailed the duties and responsibilities of all participants in the EM&V process during the 2012-2014 Framework and was of great assistance ensuring that the review of annual results and the updating of measure assumptions was undertaken in an objective and efficient fashion. These rules guided the parties and provided certainty as to the process. Enbridge submits that a charter which includes a materially similar set of rules would greatly assist in the timely generation of credible results in future.

41. Enbridge has reviewed and provided input in the development of the draft charter which Union Gas has prepared and appended to its 2015 DSM Clearance Application and supports the Board's adoption and approval of this charter for immediate implementation. By broadening the decision making process as contemplated in this charter, all parties will be inclined to take ownership of the process and improve the quality of the outcome of the EAC.

42. With regard to one of the most significant evaluation efforts, the development of the NTG Study, though the EC did solicit comments from the EAC on the survey instrument, much of the commentary and input provided by Enbridge was dismissed. In addition Enbridge was not provided an opportunity to provide input in respect of the EC's determination of an appropriate scoring algorithm and upon

receipt of the draft results of the free-ridership interviews, Enbridge repeatedly requested details regarding the determination of participant scoring based on example feedback provided, but has received limited information from this request.

43. In addition, despite repeated requests by Enbridge for the EC to provide complete details of the data used in its determinations, in many regards, the EC would not provide Enbridge with detailed documentation or clear calculations to allow Enbridge to replicate (and therefore understand and confirm) the EC's findings. Given that there were instances where Enbridge was able to work through the data to verify the EC's calculations and errors were found, the lack of detail and transparency in other regards, leaves Enbridge uncertain of the determinations of the EC. Enbridge is of the view that there should be full transparency in the process to allow the Company the opportunity to fully review adjustments.

44. In October 2017, the US Department of Energy updated its Uniform Methods Protocols ("UMP") on Self-Report surveys. Enbridge has included a copy of the Uniform Methods Protocols at Exhibit B, Tab 6, Schedule 4. The UMP is widely regarded as the industry standard for how to conduct evaluative surveys. Of note in the recent update is a detailed commentary on the critical importance of transparency between surveyors and interested parties. "Ensuring transparency" is identified as one of the 6 key principles of best practice. Citing numerous recent U.S. studies, the UMP stresses "the importance of making the entire process transparent so stakeholders can understand how each question and its response impacts the final estimate."

45. The UMP delves into significant detail on the involved role stakeholders should play in the development and execution of Net-to-Gross surveys, explicitly recommending that "jurisdictions should design evaluation plans to assess net savings in conjunction with the key stakeholders". Survey components to be

shared with stakeholders include “details of critical elements such as the question sequence, scoring algorithms, and the handling of inconsistent and/or missing data.”

46. Enbridge is concerned that the process undertaken for the 2015 EM&V process lacked sufficient consultation and collaboration to generate the most effective, fair, and reliable results. In comparison to prior experiences with third party evaluators, Enbridge believes the process underpinning the 2015 EM&V results, in particular the NTG study, was less transparent and less certain, and therefore less credible, despite an unfortunate over expenditure in terms of both time and cost.

47. A concern for Enbridge involved the practice of OEB Staff receiving and reviewing reports and deliverables from the EC prior to the EAC. During the verification process, it became clear that OEB Staff were providing comments and feedback to the EC that were not visible to the EAC, including undisclosed comments on specific evaluation reports. The utilities requested transparency in this regard; however comments were not shared with the group. Though the EC’s incorporation of, or impact of these comments are not known, this lack of transparency caused concerns regarding the ability of the EC to maintain the position of an independent expert and brought the objectivity of Board Staff’s role as overseer into question.

48. Other examples that contributed to a less than transparent and credible process included:

    - a refusal to record meeting minutes to capture key decision (despite suggestions from the utilities to do so);
    - failing to track and follow up on meeting action items;
    - questions and decision points that went unanswered creating uncertainty; and,

- a refusal to provide clarity and transparency regarding budgets and spending for the EM&V related activities.

Despite the utilities having responsibility and accountability for an overall annual evaluation budget for their respective DSM portfolios, OEB Staff has refused to provide details on EM&V budgets for planned verifications or details regarding forecasted spending in a given year. At a minimum, the utilities require budget information to facilitate contract payment, to assist with budgeting for other aspect of program planning and utility led evaluation (e.g. process evaluation) as well as to support financial reporting requirements. Currently Enbridge has no ability to monitor spending or accrue funds, this has proved unnecessarily challenging.

Delays in the 2015 EM&V Process and Impacts to Enbridge

49. In previous years, in consultation with the Audit Committee, Enbridge aimed to contract an auditor for the current program year in October of the same year to enable the process to be completed by June 30th of the year following to meet the Reporting & Record Keeping Requirements Rule for Gas Utilities. For the 2015 program year, Board Staff issued an RFP in early 2016 to facilitate the selection of the EC which specified the completion of a Final Results Report in October 2016. However, following the selection of the EC in April 2016, there were significant delays throughout. The kick-off meeting of the EAC and the EC was on May 12, 2016. The EC's draft of an overall EM&V plan was not provided to the EAC until September 2016 and was not finalized until February 2017. The work plan for the CPSV/NTG evaluation was not finalized until December 2016. Though Enbridge had provided its custom project tracking data to DNV in the early part of 2016 when the NTG project was previously underway at the TEC, after Board Staff assumed the oversight of the NTG study and changed the scope of work to a combined CPSV/NTG effort, the CPSV verification and the NTG Study did not

begin execution until late January 2017. These delayed timelines meant that the EC did not distribute a draft verification report until late July 2017 and ultimately, the OEB issued the EC's final reports on October 16th, 2017 (without having completed the spillover component of the NTG study). This was one full year after the date contemplated in the Board issued RFP for an Evaluation Contractor, and almost two years after the end of the 2015 program year.

50. Though in transitioning to the new EM&V process, it could be reasonably expected that there might be some delay, Enbridge would not have anticipated this outcome. In particular, Enbridge shared concerns about how delayed evaluation efforts impacted and inconvenienced customers who were being queried on projects that were implemented over a year, and in some cases, over two years previous. This impacted the ability for the EC to connect with customer contacts that had sufficient (or any) knowledge of specific projects and most certainly impacted customers' recall regarding projects details and arguably effected NTG responses.

51. It is important also to note that while the EC and OEB staff often missed timelines and deadlines, the utilities were given very little opportunity to provide input to project timelines and were regardless expected to meet aggressive deadlines dictated to them, in providing data or responses. For example, Enbridge was required on multiple occasions to rush its review and comments on very large quantities of CPSV data due to short, unrealistic deadlines set by the EC, working under the direction of Board Staff, and on occasion despite not being provided all of the information necessary to complete the requested review. In a number of instances where Enbridge felt it necessary to raise concerns with OEB Staff, no response or feedback was provided and due consideration was often not afforded.

52. The point here is not to be overly critical of Board Staff's efforts. They simply did not have the experience and capacity to fully manage the undertaking and there

was obvious pressure on both the EC and the utilities to meet aggressive timelines, to make up for significant early delays in Board Staff's initiation of the 2015 process. The result is therefore not likely what the Board had envisioned at the outset.

Change in NTG Study Scope

53. As described above, the TEC had originally scoped the study of work to be done with regard to the NTG Study. The study was meant to, "provide guidance on the development of a strategy for applying free ridership and spillover data collected on previous program participants to forward looking DSM program activity[19]" [emphasis added]. It was never contemplated that the results would be applied retroactively.

54. Working within a consensus-based decision-making process, the TEC had resolved that the prospective application was the most appropriate way forward with regards to NTG study findings. The prospective approach was also endorsed by the contracting consultant (DNV) as appropriate. The sample design originally proposed by DNV was one that was well suited for prospective, forward looking application of results. Only after Board Staff became involved in overseeing the NTG Study did this component of the study undergo a critical change, despite concerns raised at the EAC on multiple occasions by the utilities. This began with a new proposal with regard to the sample design and methodology to be employed; DNV presented the new approach to overlap with the CPSV verification

[19] Ontario Natural Gas Technical Evaluation Committee (TEC) Request for Proposal, Measurement of Net-to-Gross (NTG) Factors for Ontario's Natural Gas Custom Commercial and Industrial Demand Side Management (DSM) Programs, Nov 1, 2013, page 10

for application retrospectively and specifically to the population of 2015 project results.

55. In the Company's view, Board Staff altered the scope of work for the EC in this regard, directing it to misapply Board policy. While Enbridge comments on the policy issue of retroactivity further in Section 2 of this evidence, it is appropriate to consider here the role of Board Staff in an objective and transparent EM&V process. The Company submits that Board Staff's role in the evaluation and audit process should not involve it making direct unilateral changes to the EC's scope of work, or to be the sole interpreter of Board Policy. Board Staff, in its role as the coordinator and overseer of the evaluation and audit process (as set out in the Board's August 21, 2015 letter, EB-2015-0245), is not the entity that should be in effect rendering a determination about how a Board Decision and Order should be interpreted and applied.

56. Board Staff certainly have the right to take a position before the Board in respect of issues and to adduce evidence in support of their position, but it is Enbridge's view that Board Staff's role does not contemplate a decision making function in respect of the interpretation of Board policies and rules. At a minimum, Board Staff should have required the EC to receive and reasonably consider the views, data and concerns of the utilities and to generate DSM program results with use of such information and to present the results using both interpretations. Presenting the results as two distinct deliverables would align with the original scopes of work, and separate the conflicting views and interpretations of Board policy from the study results themselves so the Board would have greater line of site on the issues to make a determination that is just, reasonable and consistent with the Framework and Guidelines.

57. In a memo provided by Enbridge to the EAC and Board Staff on June 14, 2017, Enbridge outlined its view that where a difference exists between any member of the EAC and/or Board Staff as to the interpretation and application of the Decision, such differences and the resulting impact on program results should both be presented in the evaluation results report which will ultimately then be filed with the Board. This would necessarily mean that where the EC has been directed to undertake an evaluation based upon an interpretation of a Board Decision which is in dispute, the EC should be required to undertake the evaluation using both interpretations so that there is a full record that is presented to the Board for adjudication. Enbridge further suggested that it would then be open to each interested stakeholder to file evidence and make such argument each considers appropriate to support its interpretation of the Decision. Subsequent to receiving this memo, Board Staff did not and has not taken any action to respond to the concerns outlined. Throughout the 2015 DSM EM&V process, in an effort to seek clarity on OEB Staff's position on the application of NTG Study application to 2015 DSM program results, the utilities continued to raise concerns regarding the change to the NTG study scope of work and how the study outcomes would be applied (including at subsequent EAC meetings). During the October 2016 EAC meeting, OEB Staff committed to consider the matter and respond. However, as mentioned above, in an email sent to the two utilities on May 23, 2017, Board Staff formally communicated it had instructed DNV GL to retroactively apply the NTG Study ratios to 2015 DSM program results.

58. A further example of concern where the intended scope of work was not followed in the EC's execution of the NTG study is in regards to the determination and consideration of secondary attribution. This refers to the consideration of the longer-term effect of the program on participant decision making, which is particularly relevant to a mature program that has been in market for many years and where the utility has provided long term support of customers prior to current

year projects. Resolution for consideration of secondary attribution in the NTG Study was documented by the TEC and DNV in the original scope of work such that it was agreed that while the primary objective of the free ridership estimation would be to capture the effect of the program(s) on the current project, the effect on the current project of prior and indirect program experience would be captured in a secondary, less rigorous question sequence. It was further communicated by DNV that the work plan would outline specifics for operationalizing this approach. Consideration of secondary attribution is also reflected in DNV's updated scope of work for the CPSV/NTG verification.[20] In addition, the scoring methodology for secondary attribution outlined in the scope of work provides that the greater of this score and the primary attribution score would be used in determining the score for the participant. Also of note, though Enbridge provided comments in the development of the survey instrument, that multiple questions (in reference to "question sequence") above should be asked to capture this important component of utility influence on the customer, the EC did not incorporate this recommendation and limited the query to a single question. Subsequently, when the EC distributed the draft results of the free ridership evaluation, the EC asserted that while it had provided a quantified measurement of secondary attribution in its finding, it did not incorporate these values in the free ridership results. This is not in line with the original approach reviewed at the TEC and reflected in the original and updated scopes of work.

59. The omission of secondary attribution in the estimation of free-ridership values has a significant impact on findings. Leaving aside the issue of how and when NTG Study values should be applied, as well as other concerns Enbridge has with the findings, NTG ratios for Enbridge would be 10% higher when secondary attribution is correctly included in the value. Enbridge asserts that secondary attribution must

[20] Measurement of NTG Factors and Custom Savings Verification For Ontario's Natural Gas Custom Commercial and Industrial DSM Scope of Work Ontario Energy Board, by DNV GL, dated December 14, 2016, page 44

be included in the NTG values in accordance with the original resolution with the TEC and DNV, and as outlined in both DNV's original and updated scopes of work.

Section 2 – Retroactive Application of NTG Study Results

The OEB Decision and Order

60. Enbridge is of the view that the Board's Decision and Order of January 20, 2016 as confirmed in its revised Decision and Order of February 24, 2016 (together the "Decision") in respect of the utilities 2015-2020 DSM Plans (EB-2015-0029/0049) along with the DSM Framework do not provide that NTG Study values are to be used in the determination of the Company's 2015 DSM program year results in a retroactive manner. Enbridge submits that the direction regarding retroactivity promoted by Board Staff is inconsistent with the Decision for the purposes of the evaluation of the Company's 2015 DSM results.

61. In the Board's Framework, the Board directed the gas utilities to "roll-forward their 2014 DSM plans, including all programs and parameters (i.e. budgets, targets, incentive structure) into 2015. … [Further]…the gas utilities should increase their budgets, targets and shareholder incentive amounts in the same manner as they have done throughout the current DSM Framework (i.e. 2013 updates to 2014 should now apply to 2014 updates to 2015)."[21] The Company complied and increased targets, budgets and the shareholder incentive in the exact same manner as the 2014 Plan. Similarly, these 2015 values involved a roll over and incorporation of the same inputs, assumptions and NTG values approved in the 2014 audit.

62. On January 20th, 2016, the Board released its Decision and Order which included the approval of Enbridge's 2015 budget, targets, metrics, scorecards and shareholder incentives as outlined in Enbridge's Multi-Year Plan. In its Decision, the OEB reconfirmed the direction provided in the Framework that "2015 would act

[21] EB-2014-0134, Report of the Board: Demand Side Management Framework for Natural Gas Distributors (2015-2020), December 22, 2014, p.37

as a transition year to the new multi-year DSM plans and that the gas utilities should carry forward and increase their 2014 DSM budgets in the same manner done from 2013 to 2014."[22] The Board stated that it "approves the gas utilities proposed 2015 DSM budgets. The OEB finds that the gas utilities have appropriately carried forward their 2014 DSM budgets into 2015."[23] The Board further stated in its Decision that it "approves Union and Enbridge's proposed 2015 metrics and targets for all scorecards. The OEB believes that it would be inappropriate at this time to make a change to the 2015 targets with the year completed."[24] Again, it is important to note that Enbridge's 2015 targets and scorecards were developed using the input assumptions and NTG factors that were used to determine 2014 DSM program results.

63. In the Company's view, since 2015 budgets and targets were the result of the Board's direction to roll over from 2014 budgets and targets, it is inappropriate to retroactively apply adjustments to a program year derived from a different set of input assumptions, including NTG values. Enbridge believes this is unreasonable and inconsistent with the spirit of the Board's instructions as part of the Multi-Year DSM Framework. In its 2015-2020 DSM Plan Decision, the Board confirmed this interpretation by stating that: "input assumptions and net-to-gross adjustment factors are finalized for a given year based on the previous year's final DSM audit."[25]

64. In section 5.2.6 of the Decision, the Board approved Enbridge's custom commercial and industrial offers as proposed. In addressing the custom commercial and industrial offers, the Board clearly stated that:

[22] EB-2015-0049, Decision and Order, January 20, 2016, p. 56
[23] EB-2015-0049, Decision and Order, January 20, 2016, p. 57
[24] EB-2015-0049, Decision and Order, January 20, 2016, p. 63
[25] EB-2015-0049, revised Decision and Order, February 24, 2016, p. 3

> "*The OEB does not expect the gas utilities to rely on a predetermined free ridership rate for the duration of the 2017 to 2020 term. In 2016, the free rider rates will be updated based on the results of the net-to-gross study and the annual evaluation process. Annually, the evaluation process will continue to inform the free rider rates for custom programs."*[26]

65. The explicit reference made by the Board that it does not expect the utilities to rely on predetermined rates for the 2017 to 2020 term, aligns with the Board's introduction of the Target Adjustment Mechanism beginning in 2017 and deliberately leaves separate the 2015 and 2016 program years, for which the Board approved specified "fixed" targets. By deliberately not including 2015 or 2016 in its statement, the Board has provided a clear distinction with regard to treatment in these years. The Company submits that at the time of the Decision, the Board expected and anticipated that the NTG Study would be completed in 2016 in time to inform the development of programs in 2017 (in reality however the NTG Study is still incomplete). In other words, the NTG Study would be used prospectively. There is no indication in the Decision that the Board expected 2015 DSM results, which were based on a formulaic rollover, to be adjusted retroactively by an incomplete NTG Study released in October 2017.

66. Further support for the utilities' understanding on this issue can be found in the revised OEB Decision and Order dated February 24, 2016 in the Board's response to Union Gas' written comments submitted February 3, 2016. In these comments, Union Gas requested clarity on the treatment of input assumptions and NTG adjustments by explicitly requesting confirmation as follows:

> *"Union interpreted the OEB's Decision to mean that input assumptions and net-to-gross adjustment factors are finalized for a given year based on the previous year's final DSM audit…Given that the Board's Decision is effective for 2015 and based on the process outlined above, Union's 2015 results for the purpose of determining the 2015 DSM Incentive will be based on the same input*

[26] EB-2015-0049, Decision and Order, January 20, 2016, p.21

assumptions and net-to-gross adjustment factors used for setting Union's 2015 targets. These inputs were finalized in Union's 2014 DSM audit."[27]

In its revised Decision and Order, February 24, 2016, the Board provided the following confirmation:[28]

"The OEB confirms that Union's interpretation is correct."

67. It is clear from Union's request for clarification that it was referring specifically to the manner in which the DSM incentive would be calculated. Like Union, Enbridge relied upon the Board's response and concluded that no adjustments to NTG factors as determined by the NTG Study would be applied in a retroactive fashion for the purposes of calculating the 2015 shareholder incentive.

68. Not only is the retroactive adjustment inappropriate based on the specific Direction provided by the Board, it stands to reason that such retroactive adjustments are inappropriate. At precisely the time the Board has tasked the utilities with doing as much as possible to mitigate carbon emissions, a clear and direct positive benefit derived from DSM activity, such retroactive adjustments change the "rules of the game" after the game has been played. Had the utilities known these input assumptions, and values could be changed to rearrange outcomes, the utilities would have been disincented to expend the degree of time and effort on Commercial and Industrial Custom projects as they did. Contrary to the Conservation Directive of the Government of Ontario, this would have resulted in higher past, current, and future, Cap and Trade offset purchase requirements for customers. Targets and results should be based on the same set of assumptions to ensure the Company can effectively plan, execute and deliver its business strategy. This business strategy is guided by the Direction and guidance provided

[27] EB-2015-0029/0049, Union Gas Written Comments RE: Decision and Order, February 3, 2016, page 2
[28] EB-2015-0049, Revised Decision and Order, February 24, 2016, p.3

by the Board in formulating its expectations for how the utilities set rates, and what activities they pursue. This is as true for DSM as it is for Compliance Planning.

69. Applying input assumption changes retroactively creates an unstable and unfair policy environment, which is contrary to the guiding principles enunciated in the Framework. Without question, the application of revised NTG values on a retroactive basis will materially disincent the utilities from attempting to achieve higher customer participation levels and minimizing lost opportunities (Guiding Principles 5 and 6). It will also result in the utilities being discouraged from pursuing commercial and industrial projects that often have long measure lives that produce long term energy savings contrary to Guiding Principle 8.

70. In addition, Enbridge submits that the retroactive application of NTG Study adjusted values is in direct conflict with Guiding Principle number 9 which provides that the amount of shareholder incentive will depend on a utility meeting or exceeding its DSM targets and will take into consideration the relative difficulty in achieving other goals. Enbridge was directed by the Board to carry over its 2014 DSM programs into 2015, which it did. Enbridge expended the effort and undertook the delivery of these programs successfully and relied upon the 2015 targets which were approved by the Board. Enbridge did everything in accordance with its approved 2015 DSM plan. Board Staff are now proposing that the shareholder incentive which was available in Enbridge's approved 2015 DSM plan is no longer available because a different set of values other than those which the utilities relied upon should be used to calculate the shareholder incentive. One could describe this as a bait and switch type of tactic.

71. A hypothetical example may prove helpful. Enbridge undertook its 2015 DSM programs using the inputs which were finalized in Enbridge's 2014 DSM audit as directed by the Board. If, for example, a commercial/industrial custom offer had a

free ridership rate of 25%, this value was rolled over into 2015 and Enbridge pursued commercial/industrial custom projects under the belief that this value would be used to calculate actual results. This is appropriate given that the targets which are intended to incent the utilities to aggressively pursue cost effective DSM were, in this case, based upon a 25% free ridership rate.

72. If for the purposes of determining the shareholder incentive, a 50% free ridership rate is used to calculate actual results, then it is wholly unfair to compare the results using a 50% free ridership rate with targets that were developed and relied upon using the 25% free ridership rate. Even if a 50% free ridership rate is the "correct rate" based upon a subsequently completed study, what is being proposed by Board Staff is that this "correct rate" should be used in one half of the equation and that the wrong free ridership rate (i.e. 25%) should be used in the other half of the equation for the setting of targets. The methodologies are different and thus you have an apples and oranges comparison which Enbridge submits is wholly inappropriate. If actual results values are to be revised retroactively, then the values used to develop targets in the first instance should be similarly adjusted so that there is an apples to apples comparison.

Section 3 – Concerns Regarding the NTG Study

Best Practices in NTG Estimation

73. Enbridge is of the view that the EC's NTG Study did not incorporate best practice approaches. Consequently, Enbridge and Union Gas recently consulted Navigant Consulting, Inc. and Apex Analytics, LLC (the "Navigant team") to undertake a jurisdictional review to investigate NTG policies and practices, examine recent attribution policy developments, and explore best practices utilized in the

consideration, assessment and application of NTG values. Their report is submitted in this application at Exhibit B, Tab 6, Schedule 1.

74. The report provides insights regarding the current NTG landscape; information that should inform Ontario stakeholders in relation to NTG in evaluation, program planning, use in measuring progress toward savings targets, and in determining shareholder incentives. Included in the Navigant team's findings are case studies of 3 leading jurisdictions: California, Massachusetts and Illinois. These jurisdictions were selected because, similar to Ontario, they have a long history of large-scale utility efficiency programs and have addressed many of the same issues regarding NTG brought to the forefront in the 2015 EM&V process. Upon review of the Navigant report, it is clear that the NTG study and more broadly the evaluation structure in place to facilitate such a study did not reflect best practice standards in place in leading jurisdictions.

75. The case study review produced some repeated overarching themes and cross-cutting findings highlighting best practice approaches to NTG estimation and methods: [29]

- In all three cases, structures have been developed that reduce the influence of after-the-fact (i.e., retrospective) application of NTG estimates (neither Massachusetts nor Illinois apply retrospective NTG estimates for determining shareholder incentives and California's new structure has significantly reduced the effect of retrospective application of NTG estimates by utilizing retrospective NTG only for select programs and by making it only one of four factors that are used in incentive determination).

[29] Net-to-Gross Policies: Cross-Cutting Jurisdictional Review by Navigant Consulting, Inc., and Apex Analytics, December 14, 2017

- Where the purpose for using net savings has been established as a means of aligning utility goals with ratepayer value, in this context, NTG analysis provides information to inform energy efficiency investment and program planning. At the same time experts in these states reported that using net savings puts pressure on the accuracy of NTG evaluation efforts, especially if NTG were to be applied retrospectively to assess savings results and determine shareholder incentives. Instead, applying NTG estimates prospectively reduces uncertainty by eliminating the risk of applying retroactively, a different NTG ratio than was assumed in program planning.

- The process undertaken to finalize NTG estimates to be used in incentive calculations, establishing targets and in informing program design involved much more than simply accepting the results of a study. In all states, stakeholders worked together to review, challenge and modify initial estimates from EM&V studies, for example aiming to arrive at a consensus value considering relevant issues raised and factors to be considered. All three states had an established collaborative, transparent stakeholder process which aims to seek agreement among stakeholders as part of the finalization of NTG estimates, particularly in the case of self-report survey methods.

- In addition to the objective of transparency and review in the determination of final NTG estimates which serves to improve confidence for all stakeholders in the NTG estimation process, all states have adopted established agreed upon approaches incorporating pre-defined methods including agreement on self-report survey instruments/questions and scoring algorithms (which incorporate multiple influence factors – program, trade ally and market based), tested through sensitivity analysis. Experts reported the prospective application of results, combined with the consistency of the pre-defined methods and a transparent collaborative stakeholder process has created more certainty and

confidence for stakeholders regarding the actions needed to meet targets, as well as allowed for an increased focus on the continuous improvement of programs.

- All experts noted concerns with self-report methods but said that the primary method for custom project NTG is self-report survey methods due to the unique nature of commercial and industrial (C&I) custom projects. However, experts noted the following best practices approaches are used to improve accuracy and confidence:

    - Fast Feedback – involves conducting the survey as soon as possible after a project is completed, where respondents are asked about influencing factors to program participation near the time of participation (e.g. within 3 months of completion). This approach helps mitigate recall bias and increases the likelihood of evaluators contacting an informed person who was involved with the project is question.

    - Sensitivity Analysis with full transparency regarding participant scoring has been used in all states, particularly when the survey batteries are first developed and tested. This is particularly important since different, but still reasonable assumptions in translating question responses in NTG scores can result in very different NTG value determinations.

    - Triangulation: The perspective of vendors/business partners is collected in all states on a project-by-project basis. Experts noted the challenge for participants in differentiating the attribution of any individual influence on decision making. Triangulation which includes surveying vendors/trade ally who are often a key to program delivery working with the utility, is used in best practice in the NTG estimation including to inform the relative influence of multiple program influences.

- Other best practices noted included: incorporate multiple factors (program influence as well as non-program influence) in NTG scoring and ensuring questions are fully vetted and gaining insight into the project story from the participant and meeting with implementation personnel familiar with the project.

- Experts in all states agreed with the approach adopted in Massachusetts which incorporated the inclusion of previous program influence (i.e. influence that builds over time when a program cover multiple years) in the scoring algorithm. Further, experts in all cases noted there are improvements that could be made in estimating spillover and market effects.

Selected NTG Study Estimation Issues

76. Over the course of the 2015 EM&V process, Enbridge provided extensive verbal feedback and written comment to the EC, the EAC and Board Staff. In some instances feedback was offered to highlight opportunities for improvement, to clarify details for the EC or to seek clarification on particular items, as well as to raise concerns Enbridge had with the scope or approach of 2015 EM&V activities. In the case of the NTG study, from the scoping phase through the planning and execution of activities many of the comments that Enbridge put forth were not addressed, and in some cases where inconsistencies were identified by Enbridge, such issues were often not appropriately resolved.

77. Enbridge is of the view that the survey instrument employed by the EC focused the customer largely on the program's provision of customer incentive payments and did not sufficiently probe for the customer's impression of all the services, support and value provided by the utility. "If a survey is conducted 1 year or more after

participation in a program, the respondent may not recall all the features of the program and all the assistance provided. Instead, respondents may focus narrowly on the influence of the rebate or incentive payment."[30] Utility support and therefore influence can be part of any number of customer engagement activities, for example, site assessment, facility audits, project feasibility studies, marketing communications, case studies, workshops and education events and generally through on-going customer relationship development and support over many years. Limiting assessment of these varied influence factors puts the determination of the NTG scoring in question.

78. As discussed previously, concerns regarding the EC's decision to not factor secondary attribution was raised repeatedly by Enbridge but dismissed. Enbridge also provided considerable feedback on the survey instrument, much of which was similarly not incorporated.

79. Importantly, the NTG Study scope of work specified that the EC was to interview Enbridge's program advisors in order to ensure clear understanding of the program and the role of Enbridge consultants in working with the customers. In fact, DNV had outlined early in the process that this was an important step to appropriately frame questions in the survey process. As detailed on page 33 of the scope of work: "Program energy advisor interviews will be scheduled after submission of the draft SOW. These interviews will focus on the specifics of program interactions with customers. The intent of the interviews is to ensure that the FR framing in the IDIs [in-depth interviews] and CATI [computer assisted telephone interviews] covers the range of program activities that may have influenced decisions to implement projects." Enbridge highlighted that this activity was not yet completed when the EC was preparing to initiate surveys with customers but was told a

[30] Memorandum: Discussion of Selected NTG Estimation Issues by Navigant Consulting, Inc., and Apex Analytics, December 14, 2017, page 14

decision was made (by the EC and/or OEB Staff), to eliminate these interviews. Enbridge communicated its concern with this omission to no avail. The Company presumes because the NTG effort was well delayed at this point, there were pressures to expedite the process and therefore this activity was omitted.

80. Enbridge continues to have questions regarding the scoring approach employed by the EC in the NTG Study. The scoring process involves the translation of survey responses into NTG scores or values and includes the application of a scoring algorithm and the introduction of parameters to apply judgement in the survey. In addition to delivering their *Net-to-Gross Policies: Cross-Cutting Jurisdictional Review* report summarized above, the Navigant team also provided the utilities with a companion *Memorandum: Discussion of Selected NTG Estimation Issues* ("Memorandum"). This document is included in this submission at Exhibit B, Tab 6, Schedule 2. The Memorandum clearly identifies the importance of undertaking a sensitivity analyses to test the scoring methodology to better understand the implication that assumptions used in translating survey responses into NTG scores can have on NTG values:[31]

> *"The scoring algorithm is central to any resulting NTG estimates. As a result, it is important that the algorithms be as transparent as possible and undergo a stakeholder review process to build confidence in the approach. A process that allows for discussion of the scoring algorithms, includes sensitivity analyses to assess robustness, and is as transparent as possible is important for producing NTG values that will have buy-in from stakeholders.*

81. Enbridge, nor the EAC, was involved in any sensitivity analysis undertaken in the EM&V process. There was no such activity outlined in the scope of work and the Company is unaware of any such analysis conducted on the NTG Study. This contributes to Enbridge's view that the NTG study did not follow best practice and further reduces the confidence the Company has in the results.

[31] Memorandum: Discussion of Selected NTG Estimation Issues by Navigant Consulting, Inc., and Apex Analytics, December 14, 2017, page 3

82. Among a number of NTG estimation issues about which the utilities requested the Navigant team's perspective, the Memorandum provides some comparative examples to illustrate how slightly different assumptions made in a scoring algorithm can have significantly different outcomes in the determination of NTG values. For example, the Memorandum provides a comparison of how the calculation of a NTG score for the same response to a specific question has been scored very differently across Massachusetts and Ontario. In a few specific cases presented in the Memorandum, the question relating to a timing probe is the same in both Massachusetts and Ontario. The analysis refers to the EC's report which provides Example Attribution Calculations in Table 8-86 [32] of selected examples of scores translated from survey responses. In one example from the NTG study, where a respondent indicates that they would have undertaken the project "24 months later" if the utility program had not been offered, this results in an NTG of 31%. For the same question, and the same "24 months later" response, the resulting NTG score in Massachusetts is 50%. This is a 60% increase in the NTG score (i.e., 50% NTG/31% NTG) on a single question due to a different scoring algorithm. A second example, which compares the same response provided across each jurisdiction to an efficiency question, results in a NTG score of 38% applying the EC's algorithm in Ontario, however in Massachusetts, the NTG score would be 50%. The exercise serves to illustrate how differences in the assumptions/parameters utilized in the scoring algorithms can influence NTG values, even where the questions are very similar.

83. Acknowledging Navigant's comparison of Ontario to Massachusetts in the above example, a further review of the EC's determination of a proxy spillover value is fitting. As outlined previously, late in the 2015 EM&V process, prior to the September 27, 2017 EAC call, the EC had been asked to conduct secondary

[32] EB-2015-0245, Ontario Gas DSM Evaluation Contractor 2015 Natural Gas Demand Side Management Custom Savings Verification and Free-ridership Evaluation, October 12, 2017, page K-1

source research to identify an estimation of spillover that might reasonably be applied to the utilities' 2015 DSM programs as an estimate and then proceed to finalize the 2015 program results verification.

84. The EC recommended a finding of 3.4% spillover from a study conducted in Massachusetts by Tetra Tech.[33] The EC proposed this was the most applicable value for the Ontario DSM programs because: [34]

- Massachusetts has a similar climate to Ontario's major population centers, so it is likely that similar measures are being implemented
- The spillover value is specifically for custom gas C&I measures, which is the same program type
- The programs in Massachusetts and Ontario are mature and in leading jurisdictions
- The Massachusetts study looked at both "like" and "unlike" spillover
- The rate is within the anticipated range of results expected for spillover from custom gas C&I programs, not an extreme outlier
- The study is relatively recent, from 2014-15.

The EC further outlined some differences from the Ontario spillover study as follows: [35]

- It only *quantifies* (provides a savings estimate for) like spillover, not unlike spillover.

[33] Tetra Tech (Revised August 10, 2015). "2014-15 Commercial and Industrial Natural Gas Programs Free-ridership and Spillover Study" for National Grid, Eversource, Unitil, Berkshire Gas, Columbia Gas of MA, and Liberty Utilities.
[34] Ontario Gas DSM Evaluation Contractor 2015 Natural Gas Demand Side Management Annual Verification, Ontario Energy Board, October 12, 2017, Appendix N, page N-1
[35] Ibid., Appendix N, page N-1.

- The study was conducted on customers who had participated in the program 15-27 months prior, not four or five years ago. This provides for less time since the program measure for spillover to occur.

85. What is particularly interesting to Enbridge upon review of the Tetra Tech study is that in addition to determining a 3.4% spillover value (that the EC has deemed is reasonably appropriate and applicable to the Ontario DSM programs), the Tetra Tech corresponding free-ridership determination provided in the Massachusetts study was 15.7%. With similar consideration for the reasons outlined above by the EC for why the deemed spillover value of 3.4% is an appropriate proxy for application in Ontario, Enbridge concludes it would be equally reasonable to determine that the free-ridership rate should be likewise applicable. However in the EC's NTG study it is suggesting a free-ridership rate of 73% for Enbridge. In addition to the many other factors highlighted in this evidence that put the reasonability and credibility of the EC's NTG study into question, the starkly disparate values for Commercial/Industrial custom free-ridership determined in the Massachusetts and Ontario studies further erodes Enbridge's confidence in the EC's NTG study.

86. The Evaluation Contractor highlights that the Massachusetts spillover estimate falls within the anticipated range, and is not outlier. This point cannot be made however for the free-ridership estimate proposed by the EC in the NTG study. In 2013, Navigant Consulting was contracted by the TEC to conduct a jurisdictional review of free-ridership and spillover values. A key finding from the third-party review of 42 jurisdictions revealed that "while the dispersion of net-of-free ridership values is quite large, ranging from 21% to 100%, the majority of values appear to 'cluster' between 40% and 90%."[36] Only two of the values detailed in the review were

[36] Custom Free Ridership and Participant Spillover Jurisdictional Review Prepared for: Sub-Committee of the Ontario Technical Evaluation Committee, May 9, 2013, page 18.

below 40%. However, a proposed free-ridership value of 27% as put forth in the EC's NTG study result falls significantly outside an already wide clustering of NTG values indicated in the 2013 Navigant jurisdictional review. Enbridge is of the view this observation provides further evidence that the NTG study findings should be questioned.

87. The December 14, 2017 Navigant Memorandum further explores a concern Enbridge had shared with the EC relating to questions in the survey design which aim to assess partial free ridership by probing the customer about the efficiency they might have undertaken in the absence of the program. For example a question asks "*Without <the program>, would you have installed <measure> that was "standard efficiency on the market at that time," or "between standard efficiency and the efficiency that you installed?"* Only if the respondent knows or understands what standard efficiency is to compare to the higher efficiency equipment/features installed through the program are they able to provide an informed answer to these types of questions. The application of baselines to gross savings calculations and the consideration of baselines in NTG calculations is complex, particularly in situations of early replacement. The Memorandum again points out "the only way to really address concerns about potential biases in the response to NTG questions that have a baseline assumed (e.g., installing equipment above standard practice) is to perform sensitivity analyses."[37] The Memorandum further points out that recent research has shown responses to these types of partial free rider questions can be highly variable, and therefore again highlights the need for further analysis.

88. In regards to the determination of NTG estimation for the Run-it-Right ("RiR") offer, Enbridge does not believe an appropriate approach was undertaken. The EC

[37] Memorandum: Discussion of Selected NTG Estimation Issues by Navigant Consulting, Inc., and Apex Analytics, December 14, 2017, page 18

employed much the same survey instrument utilized for the purposes of the Commercial/Industrial custom NTG participant queries. RiR is uniquely different from the Company's custom offer and one that requires a multiple year participation on the part of the customer. Enbridge is of the view that determination of net savings for this type of program necessitated an appropriate, tailored and applicable evaluation.

89. The participant in Run-it-Right is enrolling in a process not undertaking a project. Upon agreement and enrollment, participation starts with an investigation agent who visits the facility to undertake a site assessment/audit to identify, from a list of eligible measures, recommended low cost recommissioning/ operational improvement activities that should be undertaken by participants with the goal of improving the operation of their buildings in terms of energy usage. The customer must agree and proceed to implement recommended improvements and allow Enbridge to monitor gas usage for 12 months and the offer provides access to an Energy Management Information System ("EMIS"). Regression analysis is completed 12 months hence and savings are calculated net of weather normalization. Framing "projects" to participants in RiR does not make sense. Customers were recruited for enrollment in a process through the RiR program with the objective that Enbridge would recommend the improvements to undertake to reduce consumption, i.e. directly influence the customer to take action. The consideration of these types of unique programs is outlined in the Memorandum[38]:

> "*…there are a growing number of programs that are trying to move away from paying out large incentives. Instead, there is greater emphasis on engagement, information, and business case development—all of which support a more favorable environment for investments in EE. For these programs, it is often important that the survey introduces the ways support was provided through the program. This would include making sure that program training, analysis, and support are described to the participant. These can be particularly difficult for the respondent to recall if the survey*

[38] Memorandum: Discussion of Selected NTG Estimation Issues by Navigant Consulting, Inc., and Apex Analytics, December 14, 2017, page 18

takes place 1 year or more after participation. A program driven by financial incentives to induce participation has one major event (i.e., the payment of incentives) that the respondent can easily recall. More sophisticated programs that work to engage and support customers in making EE investments can require different survey designs to capture these non-incentive influence factors.

90. A further concern shared by Enbridge regarding the EC's NTG findings related to the requirement, as outlined for the NTG study, that the sampling methodology should be designed to achieve a 90/10 precision target ("90/10" precision is a statistical standard for which there is 90% confidence that sample results are within +/- 10% relative precision). However the relative precision of some of the ratios did not come close to meeting this expectation. Enbridge further pointed out concerns with the error ratios identified and that such values did not instill confidence in the results. The EC subsequently acknowledges this concern in that they include the following recommendation in the findings outlined in the final Annual Verification Report. "Error ratios from the results provided in this report should be used to inform sample design for future evaluation years… [Further]... Better defined error ratios for the measures in the programs will allow more efficient sample." [39]

91. The preceding examples illustrate Enbridge's concerns with the NTG study and contribute to Enbridge's view that the NTG Study does not follow best practices. The concerns articulated regarding the EC's approach to this evaluation serve to illustrate that the Company does not have confidence in the EC's determinations.

Broadly Identified Issues with Self Report NTG Assessment Approaches

92. Enbridge's concerns with the NTG Study in respect of the appropriateness and reasonableness of their retrospective application to 2015 program results is further

[39] Ontario Gas DSM Evaluation Contractor 2015 Natural Gas Demand Side Management Annual Verification, Ontario Energy Board, October 12, 2017, page 81

compounded given consideration for the well documented failings of self-report NTG approaches.

93. Many of Enbridge's concerns with the credibility of the NTG Study results are reflected in the broader industry discussion on the risks and merits of the self-reporting method for assessing NTG values. The self-report method, by its nature, presents a host of methodological risks and failings that put its results further into question.

94. In its September 1, 2017 submission, as part of the 2015-2020 DSM Mid Term proceeding the Company engaged Dr. Jane Peters, of Research into Action, Inc. ("RIA"), to review and analyze current literature relating assessment methods for NTG. RIA's report, *Review and Analysis of Net-to-Gross Assessment Issues for Natural Gas DSM Custom C&I Programs*, is included in this submission at Exhibit B, Tab 6, Schedule 3

95. RIA acknowledges self-report surveys as being very commonly employed in the industry, in part due to their "low cost and ease of administration". However, the report primarily cautions that the self-reporting method inherently suffers from several sizeable challenges that put results into question. These concerns included but are not limited to the following:

    - Inaccuracy in attempts to have respondents attribute influence to various sources, including the impact of respondents' own bias to provide socially desirable answers which reflect higher levels of environmental conscientiousness than may in fact be the case;

    - Difficulty in reporting the counterfactual, hypothetical alternative which is where respondents are asked to speculate on the hypothetical scenario of what they might have done if the program in question hadn't existed. Such conjecture is

influenced by many factors including what is relevant at the time of the surveying when it is expected that energy efficiency is top of mind;

- Respondents' tendency to rationalize past decisions in a way that avoids contradiction between their actions and their stated attitude regarding energy efficiency in addition to the tendency for respondents to lean to providing socially desirable replies;

- Evaluation approaches regularly fail to tease out all of the direct and indirect pathways through which programs influence customer behaviour. By way of example, Enbridge's efforts working with contractors and installers may influence many end-user decisions without those customers' direct knowledge of such influence taking place;

- Respondents' difficulty remembering the specific intentions, motivations or other influences which underpinned their past energy efficiency decision. Where numerous public policies and market interventions influencing energy efficiency exist simultaneously, it is likely impossible to extract the influence of a single program. This difficulty increases as time elapses between the decision point and evaluation efforts, with increased difficulty remembering subsequently increasing the likelihood that customers defer to existing biases to internalize energy efficiency decisions as self-originated.

96. Enbridge submits that the distorting effects of the above factors on survey results are increasingly exacerbated in Ontario as a growing number of independent market entities promote energy efficiency activities, engaging customers and dispensing financial incentives. The Company is of the view that the expectation that the self-reporting method will accurately tease out the influence of a single program has become increasingly doubtful.

97. In its summary recommendations, RIA highlights the importance of accurately assessing and including spillover estimates as well as market effects assessments, where feasible. Having delivered DSM to customers since 1995, Enbridge believes any such NTG assessment should indeed include a comprehensive estimation of the immediate and longer-term cumulative effects of the Company's lengthy relationship with its customers, educating them and advocating for energy efficiency for over 2 decades. As explained in this submission, the self-report method selected by the EC remains incomplete having not concluded the spillover component. In addition the determination failed to incorporate a measure of quantification of the important longer term influence which should have been explored and factored through the secondary attribution consideration that was omitted by the EC.

98. RIA also highlighted the importance of undertaking any assessment of free-ridership as close as possible to a project's implementation. As documented, despite having an endorsed work plan in March 2016 with the TEC, as a result of the evolution of the 2015 EM&V process, the EC did not interview respondent until late January – April, 2017, in some cases more than 2 years after projects were concluded. Enbridge reiterates that this considerable delay only further weakens the reliability of respondents' comments and, in the end, the study's results.

99. Further, RIA recommends the use of multiple methods to triangulate NTG estimates. As determined in the EC's methodology, Enbridge is of the view that business partners for example (contractors; third party vendors) were not adequately engaged by the Evaluation Contractor to corroborate or clarify customer opinions of Enbridge's influence on their decision. Enbridge's long standing practice working with contractors and installers to help influence end-user decisions undoubtedly occurs at times without customers' direct knowledge of such influence taking place.

Section 4 – Basis for Application

100. The foregoing evidence identified issues with the EM&V process and the accuracy of the NTG Study results in a number of material areas. These concerns alone support the determination that for the Clearance of 2015 DSM Deferral and Variance Accounts, the retroactive application of any revised NTG values for 2015 is inappropriate and unfair. It is also contrary to the Board's findings, and hence should not to be applied to 2015 results. Enbridge is therefore applying for approval for the Clearance of its DSM Deferral and Variance accounts based on the application of the DNV CPSV results (as well as the verified results determined for all other evaluated program results) with the application of the same 2015 NTG values that were inherent in the formulation of 2015 targets (each rolled over from 2014, in accord with the Board's instructions) consistent with 2014 audited results.

101. Should the Board decide that the EC's NTG Study results should be applied to the Company's 2015 DSM results, then Enbridge submits that the Board should similarly determine that a corresponding adjustment should be made to the 2015 targets. The Company however does not believe that this was the intention of the Board given its clear direction in respect of the establishment of budgets and targets for 2015, namely that these would be established by a roll over from 2014. Similarly, Enbridge is of the view that the Board's Direction on the application of NTG Study values in a retroactive manner is also clear: it should not occur.

102. What the Company finds particularly troubling about DNV's findings and results, are, the implications that they have at a much broader level. If the results are to be believed, then the Board should be satisfied that no further Compliance Planning efforts to mitigate carbon and promote energy

conservation are required given that three quarters of the utilities commercial industrial customers are apparently undertaking DSM activities on their own without need of any input from the natural gas utilities With the Government's announced commitment to emissions targets, and the importance of energy efficiency activity in achieving these goals, this is an incongruous conclusion to draw. The real world is of course not so black and white. There can be no question that the effort of the natural gas utilities supporting conservation through promotion of custom conservation solutions advances the government's goal of conservation first and carbon emissions reductions. In the real world, a commercial or industrial customer may be able to look to a number of sources for advice, engineering design and funding. The fact that all of these sources exist highlights the importance of energy conservation and carbon emission reductions to the Government of Ontario. It does not, as the NTG Study suspect free-ridership values falsely suggest, indicate a declining need for such DSM programs.

103. As well, applying the NTG Study values to future DSM Plan targets will result in significantly reduced targets all of which may cause concern with both rate payers and the Government of Ontario who all seek a material decrease in carbon emissions in the short term. As outlined in its submissions for the Mid-Term Review, as the level and pace of activity continues to ramp up as the Province orients itself to meet its emissions targets by spending Cap & Trade Funds, then the attribution of utility activity can only wane, resulting in even higher Free Ridership rates. Compliance Planning, and the mitigation of carbon related expenses, are predicated on gross volumes. In other words, the inevitable outcome would be less utility activity and higher carbon related Cap & Trade expenses, both of which will result in higher rates for ratepayers.

Relief Sought through this Clearance Application

104. For the reasons set out in this Application, Enbridge respectfully requests that the Board make the following findings, determinations and orders:

a) Approve the CPSV portion of the EC report impacting custom commercial and industrial results, and similarly approve all other evaluated results from the balance of the 2015 program;

b) Reject Board Staff's proposal to retroactively apply NTG Study values developed in 2017 to the Company's 2015 commercial and industrial custom energy savings claims (including Run-It-Right);

c) Approve Enbridge's deferral and variance accounts balances for DSMVA, LRAMVA and DSMIDA values as outlined in Exhibit A, Tab 1, Schedule 3, Table 1 and restated below;

d) Direct Board Staff to work with the EAC to finalize the NTG Study by undertaking best practice approaches by requiring the EC to: (i) update the NTG study findings to include secondary attribution and spillover results; (ii) undertake a sensitivity analysis on the results for further review; and, (iii) act as a facilitator in respect of the determination of an appropriate NTG value through a collaborative, transparent, negotiated stakeholdering process in line with best practices in other leading jurisdictions; and,

e) Address the concerns outlined by the utilities regarding the 2015 verification process in respect of objectivity, transparency and collaboration by accepting and approving for future use the draft Charter filed by Union which outlines the

f) roles and responsibilities of members of the EAC and includes a process which promotes consensus-based collaboration and decision-making.

105. The resulting impact to each of the LRAM, DSMVA, DSMI are shown in the table below:

2015 DSM Deferral and Variance Accounts and Balances	
Demand Side Management Variance Account (DSMVA)	$ 825,460
Demand Side Management Incentive Deferral Account (DSMIDA)	$ 10,077,695
Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) (Reimbursable to Ratepayers)	$ (72,589)
Total Amount Recoverable	$ 10,830,567*

*Numbers may not add up due to rounding