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October 2, 2017

VIA COURIER AND RESS

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

Re: Ontario Energy Board
EB-2017-0127 / EB-2017-0128 – DSM Mid-Term Review
Submissions of Enbridge Gas Distribution Inc.

In accordance with the Ontario Energy Board's letter issued on June 20, 2017, enclosed please find the submission of Enbridge Gas Distribution Inc.

Please contact the undersigned if you have any questions.

Sincerely,

(Original Signed)

Bonnie Jean Adams
Regulatory Coordinator

Attach.

Demand Side Management Mid-Term Review (EB-2017-0128)

October 1st 2017 Submission

INTRODUCTION

1. In a letter dated June 20, 2017, the Ontario Energy Board (the "Board") directed that the DSM Mid-Term Review be undertaken in 2 parts[1]. In the first part, interested parties were asked to comment on two issues related to the relationship between DSM and the Cap and Trade (C&T) program by September 1, 2017.

2. Enbridge Gas Distirbution Inc. ("Enbridge" or the "Company") filed a submission dated September 1, 2017 that proposed three recommendations to better align the DSM and Cap & Trade Frameworks[2]. The Company's overarching objective was to bring forward solutions to the Board that serves to maximize benefit for ratepayers when shareholder and ratepayer benefits are aligned. This approach will ensure both parties benefit from the aggressive reduction of energy consumption and Green Hosue Gas ("GHG") emissions.

3. The second part of the Mid-Term Review required Union Gas and Enbridge to submit studies and reports set out in the DSM Decision. This second part was broken into the "First Requirement" and "Second Requirement" that are to be submitted by October 1, 2017 and January 15, 2018, respectively.

4. This submission fulfills the "First Requirement" for Part 2 of the DSM Mid-Term Review. The specific areas outlined by the Board for comment in this phase of the Mid-Term Review included the following elements:

[1] EB-2017-0127/0128 DSM Mid-Term Review, June 20th, 2017, p. 3
[2] EB-2017-0127/EB 2017-0128, Enbridge Mid-Term Review submission, September 1, 2017, Executive Summary p. 1-2

- Union and Enbridge to provide information showing how they have lowered the free-ridership rates of its custom programs (section 5.2.6)
- Enbridge to provide the evaluation results of the Small Commercial New Construction pilot program (section 5.2.7)
- Enbridge to report on the Energy Leaders Pilot Program (section 5.2.8)
- Union and Enbridge to demonstrate that all low-income programs have a TRC-Plus result of at least 0.7 (section 5.3)
- Union and Enbridge to consider the appropriateness of categorizing the Residential New Construction programs as Resource Acquisition programs (section 5.4.1)
- Union and Enbridge to provide information related to an integrated Energy Literacy program (section 5.4.9)
- Union and Enbridge to move RunSmart and Run-it-Right programs to Resource Acquisition scorecard (section 5.4.10)
- Union and Enbridge to move Comprehensive Energy Management and Strategic Energy Management programs to Resource Acquisition scorecard (section 5.4.11)
- Union and Enbridge to provide information related to program overhead and portfolio overhead (or administration) costs (section 8.3)

5. What follows are Enbridge's submissions in each of these areas. It is important that as the Board reviews this submission the context of the changing energy landscape be front and centre. This rapidly changing energy landscape requires that DSM programs be responsive to the marketplace and customer needs, and to do so in a timely manner.

Union and Enbridge to provide information showing how they have lowered the free-ridership rates of its custom programs

6. The challenges associated with predicting and mitigating free-ridership are well-documented among academics, energy efficiency utilities and program administrators.[3,4] The Company submits that some degree of free-ridership is a normal and unavoidable aspect of custom Commercial and Industrial DSM program administration. Enbridge believes the long term market effects and spillover caused by its efforts to promote energy efficiency in Ontario since 1995 has helped to minimize and offset free-riders. To manage and distribute ratepayer funds as responsibly as possible, Enbridge has in the past and continues to implement a free-ridership mitigation strategy aimed at maximizing the value of ratepayer funding.

7. Several recent events[5] in the Ontario energy landscape have urged consumers to increase their level of energy efficiency. An increasing number of organizations are actively trying to influence customers to identify opportunities and to adopt measures that increase energy efficiency, reduce energy consumption and reduce GHG emissions in the process. This confluence of activity and influencing factors, while helpful to the emission reduction goals of the province, will dramatically increase the difficulty in demonstrating any single entity's influence on customers' choice to participate in a DSM offer.

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[3] Haeri, H. & Khawaja, M.S. (March 2012), *The Trouble with Freeriders*, Public Utilities Fortnightly, #34.
[4] Department of Energy (March 2014), *Industrial Energy Efficiency: Designing Effective State Programs for the Industrial Sector - Industrial Energy Efficiency and Combined Heat and Power Working Group*.
[5] e.g. Rising electricity rates, the advent of Cap & Trade, Green Bank development, Enbridge / IESO collaborative DSM

8. Enbridge's efforts to minimize free-ridership are not new, and it continues to evolve and improve. The main pillars of Enbridge's strategy to mitigate free-ridership include the following acitivities:

    - Ongoing Customer Engagement, Technical Support and Education;
    - Thoughtful Program Design;
    - Participant Screening.

Ongoing Customer Engagement, Technical Support and Education

9. Enbridge takes a long-term view with regard to the manner in which it works with DSM participants. Ongoing, meaningful communication is a core component of Enbridge's efforts to influence customer decisions regarding energy efficiency. Enbridge's investments in education and training are consistent with industry best practices. The US Department of Energy ("DOE") and US Environmental Protection Agency's ("EPA") *State and Local Energy Efficiency Action Network* ("SEE Action") advances energy efficiency knowledge, policies and programs to a network of over 220 American state and local governments.[6] SEE Action "assesses some of the key features of programs that have helped lead to success in generating increased energy savings and identifies new emerging directions in programs".

10. The approaches found by SEE Action to "consistently add value to industrial customers and contribute to program success" include the following elements, as utilized by Enbridge:

    - Clearly demonstrating the value proposition of IEE [Industrial Energy Efficiency] projects to companies

[6] Department of Energy (March 2014), *Industrial Energy Efficiency: Designing Effective State Programs for the Industrial Sector - Industrial Energy Efficiency and Combined Heat and Power Working Group*.

- Developing long-term relationships with industrial customers that include continual joint efforts to identify IEE projects.
- Ensuring program administrators have industrial sector credibility and offer quality technical expertise.
- Conducting continual and targeted program outreach

11. To foster lines of communication and ensure potential DSM participants remain aware of available energy efficiency offers, Enbridge maintains a database of Commercial and Industrial customers who have or may engage in heating, cooling and energy efficiency projects in its franchise area. This centralized database has allowed Enbridge to more consistently target key messages to customers, including program eligibility criteria and participation requirements.

12. Long-term, steady relationships are particularly critical to adding value and mitigating free-riders. Each DSM participant's specific circumstances require an investment of time to obtain an appropriate level of understanding of a facility's operation, energy efficiency goals, customer needs and challenges. Ongoing dialogue with energy management staff or business partners is necessary to identify energy efficiency project opportunities.

13. As projects and opportunities arise, Enbridge works with plant level staff and contractors to help develop and shepherd business plans to senior management, providing credibility, independent expertise and support along key stages of a project proposal. Enbridge further mitigates free-ridership by engaging potential DSM participants from three distinct groups: Key Accounts; Business Partners; and Industry Associations.

14. Enbridge's Key Accounts staff directly communicates with customers and Business Partners (contractors, engineers and installers) on specific energy efficiency projects. The Key Accounts and DSM staff, known as Energy Solution Consultants

("ESC's"), work together to support the customer in the identification and facilitation of energy efficiency projects, which may include working with the customer right up to obtaining approval and management sign-off for a particular energy efficiency project.

15. Business partners are important stakeholders in Enbridge's free-ridership mitigation strategy, given their link to potential DSM participants. A majority of larger DSM projects occur as a result of the relationships fostered by ESCs. In contrast to simpler, one-time transactional programs, custom commercial and industrial DSM participants succeed when Enbridge works closely to educate contractors to ensure they are well versed in Enbridge's many offerings, including technical support, modeling, and analysis, as well as financial incentives that may help a customer choose to implement a project.

16. In addition to working with Business Partners, Enbridge also strives to educate its customer base. Customers who are more aware of emerging technologies and DSM offers are more open to exploring energy efficiency opportunities, relying on Enbridge's business and technical expertise and available incentives to help make projects a reality.

17. To reduce free-riders, increase energy literacy and highlight Enbridge as a technical expert to DSM customers, Enbridge regularly invites vendors and business partners to attend information workshops. Since 2015, 283 potential large volume and commercial DSM participants attended at least one of 12 sessions organized and delivered by Enbridge. In 2016 / early 2017 alone, Enbridge provided 9 educational webinars to over 150 vendors across the franchise area and sponsored or presented at more than 44 conferences and symposia in North America.

18. The workshops and webinars educate customer facility staff and business partners on new technologies and help them understand how energy may be consumed in their facility, where opportunities for identifying waste may be found, and ultimately how to reduce energy use. In addition, commentary and discussion is facilitated around new and emerging issues which have included technologies, funding and Cap and Trade.

19. By keeping DSM and Enbridge's offerings at the forefront of customers' and business partners' minds, Enbridge is raising interest in and awareness of energy efficiency and ultimately influencing decisions to invest in this important aspect of their business. The subtle, long-term market effects of education and relationship-building are real and by their nature very difficult to quantify accurately. Enbridge is of the view that many of the GHG emission reduction projects that will take place in the future, even those funded by other organizations dispensing of Cap & Trade funds, will in no small measure reflect the underlying work of Enbridge ESCs to foster relationships, educate customers, and identify opportunities.

20. The tables on the following page provide a detailed listing of Enbridge facilitated workshops and webinars conducted over the past few years alone.

Figure 1 – Enbridge Workshops & Educational Sessions 2013-Mid 2016

Workshop Title	Date	Participants
Business Partner Workshop	30-Apr-15	25
Process Heating Efficiency Workshop	9-Jun-15	20
Boiler Basics Workshop (Campbell's)	7-Oct-15	22
Magna Workshop	20/21-Oct-15	29
Heating and Ventilation Workshop	13-Nov-15	29
Energy Management Success Stories Workshop	1-Dec-15	20
Water Heating and Management Workshop	10-Mar-16	24
Heat Recovery Workshop	7-Jun-16	33
HVAC Workshop	Sept 2016	19
Energy Management Workshop	Nov 2016	20
Controlling Natural Gas Costs	March 2017	21
Heat Recovery Workshop	June 2017	21
Total		283

Figure 2 – Enbridge Webinars for DSM Business Partners and Customers

Webinar Title	Date	Participants
Webinar for Business Associate	July 14, 2016	30
Webinar for Contractors – Minimizing Cost Impact of Cap & Trade Through Energy Efficiency	October 5, 2016	35
Johnson Controls sales group	October 20, 2016	7
Honeywell sales group	October 31, 2016	15
Inviro Consulting engineering team	November 9, 2016	4
Modern Niagara sales group	November 11, 2016	15
PM Expo	November 14, 2016	5
Cadillac Fairview Building Operators	November 30, 2016	24
Yorkland Controls	January 18, 2017	17
Total		152

21. Following each of these workshops, participants were asked to complete an anonymous evaluation. Overall, respondents have given the workshops an 88% approval rating, with high marks for Enbridge's expert instructors (96% rating).

22. In addition to workshops and webinars, Enbridge regularly participates in industry tradeshows and Association events. Enbridge uses these opportunities to engage customers to describe the economic and environmental benefits of energy efficiency, and to detail Board approved programs, offers and incentives available. A list of recent Industry tradeshows and Association events where representatives from Enbridge participated over 2016 is presented in the table below.

Figure 3 – Association Events & Tradeshow Presentations and Participation

Promotion in Publications, at Association Events and Tradeshows	**2016**
Hotel Association of Canada Annual Conference	Q1
Canadian Healthcare Engineering Society - Ontario Chapter (CHES) Provincial Trade Show & Education Forum	Q1
CMPEX Show	Q1
Eastern Ontario Landlords Organizations (EOLO) Networking Event	Q1, Q3
Greater Toronto Apartment Association (GTAA) – Multiple Events	Q1, Q3
BOMA Toronto (multiple events)	Q1, Q2
Energy Summit	Q2
CCI/ACMO Conference and Tradeshow	Q2
Grower Day	Q2
Federation of Rental-Housing Providers of Ontario – Multiple Events	Q2, Q4
City of Toronto Hotel Sustainability Conference	Q2
Ontario Long-Term Care Association (OLTCA) – 2 Conferences	Q2
Canadian Hotel Investment Conference	Q2
Canadian Healthcare Engineering Society National Conference	Q2

Promotion in Publications, at Association Events and Tradeshows	2016
Ontario Restaurant Hotel & Motel Association Golf Tournament	Q2
Informa Canada – Multiple Events	Q2, Q4
Association of Municipalities of Ontario	Q3, Q4
2016 Grocery Innovations Conference	Q3
Greenhouse Conference and Exhibition	Q3
OMC Annual Workshop and Tradeshow	Q3
Energy Into Action	Q3
Administrative Services Coordinating Committee (ASSC) 2015 Conference	Q4
Kotusch Pinnacle Awards	Q4
Hotel Engineers Association of Toronto (HEAT) (several events)	All year
	2017
Green Health Care - Minimizing Impact of Cap & Trade through EE	Q1
Asphalt Magazine Editorial	Q2
Durham Partner in Project Green – multiple events	Q1, Q2
Sponsored Earth Day events for Enbridge large industrial customers	Q2
Economic Development Oshawa Energy Event	Q2
Toronto Hydro Energy Manager Event	Q2
Ottawa and Kingston Canadian Boiler Society events	Q3
Greenhouse conference & exhibition	Q4
Total Events	44

23. Enbridge also produces a quarterly newsletter sent to current and potential DSM participants. The newsletter highlights Enbridge offers, upcoming workshops, industry conferences and information on new energy efficiency initiatives, see Appendix 1. The current readership of the newsletter has grown to over 1,000

subscribers across Enbridge's franchise area and has been acknowledged for its value by utilities and businesses beyond Ontario.[7]

Effective Program Design

24. Drawing from its long history of work in energy efficiency, Enbridge has gained sound expertise in effective DSM program design. Below is a list of factors considered when designing program offers:

- Existing and emerging codes and standards;
- Market readiness for a particularl technology / service;
- Presence of competing, duplicative or overlapping programs;
- Examination of data and practices in other jurisdictions;
- Appropriateness and effectiveness of incentive levels;
- Participants' need for non-financial incentives (technical support, business support or planning);
- Role of upstream market actors (distributors, manufacturers); and
- Influence of secondary stakeholders (contractors).

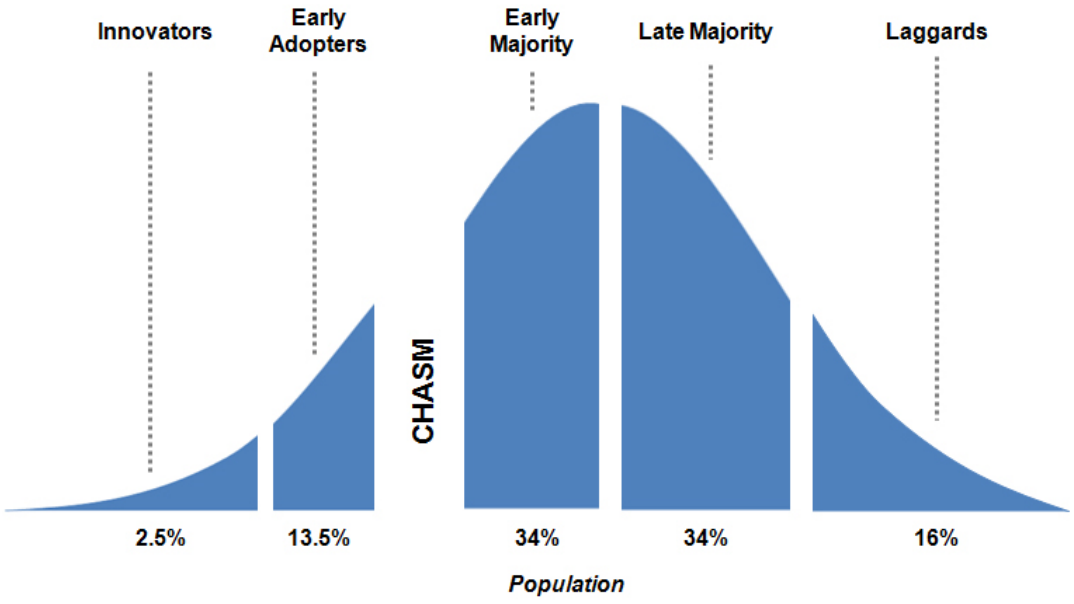
25. To mitigate free-ridership, Enbridge designs its offers to appeal to participants who, because of their priorities or resources, are less likely to be characterized as 'Innovators' or 'Early Adopters' as understood in the typical technology adoption curve as seen below. Enbridge's custom commercial and industrial DSM customers tend to be organizations that benefit highly from the type of impartial, third party technical expertise and business support offered by the Company. Similarly, customers' competing demands for budget and work priorities create a

[7] Unsolicited email acknowledgements and follow up queries resulting from newsletter, e.g. Gas Supply and Training management, SaskPower, October 7, 2016; University of British Columbia, November 25, 2016.

real need for financial incentives to create a more attractive opportunity for decision-makers.

26. In short, Enbridge designs its offers to reach the largest portions of the market, namely 'Early Majority' and 'Late Majority' customers, as seen in Figure 4 on the following page. Where 'Laggards' tend to be unlikely to change behaviours or adopt new technologies without significant resource investments (or even at all), 'Early' and 'Late Majority' actors can be convinced to participate in a DSM offer, provided their needs are met. In this way energy efficiency programs can reach the majority of customers and influence their adoption of energy efficiency and thus have the greatest market impact.

Figure 4: Typical Technology Adoption Curve



27. An example of the Company's efforts to lower free-ridership through program design is the Direct Install offer for air curtains. In 2016, program designers decided to promote this technology to small and medium-sized businesses, a market segment known for low engagement in DSM, in part because of low

budgets for energy efficiency. Appropriate application of air curtains can be complicated and costly, especially for this market segment. Enbridge specifically turned to small and medium-sized customers because the volume of potential participants offered an opportunity for significant overall energy savings.

28. Similarly, Controls (e.g. Variable Frequency Drives; Linkageless; Indoor / outdoor resets; Demand Control Ventilation) are generally known to energy managers, and are no longer considered 'emerging' technologies, making them appropriate for promotion by Enbridge to DSM customers in need of financial support and technical advice (i.e. non-free-riders).

29. In addition to targeting Early and Late Majority market segments, Enbridge reduces free-ridership by working with customers to uncover opportunities for energy efficiency. By helping customers discover unknown energy savings opportunities, Enbridge submits that it would be highly unlikely customers would have identified, quantified and engaged in a majority of energy efficiency improvements. This is fundamental to the value Enbridge provides through DSM, thus lowering free-ridership rates.

Participant Agreements and Screening

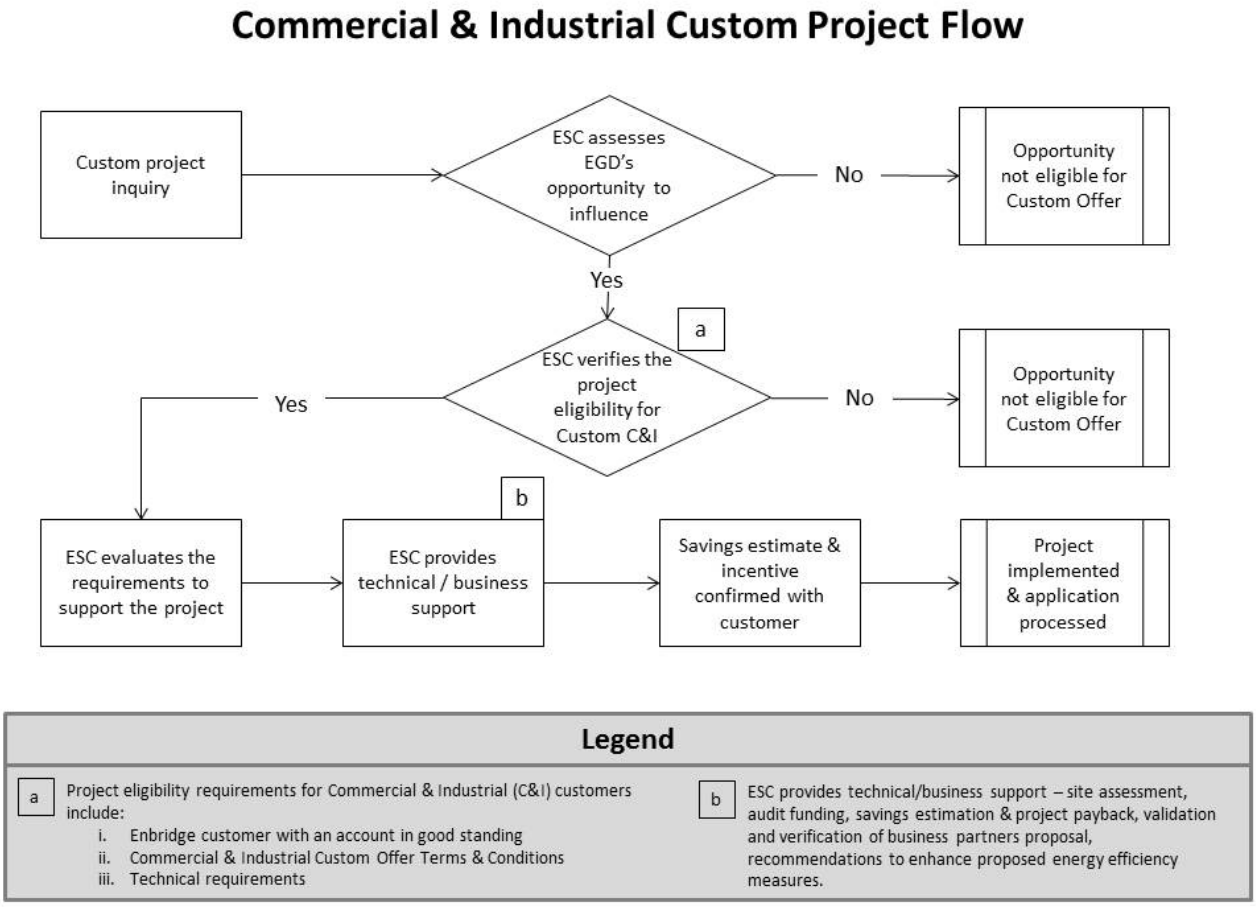
30. Another way that Enbridge works to mitigate free-ridership is directly through its agreements with DSM participants and in the actions of program managers. First, a primary screening mechanism employed by program managers is to ensure that potential DSM participants engage with Enbridge prior to implementing an energy efficient measure or practice. This practice fundamentally restricts those with whom Enbridge will enroll in a DSM offer and reduces free-riders at the outset.

31. Next, potential DSM participants are engaged by way of specific terms and conditions for enrollment in program offers. These terms and conditions contained

in the Company's DSM incentive application, highlight for customers the importance of ensuring ratepayer funds are allocated only to eligible DSM participants, see Appendix 2. In 2016, Enbridge revised the language in its terms and conditions to acknowledge the role that Enbridge's business and technical expertise and incentives will play in their decision to participate in an offer.

32. As a matter of process, when a potential DSM customer applies for Enbridge's support, ESCs are expected to thoroughly assess the Company's ability to influence or optimize a project proposal. The process by which this is done by ESCs is shown in the following process map.

Figure 5 – Custom Project Flowchart



33. As noted above, the Company's efforts to limit free-ridership are not new to the Company. While its efforts have become more detailed and sophisticated of late in response to the experiences gained and changes to the marketplace, Enbridge continues to believe that it is taking all reasonable and appropriate steps to minimize free-ridership at the most critical time which is when it initially works with potential candidates and develops energy efficiency measures appropriate for that customer which it ultimately agrees to undertake. It is important to recognize this given that after the fact hind sight third party assessments often do not include the same decision makers that were involved in the first place and may not be reflective of the market conditions and the customers financial position as at the time that a decision to participate in the DSM program was made.

Enbridge to Provide Evaluation Results of the Small Commercial New Construction Pilot Program

34. The Small Commercial New Construction pilot was proposed to provide small commercial builders and owners access to cost-effective energy modelling alternatives that would encourage them to build to a higher level of energy efficiency. This offer was intended for commercial buildings that are too small to satisfy the size requirements of the Savings by Design Commercial offer. Incentives were intended to help participants cover the costs of modelling including incentives for achieving energy efficiency targets with a minimum target of 5% more efficient than is mandated by the Ontario Building Code ("OBC").

35. This offer was to launch as a pilot in 2016 and 2017 with cumulative cubic meter ("CCM") results to be counted in the Resource Acquisition ("RA") scorecard starting in 2017. In the Board's Decision and Order dated January 20, 2016 ("Decision"), the Board noted its expectation that the pilot results would be

evaluated at the Mid Term review, at which time it would be determined if the program would continue for the remainder of the Plan[8].

36. As noted in the Company's previous submission[9], the Board's Decision to increase targets by 10% created implications for the Company's incentive budgets. The Company has expressed concern that the target increase would have an "unintended consequence" because "increasing targets necessarily requires increasing the overall funds available for incentive payments to program participants[10]." As also submitted previously, the Company has noted that customer incentives are not the place to look to find cost-efficiencies, especially given the advent of the Provinces Cap & Trade regime.

37. The Company has illustrated several examples of the unintended consequences of the target and budget mismatch. Possible consequences include not having the funds available to pay incentive payments to participants, or alternatively, necessitating that an entire offer budget is used to fund incentives, with no funds left for marketing, promotion and other delivery costs, thus undermining the Company's ability to achieve its target. In the face of an inability to even reach minimum thresholds, another alternative to consider is to reallocate funds from one offer to other offers.

38. The Company made the difficult decision not to launch the Small Commercial New Construction Pilot, preferring instead to direct funding to program offers that have already been fully designed, launched, and evaluated for cost-effectiveness. As a result the Company does not have pilot results to file for review.

[8] EB-2015-0029/0049, Decision and Order, January 20, 2016, p.22
[9] EB-2017-0127/EB-2017-0128, DSM Mid-Term Review Comments of Enbridge Gas Distribution Inc. p. 4
[10] EB-2015-0049, Enbridge Written Comments and Draft Accounting Order, Feb. 3, 2016, p.5

Enbridge to Report on Energy Leaders Pilot Program

39. The Energy Leaders initiative is new to the commercial and industrial Resource Acquisition program in 2016. The initiative identifies innovative and progressive technologies or practices by providing enhanced incentives to commercial or industrial participants who achieve deep savings and/or install emerging technologies. It also seeks to create exposure for participants who demonstrate leadership in their sectors as early adopters of new and emerging technologies through case studies or other channels to be promoted at workshops, webinars, awards, events or newsletters. In sum, the intention of the initiative is to review, determine, and incent areas for incremental energy efficiency activity among customers who are deemed energy leaders.

40. The Energy Leaders initiative is focused on helping customers adopt new and innovative technologies through increased financial incentives to motivate action in the face of high capital costs and higher levels of uncertainty. The goal is to motivate customers to seek that next level of savings and technology adoption and move the market forward toward deeper energy efficiency. Traditionally, this has been difficult as often the business case does not support customer action or the customer may have concerns over the risks of a new technology and its impact to their business. A further challenge is that natural gas commodity prices are at historically low levels, even after considering Cap & Trade costs, prompting customers to focus on other areas of improvement that may more directly impact the bottom line.

41. One example of the Energy Leaders Initiative in action took place in 2016. After much investigation and design work, the Company launched the ‘Ice Resurfacing Incentive Offer’ to private arena owners and municipal facilities across the Enbridge franchise area. This offer influenced early adoption of an emerging

technology among energy leaders in the commercial recreational ice arena sector. This innovative technology uses a high precision de-aeration process to remove micro-air bubbles from water when resurfacing ice. As a result the process no longer requires heated water (an impressive achievement) when building or resurfacing ice.

42. This technology was new to Ontario and experienced low adoption rates, primarily because ice rink owners were wary of the effects it might have had on ice quality. In exploring new resurfacing approaches and in consideration of the cost of the technology, facility managers needed assurance that ice quality would not be compromised. Understanding this, Enbridge was able to provide its expertise and generate interest in the innovative technology by educating private arena owners and municipal facility managers of the benefits of the technology on energy consumption, while also working with suppliers to educate customers on the minimal impact on ice quality.

43. In total, four ice resurfacing projects were completed in 2016, and Enbridge continued this offer into the 2017 winter and spring season. Case studies were produced and promoted through the Company's existing communication channels, manufacturers and industry associations, see Appendix 3.

44. For the remainder of the current DSM Framework (2018 – 2020) the Company will continue to explore opportunities to generate interest among customers to implement other emerging energy efficient technologies. Two candidates currently under study include demand circulation loops and natural gas heat pumps.

    - Demand circulation loops for domestic hot water systems: Enbridge will seek the participation of leading customers to field test the installation of this new technology; ideally suited to multi-family buildings. Conventional pumping systems operate continuously. This technology on the other

hand only operates when the domestic hot water circulation loop temperatures have cooled below target levels – resulting in gas and electric energy savings. Results and customer experiences from energy leader projects are expected to be shared through case studies to help similar customers adopt this technology.

- Natural gas heat pumps: Targeting the small commercial market, Enbridge will be working with leading customers to establish field demonstrations of natural gas heat pumps. The demonstration sites will help quantify installed costs and determine actual savings and equipment performance. These sites will also help identify installation and operational issues that may pose market barriers. Results are expected to be shared through case studies to help similar customers adopt this technology.

45. Additionally, Enbridge's ESC's will continue in their relationships and work with customers to identify innovative technologies that achieve deeper levels of savings for their unique needs. Technologies in this category are typically more expensive and less likely to be adopted by the customer due to the upfront capital costs. Through the Energy Leaders initiative, ESC's will work with customers to top-up eligible incentives paid through the customer and prescriptive programming with funds from the Energy Leaders initiative to support that customer in becoming an Energy Leader.

46. Enbridge also developed the 'Continuous Improvement Energy Award' for commercial and industrial customers that implement energy efficient technologies and practices for deep energy savings within their buildings and facilities, thus recognizing these customers as energy leaders. This award was given at the annual Energy Into Action event held in collaboration with the electric and gas utilities across the Greater Toronto and Hamilton Area ("GTHA"). Seven customers were nominated based on the following criteria:

- Total number of projects completed between 2013-2015
- Total number of audits completed between 2013-2015
- Participation in Enbridge events (i.e. workshops, webinars, online portal registrations, etc.) between 2013-2015
- Total gas saved between 2013-2015
- Demonstrated commitment towards making Energy Efficiency a priority

47. The following customers were nominated, invited to attend the event, and publicly received a recognition plaque:
    - D. Crupi & Sons Limited
    - Brand Felt Canada Inc.
    - Petro-Canada Lubricants Inc.
    - The International Group Inc.
    - The Pepsi Bottling Group
    - Magna International Inc.
    - The Hospital for Sick Children (SickKids)

48. Magna International Inc. was chosen as the winner and received a customized trophy from Enbridge. The 2016 event attracted over 900 commercial and industrial professionals. The Innovation Conservation Awards will continue for Energy into Action in 2017.

Union and Enbridge to demonstrate that all low-income programs have a TRC-Plus result of at least 0.7

49. In the Decision (EB-2015-0049), the Board reaffirmed that the Low Income DSM program is to be screened for cost-effectiveness in the same manner as Enbridge's suite of Resource Acquisition offers. Given the particular customer impacts of Low Income offers, the DSM Framework permits a lower aggregate TRC-plus threshold requirement of 0.7, measured at the Low Income program level.

50. As requested, Enbridge confirms that, based on pre-audit values for 2016, its Low Income program continues to meet the requirement with a TRC-plus value of 2.5. The Company further confirms that the Low Income program components (Part 9 - single family; Part 3 - multi-family) each achieve a value greater than the 0.7 TRC-plus thresholds. Neither program component has undergone any significant changes since the Board's Decision.

Union and Enbridge to consider the appropriateness of categorizing the Residential New Construction programs as Resource Acquisition ("RA") programs

51. Enbridge has undertaken an assessment of moving this program into the RA program area. As with other programs currently situated in the Market Transformation & Energy Management ("MTEM") program area, this program has a high educational component and a long term vision to transform the capabilities of the builder community to build energy efficient homes cost effectively. The program has made excellent progress in transforming the marketplace to date, but there is still much to do to influence builders ever closer towards the ultimate goal of Net Zero.

52. In the Company's view, the RA program, on the other hand, is more transactional in nature and many of the long term transformational benefits would be lost by moving the residential new construction program away from the MTEM category. As a result, the Company believes the program should remain within MTEM to maximize the long-term benefits to ratepayers and to reflect the underlying focus of the offer.

53. Working with builders to develop the capabilities to build new homes more energy efficiently than required by the Ontario Building Code is a critically important initiative. Through the Integrated Design Process ("IDP"), builders learn about new technologies and advanced construction techniques and the importance of looking at energy efficiency from a holistic viewpoint. This approach to energy efficiency becomes part of their long-term thinking rather than a conventional mindset to simply build homes to code. Oftentimes, builders learn that energy efficiency can be done more cost effectively than they originally thought. For example, implementing higher efficiency building envelope measures results in smaller heating and cooling system requirements - with the resulting savings to capital, future energy costs and GHG emissions.

54. This process of change involves the entire building community value chain, including builders, suppliers, contractors and trades as they collectively learn how to build more energy efficient homes as a united value chain, rather than as isolated players. The industry transformation from this program helps pave the way for future changes to building practices, partnerships and the building code.

55. An important benefit of an effective new construction program is that it's more cost effective to implement higher energy efficiency measures upfront rather than retrofitting homes later at higher costs; in addition to the lost savings during the interim period.

56. As part of the Board's directive that the gas utilities consider categorizing this program under RA, the Board also requested the gas utilities consider a CCM target in addition to a builder participant target. As outlined above, the Company believes the program should remain in MTEM, but is open to considering a CCM target in combination with a participant target provided appropriate adjustments are made to target and budget, if required.

57. Enbridge wishes to reiterate that as a function of the total incentive available to the Company to deliver DSM, the relative value of the MTEM scorecard is, in the Company's view, below an appropriate level as a result of the Board's Decision. The Company understands the Board's reasoning to not approve programming it deemed not consistent with the Framework, however, the written response Enbridge filed on February 3, 2016 still remains valid from Enbridge's perspective:

> *Enbridge submits that the unintended consequence of removing the several MTEM offerings which contributed only modestly to the MTEM shareholder incentive, and then adjusting the allocation of the shareholder incentive to MTEM by the decrease in budget rather than the rejected offerings metric weighting, results in the disproportionate decrease in the MTEM shareholder incentive thereby devaluing the continuing MTEM programs*.[11]

58. In light of the importance of these market transformational programs as outlined both in the DSM Framework and as implied or inferred in this new policy environment (Cap & Trade, CCAP, etc.), Enbridge believes MTEM should be appropriately valued to ensure Company focus. To this end, the Company will propose a re-distribution of the scorecard weights in its January, 2018 submission for the Board's consideration.

[11] EB-2015-0049 Enbridge Gas Distribution Written Comments and Draft Accounting Order, February 3, 2016, p.3

Union and Enbridge to Provide Information Related to an Integrated Energy Literacy Program

59. In Enbridge's Multi-Year DSM Plan (2015-2020), the Company proposed a new initiative to educate customers on the benefits of energy efficiency and to increase engagement among customers by enhancing their energy literacy. In the Plan the Company suggested "that in order to promote a broader Culture of Conservation in collaboration with the electric utilities in Ontario, an overarching natural gas oriented energy literacy campaign will be highly beneficial[12]."

60. The Company explained that once a person was energy literate this person would be more likely to "make better choices in managing his or her resources[13]." An energy literate person is one that at a minimum knows how much energy they use, where energy comes from, and can make informed energy use decisions[14].

61. The Board approved the Energy Literacy program determining that the objectives fit with the principles of the DSM Framework. The Board directed Enbridge to expand this program by working with Union Gas and the Independent Electricity System Operator ("IESO") to ensure that the Energy Literacy program included both gas and electric conservation information. The Board further noted that it wanted to see a proposal for an integrated program starting in 2018 with Union Gas for the remainder of the DSM Framework (2015-2020).

62. The Board approved an Energy Literacy budget of $500,000 for each of 2017 and 2018 (total of $1 million) for Enbridge. There was no budget and therefore no activity to report on for 2016.

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[12] EB-2015-0049 Multi-Year Plan DSM Plan (2015-2020), April 1st, 2015, p. 100
[13] EB-2015-0049 Multi-Year Plan DSM Plan (2015-2020), April 1st, 2015, p. 101
[14] http/energy.gov. Energy Literacy: Essential Principles and Fundamental Concepts for Energy Education

63. To date, the Company has undertaken several activities towards the enhancement of Energy Literacy. Some examples of such activities are provided below:

- In 2017, the Company launched a Street Team campaign that targeted several public venues across the Enbridge franchise area. The campaign involves interactive displays that allow members of the community an opportunity to interact with technologies relevant to their own experience. The displays feature the promotion of measures offered within Enbridge's residential and low income programming areas and is hosted at retail stores, fall fairs, home shows and other high profile locations. As a result the Street Team campaign offered a holistic energy literacy component that included information on both gas and electric efficiency. To date, the campaign has been delivered to 20 locations for 2-4 days each, resulting in a total of approximately 100 days.
- Enbridge is also providing financial support for a free on-line text book entitled "*Fundamentals of Energy Efficiency: Theory, Policy and Practices"* authored by Peter Love, former Chief Energy Conservation Officer of the Ontario Power Authority (now the IESO). This textbook is unique in that it focuses on the design, implementation and evaluation of energy efficiency programs. The textbook will be a valuable learning tool for a wide range of audiences from students to leaders and staff in government energy policy, energy regulators, energy utilities, energy consultants and other contributors to the field of energy efficiency.
- The Company is currently exploring including energy literacy into school curriculums through collaboration with school boards across the province. Enbridge would provide energy literacy tool kits to teachers who would use them as a resource to educate students on energy efficiency.
- Enbridge is also exploring the opportunity to contribute to an NRCan energy education pilot utilizing the pilot program "Carrot Rewards" application. In this initiative, a mobile platform is used to drive literacy and

engagement in residential energy efficiency.

- Enbridge's residential programming includes electric and other fuel measures as funded through the Green Investment Fund (GIF) and in collaboration with theIESO.

64. Enbridge and Union Gas have discussed integrating Energy Literacy activities going forward however Union Gas has advised that they currently do not have any budget associated with this activity for 2018-2020. Union has advised that they will seek funding for this initiative in their October 1st, 2018 submission. Once Enbridge and Union understand the total budget available for an integrated initiative, the two utilities will work together to form a plan for integrated delivery, ideally for implementation in 2018.

Union and Enbridge to move RunSmart and Run-it-Right programs to the Resource Acquisition Scorecard

65. In the DSM Multi-Year Framework, the Board encouraged the gas utilities to develop programming that "focused on facilitating fundamental changes"…that "also focus on influencing consumer behaviour and attitudes that support reduction in natural gas consumption[15]." The Board noted that programs with this focus can take a variety of approaches and forms. The Company in its Plan put forward several new programs that focused on influencing consumer behaviour through education, awareness and energy literacy. In the Decision the Board found that the programs Enbridge proposed were "consistent with the DSM framework as they seek to educate and inform segments of the market with the goal of making a permanent change[16]."

[15] EB-2014-0134, Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020), December 22, 2014, p.13
[16] EB-2015-0029/049, Decision and Order, January 20th, p.33

66. The Company still firmly believes in the value of MTEM programming as described above. It is the Company's view that the goals and the value of these programs go far beyond the simple measurement of discrete natural gas savings in the immediate term, aiming to affect the attitudes, understanding, and activities of customers in transformational ways. Through these offerings, customers receive tailored guidance and expertise from an Enbridge ESC who can educate the customer about energy efficiency in a variety of ways, leading the customer to make better choices going forward, long after the relationship with the ESC has ended.

67. The Run it Right ("RiR") offer has focused on engaging building owners to commit to space and water heating energy savings through low cost and no cost operational improvements and behavioural changes. RiR incents participants to reduce their natural gas consumption through the implementation of operational improvements and practices, as well through the leveraging of energy monitoring software, called Energy Management and Information Systems ("EMIS"), to improve participants' ability to monitor gas consumption and therefore, make smart, informed energy choices.

68. Enbridge has focused its efforts to date on training customers on the value of the EMIS to encourage continuous energy savings throughout the monitoring term. The offer provides participants with monthly performance updates, in addition to alerts that are sent to participants when their consumption exceeds expected usage, which provides an opportunity for further investigation. Participants who utilize the system have a better understanding of their energy consumption to facilitate adjustments and improvements throughout the monitoring term.

69. Participation in the RiR offer requires customers to not have plans to undertake capital projects. This expectation remains a large barrier to offer participation,

limiting the program and other opportunities for other results, which is sub-optimal in the Company's view. Enbridge continues to explore how to appropriately apply a methodology to capture concurrent operational and capital savings to maximize the availability of offers, and results, for customers. Assessing and interpreting metered data to determine RiR savings also remains challenging. Although metered data reflects building consumption, it does not necessarily reflect building and operating conditions that can change daily, monthly, or yearly. Because operational improvements only generate small savings relative to larger capital improvements, isolating those savings can be challenging using metered data.

70. An important message the Company wants to communicate is that RiR is a highly resource intensive offer that provides meaningful market transformation benefits. Beginning with customer engagement, enrollment, the investigation of facilities, the implementation of measures, the provision of data and investigation reports, through to consumption monitoring and the calculation of gas savings, the offer demands a significant commitment from customers and utility staff alike. Further, the offer spans multiple calendar years and requires that customers not have plans to undertake capital improvements during the monitoring period. Operational improvements do not generally drive significant gas savings - in the order of 3-5% of customer's annual consumption. It is important to also recognize that beyond the CCM savings generated through the offer, it also provides significant long term educational and market transformational benefits. More specifically, the education provided to participants, the increased understanding of their energy usage, and the identification of further energy efficiency opportunities, provide significant value in influencing customers towards energy awareness and data driven decision making.

71. For 2016 and 2017, the RiR Program was measured in two ways. To recognize the importance of driving engagement and participation, a participant metric was

included in the Market Transformation program. A CCM metric was included within the RA program. Therefore, to comply with the Board's Direction the Company will move the participant metric to the RA program for the 2018 DSM sales year, to be presented in the Company's January 2018 submission.

72. Moving the RiR participant target to RA will result in a reallocation of budget from MTEM to RA. As a result, the Company will propose a re-distribution of scorecard weighting in its January 15, 2018 submission that appropriately values the remaining MTEM programs.

Union and Enbridge to move Comprehensive Energy Management and Strategic Energy Management programs to Resource Acquisition scorecard

73. The Comprehensive Energy Management ("CEM") offer is new to the MTEM program. Through this offer, the Company works with industrial customers to establish a strategic approach to energy management by presenting energy as a controllable input cost, and seeking to create a sustainable culture of energy efficiency. Participants are guided through a systematic process beginning with a commitment to making energy efficiency a priority, then establishing a formalized team to work towards developing short and long term energy efficiency goals.

74. This offer intends to build and expand on the Company's existing industrial offers to help and guide customers with a structured approach to identifying, quantifying and implementing energy efficient measures. As projects are undertaken participants have access to standard custom and prescriptive program incentives based on the savings achieved.

75. Enbridge ESC's work with participants by examining their energy usage, creating an energy model and guiding customers to undertake recommended actions and

measures suitable to their respective operations system. Through CEM, participants make energy use a performance goal, assign a dedicated energy manager or champion who allocates time towards energy efficiency, and demonstrates a commitment to improve operations and maintenance practices. Enbridge provides resources for enhanced energy management, including training, and creates a personalized energy consumption model to better manage and control energy use.

76. Enbridge ESC's engage the participants at the energy manager and senior management levels to reinforce their commitment to energy plans and goals. ESC's work with the customer's management team to ensure the activities undertaken and resources needed fit within their business case. To help, the Company offers financial incentives to offset the costs of the energy assessments and monitoring systems, energy efficiency training, and incentives for gas savings achieved through specific projects.

77. As a starting point, participation in CEM provides customers with a roadmap to guide them through energy based decisions and to support building a culture of sustained energy efficiency at the facility. Commitment to energy efficiency investments, however, is often dependent on the customer's operational cycle, which can be several years. Energy management is a transformational process, which requires multi-year commitments in effort, time, and funding. As a result, through the offer, ESCs will need to continue to work with participants to support actionable energy improvements beyond the first year of participation.

78. To promote the program offer and encourage participation, Enbridge has represented the offer at a variety of events, including the Enbridge sponsored bi-annual Energy Summit, the Energy Into Action forum, the Canadian Manufacturers & Exporters ("CME") Energy Conference, and the Greening Healthcare workshop.

79. As with RiR, for 2016 and 2017, the CEM Program was measured in two ways. To recognize the importance of driving engagement and participation, a participant metric was included in the Market Transformation program. A CCM metric was included within the RA program. Therefore, the only change required to comply with the Board's Direction is to move the participant metric to the RA program.

80. Moving the CEM participant target to RA will result in a reallocation of budget from MTEM to RA. As a result, the Company will propose a re-distribution of scorecard weighting in its January 15, 2018 submission that appropriately values the remaining MTEM programs.

Union and Enbridge to provide information related to program overheard and portfolio overhead (or administration) costs

81. The Board's Decision also provided comments and direction on two specific matters relating to Administrative and Overhead ("A&O") costs. First, the Board made adjustments to each of the utilities' A&O budgets which were mathematically commensurate to changes the Board made to the utilities' program budgets. Second, the Board commented that the evidence provided by the utilities did not allow for comparability or consistency that the Board would have otherwise desired when contemplating its decision. As such, the Board directed the utilities to return at the Mid-Term Review with greater detail regarding these costs, including a description of the activities they have undertaken to further reduce them.

82. What follows is an assessment of the reasonability of the treatment of the Company's A&O costs. To this end, Enbridge and Union Gas jointly engaged an expert to assess the consistency and comparability desired by the Board as indicated in the Decision. That report, produced by Dunsky Consulting, is presented in Appendix 4.

83. Key findings of the Dunsky report include the following:

- While there are some common practices that can inform how A&O costs are defined, there is no "right" or "wrong" way to define what is and is not an administrative cost – practices vary by jurisdiction.
- When assessing costs, focus on the value to DSM program delivery rather than who (internal vs. external) is performing the task.
- A more precise definition of Administrative and Overhead Costs from the Board may provide the Board and intervenors with a clearer understanding of allocations in future DSM Plan applications.

84. In reviewing energy efficiency budgets and expenditures of other jurisdictions, it is apparent that the use of clear and consistent definitions and divisions of costs is a challenge not unique to Ontario. Depending on the jurisdiction, "administrative" or "overhead costs" may appear as "delivery", "design", or "other" costs, while others have distinct budgets for "marketing" which could be distributed across multiple budgets depending on the labels used by a given delivery agent. For example, where Nicor Gas of Illinois spends 33.8% of their energy efficiency budget on Administration, Vermont Gas spends only 13.5%. Where many utilities do not have a category for "Delivery" costs, Toronto Hydro spends 29.7% on this line item[17]. A jurisdictional comparison of energy efficiency cost centers is therefore challenging, and will not likely provide valuable insight for the Board to evaluate Enbridge's A&O budgets.

85. The Company acknowledges that different approaches to the definition of A&O costs across jurisdictions is a function of many elements including historical precedence, accounting methodologies and systems, rate design, regulatory

[17] ESource (2016) DSM Insights, September issue.

frameworks, programs, offers, standard company accounting treatment definitions and DSM structures.

86. That being said, the Company is concerned that the current A&O budget is not sufficient for Enbridge to operate its DSM portfolio of programs successfully and to produce results for ratepayers.

87. First, it is worth noting that Enbridge's proposed 2015 to 2020 DSM Plan demonstrated a commitment to increasing the effectiveness of A&O costs year over year, with planned Overhead costs decreasing from 17.5% to 11.6% of total budget over the 6 year term[18]. The Board's Decision to further reduce Enbridge's 2016 Program Overhead budget by $7.5 million over the course of the framework has left the Company in an extremely difficult operating position.

88. Large restrictions in the Company's ability to expand its resource base or to undertake value added activities may leave the Company unable to meet all of its future program goals, or to meet all of the growing expectation for DSM results in the future. It is forcing the company to pick and choose which programs will get priority attention as competing interests for staff time and limited program dollars are juggled. The DSM team has trimmed staff resources available to manage areas such as Research, Tracking and Reporting, Data Mining, and other areas that are desperately in need of additional support given large increases in program spending since 2015. For example, the Tracking and Reporting (T&R) team has been unable to add resources after a two fold increase in the number of unique program applications and T&R requirements of several new programs. This has slowed the team's ability to manage peak workload, generate timely incentive payments and produce timely information for our auditor.

[18] EB-2015-0029/0049, Enbridge Reply Argument, page 85, paragraph 257

89. As submitted previously, Enbridge is of the view that the Board's decision to reduce the Company's 2016-2020 A&O budgets, coupled with other elements of the Decision (EB-2015-0049), has left Enbridge challenged to operate its DSM business. More precisely, the Board reduced Enbridge's 2016 Overhead budget by $1.06 million; $1.015 million of which was removed due to the removal of a single program from the MTEM Overhead budget.

90. In its submission of February 3, 2016 Enbridge expressed concern about the Board reducing A&O on a mathematical basis because it did not accurately reflect the drivers of actual A&O costs and would leave the Company challenged to operate its DSM business. Specifically, the reduction was largely the result of the cancellation of the Company's My Home Health Record ("MHHR") program; a program delivered largely by a third party and responsible for a minimal portion of Enbridge's A&O costs. Enbridge suggested to the Board that, rather than reduce the MTEM A&O budget by a mathematically derived $1.015 million due to this program's cancellation, the budget should be reduced by MHHR's contribution to A&O costs which as noted in evidence was $337,000[19].

91. While the Company accepts that the Board believed Enbridge could find cost-efficiencies in its non-incentive budgets, Enbridge believes that the resulting budgets have been reduced beyond levels reasonably necessary to successfully operate the DSM business and achieve the outcomes sought by the Board in all program areas.

92. As such, the Company is investigating alternative forms of reporting that may assign A&O costs to program areas where it is appropriate to do so. Enbridge will

[19] EB-2015-0049, Enbridge Written Comments and Draft Accounting Order, Feb. 3, 2016, p.14-16, paragraphs 33-39

work with Union to achieve a greater alignment on the definition and reporting of A&O costs.

93. In addition and in conjunction with this work, Enbridge will also review its portfolio of DSM programs with the goal of optimizing them to maximize benefits for ratepayers. The Company expects this may result in some reallocation of budget to produce a reasonable opportunity to achieve targets in some areas, which may result in reductions elsewhere. As stated in its previous submission, Enbridge will work to maintain the total budget levels approved by the Board as it considers the above and other constraints.

Enbridge Gas Distribution | Industrial | September 2017

Industrial News from Enbridge

Join us for our Energy Management workshop, September 21st, at the International Centre. This workshop will help you identify the first steps in implementing energy management at your facility and illustrate the effectiveness of proper energy consumption baseline.

SEPT 21

Register Today

Take Advantage of our 2X our Current Incentive

For a limited-time Enbridge is offering double the current incentive on qualified Heat Recovery projects. Learn more about this offer and examples of technologies and associated savings that can be achieved.

Enbridge Is Offering 2x our Current Incentive on Heat Recovery Projects

Read More

Workshop Video Now Available On Our Portal

Did you know that roughly one-third of the energy consumed by industry is wasted as a result of inefficiencies in heating processes? If you didn't have a chance to attend our Heat Recovery Workshop on June 27th, the video is now available under the "Resources" section of our Energy Solutions Portal.

Watch Now

Join us at Energy Into Action, October 5th at the International Centre

Participants will experience next-level networking with industry experts, gain valuable technical knowledge and explore important insights on the current and future state of energy conservation in Ontario

Register Today

Visit us at the Canadian Greenhouse Conference

@ Booth #206 — October 4 to 5 at the Scotiabank Convention Centre in Niagara Falls — Enbridge is pleased to be a sponsor of the Canadian Greenhouse Conference. If you are attending the event, visit Enbridge at Booth #206 to speak with an Energy Solutions Consultant.

Register Today

Energy Efficiency Corner

Each issue, we profile an energy efficiency tip from one of our Industrial Energy Solutions Consultants. In this issue, Michael Fakhouri shares insights about financial evaluation and how to get approval for your next energy efficiency project.

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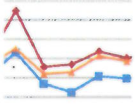
Safety Moment - Fire Prevention and Safety

With so many moving pieces and processes in an industrial facility, it's no wonder fire prevention plays such a prevalent role in the design of proper safety protocols. Whether implemented by an internal safety committee, or outsourced to fire prevention consultants, it's important to take proactive measures now to prevent the devastation a fire could have on your business and colleagues.

Read More

A Forward Look at Natural Gas Prices

Enclosed you will find a report detailing the industry consensus on forecasted natural gas prices. Enbridge cautions that these forecasts are predictions only, and therefore involve risk and uncertainty.



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We are here to help

Energy Solutions Consultants

energysolutions@enbridge.com

Enbridge offers industrial customers free services and financial incentives designed to help you make the most of the energy you consume.

As part of this initiative, we are pleased to share with you our quarterly Industrial News.

Enbridge Gas Distribution | Industrial | June 2017

Industrial News from Enbridge

Stop paying extra for energy when you can recycle Waste Heat Workshop

June 27th 2017 at the International Centre, Mississauga

JUNE 27

Did you know that roughly one-third of the energy consumed by industry is wasted as a result of inefficiencies in heating processes? In many cases, this "waste heat" can be used to offset additional thermal loads through the use of heat recovery systems.

Join us at our upcoming workshop designed to help you evaluate the economic feasibility of heat recovery opportunities.

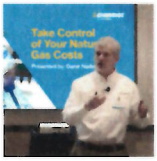
Register Today

Waste Heat = Waste of Energy + Money

Simply put, waste heat is any form of heat discarded from a process at a higher temperature than the ambient levels in the facility. With an estimated 20-50% of energy used in industrial facilities lost in the form of waste heat, waste head reduction is becoming increasingly important to keeping costs down, margins up and emissions under control.

Read More

View the latest workshop on the Industrial portal



Many industrial facilities use large amounts of natural gas for process, space and water heating. By learning how to use natural gas more efficiently, you can control the amount of energy consumed. And that can have a significant impact on both your emissions levels, which may impact cap & trade costs, and your bottom line. If you didn't have the chance to attend our March 23rd workshop, the video is now available on our Energy Solutions Portal.

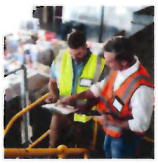
Watch Now

Energy Efficiency Corner

Each issue, we profile an energy efficiency tip from one of our Industrial Energy Solutions Consultants. In this issue, Slobodanka Radic provides some insight into key ingredients to successful heat recovery projects.

Read More

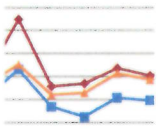
Safety Corner



With all the potential safety hazards that exist within an industrial facility, a simple walkthrough and audit of your facility will help shed some light in terms of identifying potential hazards. Things to look out for in particular include:

Read More

A Forward Look at Natural Gas Prices



Enclosed you will find a report detailing the industry consensus on forecasted natural gas prices. Enbridge cautions that these forecasts are predictions only, and therefore involve risk and uncertainty.

Read More

We are here to help

Paul Morrison
Energy Solutions Consultant
416-495-5010
paul morrison@enbridge.com

Enbridge offers industrial customers **free services** and **financial incentives** designed to help you make the most of the energy you consume

As part of this initiative, we are pleased to share with you our quarterly **Industrial News**

Enbridge Gas Distribution Inc.

2017 Commercial Custom Incentive Application

ENBRIDGE Life Takes Energy™

Opportunity Number:

Application Date:

A - Customer Information

Contact Name and Title: ,

Telephone #:

Company Name:

E-mail Address:

Site Address:

City:

Province: ON

Postal Code:

Mailing Address:

City:

Province: ON

Postal Code:

Enbridge Acct #:

Rate Class:

B – Business Partner (if applicable)

Company Name:

Contact Name and Title: ,

City:

Telephone #:

E-mail Address:

C - Project Classification

Market Sector:

Program Name:

Enbridge Rep:

Project Completion Date:

Telephone #

D - Project Description (include type of efficiency upgrade, equipment installed including model name and number)

No changes to equipment

E - Incentive Amount

Estimated Natural Gas Savings (m^3): 0

Enbridge does not guarantee that the proposed Project will result in the Estimated Natural Gas Savings.

Total Incentive: $ 0.00

The total Incentive Payment cannot exceed the lesser of $100,000 per Project or 50% of the Total Project Cost.

Remit Payment to (full name & address):

, ,

By signing below, I confirm that the information provided is accurate to the best of my knowledge and I confirm that I have the authority to apply for an Enbridge incentive on behalf of the recipient(s) and to bind the recipient(s) to the Terms and Conditions on the reverse of this form. I acknowledge and agree to the Terms and Conditions set out on the reverse.

Name of Signatory:

Title of Signatory:

Signature:

Date:

Enbridge

Enbridge Marketing Manager Acceptance:

Date:

General Terms and Conditions – Commercial Applications

The following Terms and Conditions apply to Enbridge Gas Distribution Inc.'s ("Enbridge") Custom Incentive Program. **BY SIGNING THIS APPLICATION ON THE REVERSE SIDE, THE CUSTOMER ACKNOWLEDGES ITS ACCEPTANCE OF AND AGREEMENT TO BE BOUND BY THE GENERAL TERMS AND CONDITIONS.**

1. In order to apply for an Incentive Payment (as defined below) the Customer must:
   (a) Complete the application set out on the reverse side hereof (the "**Application**") in full and have it signed by its authorized representative;
   (b) Submit the complete signed Application to Enbridge; and
   (c) Successfully complete the project described in Section D of the Application (the "**Project**"), including the installation of the energy efficiency improvements described in Section D of the Application (the "**Improvements**").
2. Enbridge's offer of Incentive Payments may be withdrawn by Enbridge at any time and will be withdrawn if: a) the Customer fails to sign and return a copy of the Application to Enbridge within **thirty-days (30)** of the Application Date stated on the Application; b) the Improvements are not fully operational and inspected by Enbridge or its authorized representative within **ninety-days (90)** days of the Application Date stated on the Application or c) the Customer otherwise fails to comply with any of these General Terms and Conditions.
3. In order to be eligible to receive an Incentive Payment, the Project must have a total resource cost ("TRC") accepted by Enbridge. TRC shall be calculated in accordance with Ontario Energy Board guidelines and may be amended from time to time without notice.
4. Once the Application has been accepted by Enbridge and the Improvements are fully operational, the Customer will be eligible to receive the amount set out in Section E of the Application (the "**Incentive Payment**") which is determined in accordance with the table below for the corresponding per cubic meter (m3) of natural gas saved. All Incentive Payment dollar amounts are in Canadian currency.

Action and Implementation Incentives:	**Up to $100,000 per project to a maximum of 50% of Project costs:**
For the first ≤ 10% natural gas savings	$0.10 per m3 saved*
For natural gas savings >10% or ≤ 20%	$0.20 per m3 saved*
For remaining natural gas savings above 20%	$0.30 per m3 saved*

*Subject to any special offers or campaigns that may be offered by Enbridge from time to time in its sole discretion.

5. Notwithstanding paragraph 4 above, in no event shall the Incentive Payment exceed the lesser of (i) $100,000 per project; or (ii) fifty percent (50%) of the total Project costs exclusive of applicable taxes (the "Total Project Cost"). For certainty, the "Total Project Cost" includes only those cost elements of the Project that are directly attributable to Improvements that result in gas savings.
6. Payment of the Incentive Payment is subject to the completion of a satisfactory site inspection of the Improvements, including the installed equipment, by Enbridge or its authorized representative. The Customer agrees to participate in any follow up surveys, studies, audits, evaluations or verifications conducted by Enbridge or its agents in connection with the Program. Enbridge reserves the right to independently verify the information in this Application.
7. The Customer acknowledges that Enbridge shall not be responsible for the Customer's tax consequences resulting from the payment of any part of the Incentive Payment and the Customer further agrees to comply with all federal, provincial and municipal laws and regulations which are applicable to the installation and implementation of the Improvements.
8. Upon reasonable notice from Enbridge, the Customer agrees to provide Enbridge and its authorized representatives with access to the Project and with information and data relating to the Project for the purposes of the Application and these General Terms and Conditions.
9. The Customer bears the entire risk of liability, loss, damages, costs and expenses which it may suffer, sustain or incur as a result of installing and/or implementing the Improvements or as a result of any matter described in these General Terms and Conditions. The Customer acknowledges that Enbridge does not guarantee that the Project will result in the Estimated Gas Savings or qualify for the Incentive Payment. The Customer agrees that the natural gas savings arising out of the Improvement vest with Enbridge and Enbridge shall be entitled to claim these savings for the purpose of reporting to the Ontario Energy Board. The Customer shall indemnify and save harmless Enbridge, its directors, officers, agents and employees against any claim or liability arising as a result of or from or based on the installation and implementation of the Improvements or the violation of any applicable laws, whether by the Customer, its officers, employees, subcontractors, representatives or agents.
10. The Customer agrees that Enbridge's Demand Side Management offer influenced the Customer's decision to proceed with the Improvement(s).
11. Enbridge and the Customer acknowledge and agree that they are independent of one another, and these General Terms and Conditions do not give either of them the right to bind the other to any obligation, or to assume or to incur any obligation on behalf of the other. Nothing in these General Terms and Conditions shall be interpreted so as to make either the Customer or Enbridge a partner, joint venture, employee, agent or other representative of the other for any purpose.
12. The Application and these General Terms and Conditions shall constitute the entire agreement and understanding between the Customer and Enbridge and supersedes all previous agreements and understandings between them related to the subject matter hereof. Except as otherwise provided in the Application or these General Terms and Conditions, neither the Customer or Enbridge is relying on any representation, warranty, conditions, inducement, promise or other assurance(express or implied) which may have been made previously by the other or by anyone else concerning the subject matter hereof. These General Terms and Conditions will be binding upon and ensure to the benefit of the parties, and/or their respective successors and assigns.

Enbridge Gas Distribution

Case Study

De La Salle College Arena

Cutting Edge Ice-Making Technology Slashes Energy Costs

"This project wouldn't have happened without Enbridge's Energy Leaders incentive and the support of their Energy Management Consultant."
Scott Barber, Facility Manager
De La Salle College Arena

De La Salle College "Oaklands" is a private, independent Catholic school in Toronto. Its well-maintained, single pad arena is busy with student activities every school day from September through June. After school hours and in the summer the facility attracts a wide range of paying users from recreational teams to film and TV shoots. Profits from ice rentals go straight into a scholarship fund.

Facility manager Scott Barber reports to the president of the college and an arena board and also works closely with the school's Controller to plan capital expenditures and keep operating costs down. Energy is always a big part of the cost equation.

Barber is always looking for innovative ways to improve the arena's energy and environmental performance. Over the years he has made three lighting upgrades, installed a low-emissivity ceiling, put in occupancy sensors in change rooms, and added desiccant dehumidification.

Traditionally, ice is made and resurfaced using hot water because higher temperatures drive out dissolved oxygen — gases that would weaken the ice. With fourteen rink floods a day in winter each using 110 to 120 gallons of water at a temperature of between 140º F and 160º F (60º C and 71.1ºC) hot water heating was a major driver of De La Salle arena's gas costs.

Barber knew there was no reason why they couldn't make quality ice with cold water if there was a reliable way to get the oxygen out without removing all the minerals that are also needed for optimal conditions.

An innovative technology, the **De-Ox Ice Making System**, promised both energy savings and excellent ice quality if the college administration would approve the capital expenditure.

Enbridge's new **Energy Leaders** incentive was the deciding factor. When Barber told De La Salle's president that the new technology would qualify for a 50% rebate of the equipment cost, his response was "***We can't afford not to act on this.***"

The **De-Ox System** was installed in January 2017 enabling a complete switch to cold water for all ice resurfacing runs. In April the ice sheet was taken down and rebuilt — also with cold water.

In the first five months of use Barber saw his natural gas bill cut in half. Electricity use is down as well because the ice surface can be kept at a higher temperature, reducing compressor runs. The energy savings make for a substantially reduced carbon footprint. And cold water resurfacing has enhanced playing conditions. The ice freezes quicker and harder, the surface stays dry, and lines are crisp and bright.

De-Ox Ice Making System takes oxygen out of cold water

The **De-Ox Ice Making System** is manufactured in Innisfil, Ontario and distributed in North America by Joe Johnson Equipment.

The wall-mounted unit is connected at the water intake. It uses a vacuum pump to draw dissolved oxygen through special membranes, leaving the gas-free water to flow on to the hose outlet. At 20 psi to 25 psi water pressure, dissolved oxygen is completely removed while minerals are retained for good ice grain.

Results[1]

- Estimated 15,235 m^3 annual natural gas savings
- 19% reduction in normalized gas load
- CO_2 (greenhouse gas) reduced by over 29,000 metric tonnes
- Electricity savings from reduced compressor runs
- $18,973.63 Enbridge **Energy Leaders** incentive

Using cold water for ice resurfacing also reduces costly electricity demand spikes. Overall energy cost savings of several thousand a year make for an attractive project payback — one further reduced by the **Energy Leaders** incentive.

Scott Barber, Facility Manager for De La Salle College Arena; Jeffrey Blunt, Enbridge Energy Solutions Consultant; Steve Dawe, Arena Products & Services Manager for Joe Johnson Equipment, with the **De-Ox Ice-Making System**.

Take advantage of our Energy Leaders offer

Enbridge's new **Energy Leaders** initiative rewards and showcases our commercial and industrial customers who install leading edge technologies for incremental energy savings.

The initiative is aimed at customers who have already installed typical conservation measures and want to gain further energy savings. If you have identified an innovative technology that you would like to explore or if you would like some help to identify and assess new energy saving technologies for your facility, contact your Enbridge Energy Solutions Consultant.

Eligible projects can qualify for incentives of up to 50% of the project cost.

For more information:
1-855-659-0549
energyservices@enbridge.com

[1]Enbridge models natural gas and electricity savings based on average temperatures over the course of a year. Actual savings will vary with weather conditions.

Enbridge Gas Distribution

Case Study

George Bell Arena

New Cold Water Resurfacing Technology is a Game Changer

"Enbridge's rebates were the saviour for our rink. They allowed us to take advantage of this new cold water resurfacing technology with a payback of less than a year."

Larry Woodley, Facilities Manager
George Bell Arena

George Bell Arena in Toronto's west end is a City of Toronto facility that provides quality ice all year round for amateur hockey games. The arena's non-profit board has a mandate to keep costs down to ensure affordability for its user groups. With ice arenas one of the biggest contributors to the city's energy use, board and staff also have a laser focus on reducing environmental impacts.

By 2016 George Bell's facilities manager, Larry Woodley, had already undertaken a number of energy efficiency upgrades at the aging facility including desiccant dehumidification, a lighting makeover, and a building automation system for the compressors. But energy costs were still rising.

Woodley knew that water heating was a major energy driver. In busy season their single rink is in use 62 hours a week and is flooded every 50 minutes. Each flood was using150 gallons of water heated to 160º F (71.1º C).

The **REALice** system offered a solution. This emerging technology enables arenas to use cold rather than hot water for resurfacing the ice sheet. It is a method that delivers both natural gas and electricity savings. But there were two concerns. First that it would be a significant investment for the cost-conscious facility. Second, could it ensure the same high ice quality that was the pride of arena staff. Cold water resurfacing was gaining momentum worldwide but no other Toronto arena had installed it, so this would be its first test in the city.

Enter Enbridge's **Energy Leaders** initiative. This incentive program was set up to promote early adoption of emerging technologies among commercial and industrial natural gas customers. By participating in the program George Bell Arena qualified for a rebate to cover 50% of the cost of the **REALice** technology.

The **REALice** system was installed in early December 2016 and was up and running for the prime season. Utility bills dropped dramatically from the first months. Based on an average weather year Enbridge estimates annual natural gas savings of 14,366 m^3 — around 21% reduction in overall use. There are also substantial electricity savings because the ice surface can be maintained at minus 6º C with a higher brine set point and that means fewer compressor runs. Load on the dehumidifier is also reduced. It's a big boost to the facility's environmental profile.

Best of all ice quality is outstanding — the new sheet is harder and clearer than previously. User groups are happy and ice resurfacing staff have given the new system a thumbs up.

REALice System de-aerates water without heat

The **REALice** System, developed in Sweden and distributed in Canada by SWiCH Services Inc, eliminates the need for hot water to resurface ice — without any chemicals, filters or additional energy input. A specially designed valve, installed upstream of the resurfacer's feeder hose, features intake holes positioned to create a powerful vortex or swirling action that separates the micro-air bubbles from the incoming cold water.

George Bell arena staff easily installed the **REALice** system themselves. The compact wall-mounted unit is a space saver in the arena's small equipment room.

Results[1]

- Estimated 14,366 m^3 annual natural gas savings
- 53,320 kWh annual electricity savings
- $C0_2$ (greenhouse gas) reduced by 27,000 tonnes over the life of the unit
- $17,440 Enbridge **Energy Leaders** incentive

Utility cost savings amount to several thousand dollars annually. The Enbridge incentive reduced the payback of the project at George Bell arena to less than one year. But even without incentives, energy savings can pay for a **REALice** installation in 2 to 3 years at a single pad arena and 1 to 2 years for twin rinks using a single water feed.

Enbridge Energy Solutions Consultant, Daniel Duhamel, being shown the compact REALice installation by Facilities Manager, Larry Woodley

Take advantage of our Energy Leaders offer

Enbridge's new **Energy Leaders** initiative rewards and showcases our commercial and industrial customers who install leading edge technologies for incremental energy savings.

The initiative is aimed at customers who have already installed typical conservation measures and want to gain further energy savings. If you have identified an innovative technology that you would like to explore or if you would like some help to identify and assess new energy saving technologies for your facility, contact your Enbridge Energy Solutions Consultant.

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[1]Enbridge models natural gas and electricity savings based on average temperatures over the course of a year. Actual savings will vary with weather conditions.

ENBRIDGE
Life Takes Energy

ADMINISTRATIVE COSTS REVIEW:

ENBRIDGE GAS DISTRIBUTION AND UNION GAS LIMITED

PREPARED BY
DUNSKY ENERGY CONSULTING

SUBMITTED TO
Enbridge Gas & Union Gas

September 2017

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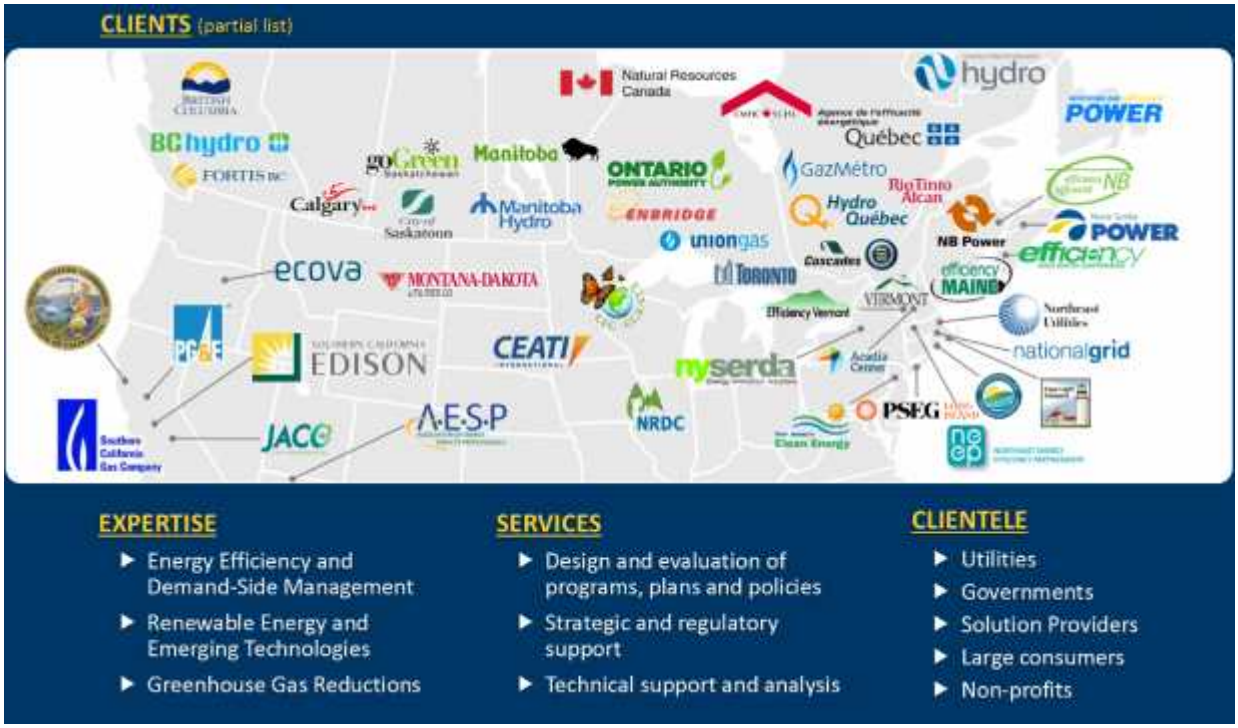
ABOUT **DUNSKY ENERGY CONSULTING**

Dunsky Energy Consulting is specialized in the planning, design, support and evaluation of sustainable energy programs and policies. Our clients include leading utilities, government agencies, private firms and non-profit organizations throughout North America.



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INTRODUCTION

On April 1, 2015, Union Gas Limited and Enbridge Gas Distribution filed Applications with the Ontario Energy Board ("OEB" or "the Board") for approval of their respective 2015-2020 Demand-Side Management (DSM) Plans. During the subsequent proceedings, some intervenors indicated concern with the level of administrative and overhead costs.[1] In its January 20, 2016 Decision and Order (the "Decision") the Board approved modified administrative costs, but also "found the evidence regarding administration and overhead costs did not fully describe the nature of these costs. The considerable variation, both between overhead costs for all programs and between the two gas utilities, only added to the confusion."[2] The OEB therefore directed the utilities to provide more detail regarding the administration and overhead costs in relation to their overall DSM Plans.[3]

To meet this directive, Union and Enbridge retained Dunsky's services to review each utility's administrative and overhead costs (proposed, approved, and actual), clarify how these costs are developed and allocated, and provide an independent perspective on the differences between the allocation and interpretation of these costs, as well as to provide recommendations for potential changes or next steps, if applicable.

This report includes the following sections:

- Introduction
- Overview and Review of Administrative Costs
- Allocation Methodologies Analysis
- Options and Considerations
- Overall Conclusions

To conduct an appropriate analysis, we examined different stages of the 2015-2020 DSM Plan process, namely Proposed, Approved, and Actual Costs. We differentiate between them where applicable. Unless otherwise noted, 2016 values are used for each stage of the analysis.

OVERVIEW AND REVIEW OF ADMINISTRATIVE COSTS

As the first stage in our work, we reviewed the OEB's *Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors* (*2015-2020)* (the "Guidelines") and each

[1] Ontario Energy Board. *Decision and Order* re. Union Gas Limited and Enbridge Gas Distribution Inc. – *Application for approval of 2015-2020 demand side management plans*. OEB Docket EB-2015-0029 / EB-2015-0049. January 20, 2016. p. 60.
[2] Ibid.
[3] Ibid.

utility's allocations to understand how administrative costs are currently being categorized and reported. We also scanned several leading jurisdictions to understand how they categorize these costs. Our findings are below.

ONTARIO ENERGY BOARD DEFINITION

In its Guidelines, **the OEB defines Administrative Costs as "generally the costs of staff who work on DSM activities."** It further indicates that these costs are "often differentiated" between support and operations staff[4]:

- Support staff costs are considered fixed costs or "overhead" that occur regardless of the level of customer participation in the programs.

- Operations staff costs vary, depending on the level of customer participation.

The Guidelines direct utilities to include all staff salaries that are attributable to DSM programs in the appropriate Program Cost area. Administrative costs that cannot be assigned to a program can be accounted for at the portfolio level.

The Decision for the Proceeding adds additional detail, including "staff salaries, employee training and development, office supplies, consulting costs, sponsorships and memberships" under overhead and administration costs.[5]

ONTARIO ENERGY BOARD INTERPRETATION

In the above-referenced OEB documents and in the utilities' Plans, the terms Administrative Costs and Overhead Costs are both used when referring to administrative-type costs. The distinction between the terms, however, is unclear. In the textual description in section 8.3 of the Decision, the OEB states that Enbridge's 2016 *overhead* costs "are forecast to be $8.8M and *administration* costs are $3.5M", with Union proposing "program *overhead* costs of $10.0M and *administration* costs, which include information system costs, of $11.7M"[6] [emphasis added].

This wording suggests that the OEB distinguishes between *program-level overhead* and *portfolio-level administrative costs*. However, in the Board's summary tables, only the term Overhead Costs is used, which may indicate that the OEB uses the terms interchangeably (see Table 1, below). These differences in terminology may create a challenge for the Board, the utilities, and stakeholders in terms of interpreting and comparing the utilities' budgets.

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[4] *Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020)*. p. 30.
[5] Ontario Energy Board. *Decision and Order* re. Union Gas Limited and Enbridge Gas Distribution Inc. – *Application for approval of 2015-2020 demand side management plans*. OEB Docket EB-2015-0029 / EB-2015-0049. January 20, 2016. p. 59.
[6] Ibid, p. 59.

Table 1. Excerpt from OEB Summary Table of Overhead and Administrative Costs

Enbridge Overhead Budgets	2016
Proposed Program Overhead Costs	$8,800,000
Approved Program Overhead Costs	***$7,741,021***
Proposed Portfolio Overhead Costs	$3,500,000
Approved Portfolio Overhead Costs	***$3,500,000***
Total Proposed Overhead Costs	$12,300,000
Total Approved Overhead Costs	**$11,241,021**
Reference: Proposed overhead costs - Enbridge Applicatio	

Union Overhead Budgets	2016
Proposed Program Overhead Costs	$10,023,000
Approved Program Overhead Costs	***$8,747,373***
Proposed Portfolio Overhead Costs	$11,735,000
Approved Portfolio Overhead Costs	***$11,235,000***
Total Proposed Overhead Costs	$21,758,000
Total Approved Overhead Costs	***$19,982,373***

To note, the breakdown in Table 1 reflects how the OEB interpreted the utilities' overhead and administrative costs in its Decision, not how Union and Enbridge categorize their administrative costs. However, by cross-referencing the budget items in the utility plans included in the above OEB summary tables, we find items we would not necessarily include (such as pilot projects) based on the Board's definition of Administrative Costs in the Guidelines and Decision (see Table 2).

Table 2. Cross-reference between OEB Interpretation of Proposed 2016 Plan Overhead Budgets and Utility Budget Tables

OEB Category	Items Included in the OEB Decision Summary of the Utilities' "Proposed Overhead Costs"		
		Union	Enbridge
PROGRAM overhead costs		**$10.0 M**	**$8.8 M**
	Administration		
	Low Income	■	■
	Market Transformation	■	■
	Resource Acquisition	■	■
	Performance-Based	■	
	Large Volume	■	
	Energy Management		■
	Evaluation		
	Resource Acquisition	■	
	Performance-Based	■	
	Low-Income	■	
	Start-Up		
	Residential	■	
PORTFOLIO overhead costs		**$11.7 M**	**$3.5 M**
	Research	■	
	Evaluation	■	■
	Administration	■	
	Pilots	■	
	Tracking System Upgrades/DSM IT chargeback	■	■
	Collaboration & Innovation		■

The Board's interpretation of $21.7 million in Administrative and Overhead Costs leads to very different allocations for Union (of 37.9%), which proposed a total of $10.1 million in Administrative Costs in its Plan, plus another $2.1 in Evaluation costs (17.9%). In contrast, the OEB's interpretation of Enbridge's Administrative Costs are in line with the utility's administrative cost categories, leading to an administrative cost allocation of 15.8%. These multiple interpretations of the definition(s) add to the potential for confusion.

OTHER DSM ADMINISTRATOR APPROACHES

As illustrated above, allocating administrative costs is a matter of definition. While there are some common practices that can inform this discussion, there is no "right" or "wrong" way to define what is and is not an administrative cost – practice varies by jurisdiction.

In this section, we provide examples of ways in which different jurisdictions interpret and allocate administrative costs. These examples are based on an initial scan of publicly available information and include:

- **Massachusetts:** selected because it is considered a leader in energy efficiency.
- **Oregon:** selected because it is consistently in the top ten of the American Council for an Energy-Efficient Economy (ACEEE) state energy efficiency scorecard.
- **Nova Scotia:** selected because it is a leading jurisdiction in Canada

These examples are provided for contextual purposes; they have been developed for different regulatory proceedings with different purposes. We are including them, however, as **examples that highlight the difficulties in benchmarking, or even comparing, different organizations' or jurisdictions'**. Definitions can also change over time, adding to the difficulty.

We note that comparability of size, type of organization, fuel sources, etc. is relevant when analyzing energy savings, investment, and similar questions; however, it is not as relevant for understanding the definition of administrative costs.

MASSACHUSETTS

Massachusetts is commonly ranked as the top U.S. state for demand-side management program activities, both for electric and natural gas customers. Programs are administered primarily by the state's electric and gas utilities, each of which are responsible for achieving their targets within allotted budgets, and each of which stands to earn shareholder incentives. However, all program administrators collaborate in developing and submitting for approval a unified three-year plan.

In Massachusetts, the energy efficiency budget category definitions are used statewide by all Program Administrators. Currently, administrative costs fall under Program Planning and Administration (PP&A) and include:

> *costs associated with developing program plans, including market transformation plans, R&D (excluding R&D assigned to Evaluation and Market Research), day-to-day program administration, including labor, benefits, expenses, materials, supplies, overhead costs, any regulatory costs associated with energy efficiency activities, database/data repository development and maintenance, sponsorships and subscriptions, and energy efficiency services contracted to non-affiliated companies, e.g., outside consultants used to prepare plans, screen programs, improve databases and perform legal services. This category also includes internal salaries for administrative employees/tasks, including program managers who do not have direct sales and technical assistance contact with customers.*[7]

[7] *Massachusetts Joint Statewide Three-Year Electric and Gas Energy Efficiency Plan (2016-2018)*. Filed with the Department of Public Utilities October 30, 2015. http://ma-eeac.org/wordpress/wp-content/uploads/Exhibit-1-Gas-and-Electric-PAs-Plan-2016-2018-with-App-except-App-U.pdf. p. 231.

The Massachusetts Administrative Costs category includes more items than the OEB's, in part because of the addition of the "Program Planning" allocation. There are additional differences, however. **For salaries, the Massachusetts' definition does not allocate salary costs on the basis of whether they are incurred in-house or externally, as Union does. Rather, the definition is focused on the requirements of an individual's role**: evaluation and market research staff or consultants are allocated to the Evaluation and Market Research category, and Program Managers are allocated to the category within which their role fits:

> *Salaries of program managers with direct sales and technical assistance customer contact are appropriately allocated to STAT [Sales, Technical Assistance, and Training], while salaries of program managers without direct contact are more appropriately allocated to PP&A. For example, the salary of a C&I program manager who works directly with customers will be allocated to STAT, while the salary of a residential program manager who does not deal directly with customers due to the lead vendor model will be allocated to PP&A.*[8]

ENERGY TRUST OF OREGON

Oregon is also ranked in the top ten U.S. states for DSM activities, including for natural gas. Programs are offered by the Energy Trust of Oregon (ETO), a third-party administrator that achieves higher-than-average savings.[9] ETO collaborates with the state's utilities, non-profits and government agencies and receives input from two advisory councils.

ETO allocates all costs based on purpose, rather than by set categories, by sharing costs between Administrative and Program Costs. Allocations for Administrative Costs are applied to costs that are not direct program costs or program support costs. In other words, a cost is considered an administrative cost if it does not consist of "program management, program delivery, program incentives, program payroll and related expenses, outsourced services, planning and evaluation services, customer service management, and trade ally network management."[10] For example, equipment costs required for a program would be allocated to that program, but general equipment purchases would be allocated to administration.

The following table provides an overview of the categories to which ETO allocates Administrative Costs when not meeting the definition of Direct Program or Program Support Costs.[11]

[8] Ibid. pp. 232-33.
[9] American Council for an Energy-Efficient Economy (ACEEE). *2016 State Scorecard: Oregon.*
[10] Public Utility Commission of Oregon. *Order: Recommendations for 2017 Performance Measures.* Order No. 17.050. Feb. 13, 2017. p. 7.
[11] EfficiencyOne. Response to Consumer Advocate Information Request (IR-13), NSUARB Docket E-ENS-R-15: *2016-2018 Supply Agreement for EECA*.

Table 3. Administrative Cost Allocation by Energy Trust of Oregon

Cost Categories	Administrative	Direct Program and/or Program Support
1. Supplies	◖	◗
2. Postage and shipping expenses	◖	◗
3. Telephone	◖	◗
4. Printing and publications	◖	◗
5. Occupancy expenses	◖	◗
6. Insurance	◖	◗
7. Equipment	◖	◗
8. Travel	◖	◗
9. Meetings/training/conferences	◖	◗
10. Interest expenses and bank fees	◖	◗
11. Depreciation and amortization	◖	◗
12. Dues, licenses and fees	◖	◗
13. IT services	◖	◗

EFFICIENCYONE

EfficiencyOne holds the franchise to administer electric and non-electric energy efficiency in Nova Scotia and operates under the Efficiency Nova Scotia brand. Considered a DSM leader in Canada, Efficiency Nova Scotia is an energy efficiency utility under the province's Public Utilities Act and is regulated by the province's Utility and Review Board.

EfficiencyOne takes a limited interpretation with respect to the allocation of Administrative Costs, including items such as banking-related and accounting costs, information technology, meetings and travel, rent and office costs, and some salaries/benefits and training costs (see table 2 below). Unlike ETO, EfficiencyOne shares only five of its cost categories between Administrative Costs and Program Costs, depending on the type of cost. For example, consulting and salary costs for a specific program are allocated to that program, but consulting costs or salaries for the finance or human resources departments are allocated to Administrative Costs.[12]

[12] Ibid.

Table 4. Administrative Cost Allocation by Efficiency Nova Scotia

Cost Categories	Admin	Direct Program and/or Program Support
1. Amortization	●	
2. Bad debt	●	
3. Bank charges, interest and fees	●	
4. Consulting and other	◖	◗
5. Information technology	◖	◗
6. Meetings, travel and meals	◖	◗
7. Membership and dues	●	
8. Office and insurance	●	
9. Rent	●	
10. Salaries and benefits	◖	◗
11. Training and development	◖	◗

TAKEAWAYS

These examples show that each jurisdiction interprets the definition and application of administrative costs differently. No jurisdiction has a *right* way of defining these costs, but ensuring a clear, transparent definition can assist with understanding changes over time and between organizations.

ALLOCATION METHODOLOGIES ANALYSIS

The previous section provides context in terms of the difficulties in directly comparing the Ontario gas utilities' Administrative Costs as filed. However, as part of our work, we attempted to understand the differences between each utility's Administrative Costs budget. This was intended to allow us to analyze the potential cause(s) of any differences between the utilities' administrative costs and/or changes to Administrative Costs budgets, per concerns expressed by Intervenors in the 2015-2020 DSM Plan Hearings. Our intent in providing this understanding is not to assess whether one utility's interpretation is more appropriate than another; rather, it is to

provide a common ground for discussing each utility's Administrative Costs and understanding where some of the differences in allocations lie.

UTILITY CATEGORIZATIONS

UNION INTERPRETATION OF ADMINISTRATIVE COSTS

Union Gas interprets Administrative Costs to be *internal* DSM costs such as travel and accommodations, office supplies, and computer-related expenses, as well as staff salaries, including individuals involved in direct program delivery (see Table 5 for a list of categorized costs). In addition, DSM staff benefits for new positions (i.e. incremental for the 2015-2020 Plan) are included in Administrative Costs. All other fixed and variable DSM-related costs are considered incentives, promotion, or evaluation costs, and are allocated at the program or portfolio level. Salaries and payments made to external suppliers, delivery agents, or other program delivery support such as marketing are categorized within these non-Administrative categories.

With this interpretation of Administrative Costs, Union's proposed program and portfolio Administrative Costs are 17.9% of the utility's total proposed 2016 budget.[13]

ENBRIDGE INTERPRETATION OF ADMINISTRATIVE COSTS

Enbridge interprets Administrative Costs to be all costs not specifically allocated to delivering a particular DSM program, as well as all DSM staff salaries (see Table 5 for details). In other words, incentives; third-party program delivery costs; and marketing, advertising and promotion are excluded from Administrative Costs. Several cost categories are shared between program delivery costs and overhead.

With this interpretation of Administrative Costs, Enbridge's proposed program and portfolio Administrative Costs are 18.1%.[14]

[13] Calculated from: Union Gas Limited. *2015-2020 DSM Plan*. OEB Docket EB-2015-0029. April 1, 2015. Exhibit A, Tab 3, p. 6. One-time IT costs have been excluded.
[14] Calculated from: Enbridge Gas Distribution Inc. *Multi-Year Demand-Side Management Plan (2015 to 2020).* OEB Docket EB-2015-0049. April 1, 2015. Exhibit B, Tab 1, Schedule 4, p. 3.

Table 5. Overview of Union Gas and Enbridge Gas Interpretation of Administrative Costs

Cost Allocation	Union Gas	Enbridge Gas
INCLUDED in Administrative Costs	• DSM staff salaries • 2015-2020 incremental DSM staff benefits • Employee travel costs • Employee training and development • Office supplies, printing, and materials • Subscriptions • Postage • Memberships • Computer-related costs • Communication • Consulting services	• DSM staff salaries • Employee travel costs* • Employee training and development* • Office supplies* • Monitoring and evaluation • Legal fees • DSM consulting services* • Research and development* • Sponsorships, conferences and registration fees* • Memberships*
EXCLUDED from Admin Costs	• Incentives • Third-party costs • Monitoring and evaluation • Marketing and advertising • Promotions	• Incentives • Third-party program delivery costs • Marketing and advertising • Promotions • Subscriptions • Unclassified Projects • Sponsorships, conferences and registration fees* • Employee training and development* • Office supplies* • Consulting services; DSM Consultative* • Research and development* • Employee travel costs* • Memberships*

*Costs allocated to either administrative or program delivery based on specific cost incurred.

OPTIONS AND CONSIDERATIONS

Our analysis indicated that Union and Enbridge have similar allocations to administrative costs despite some differences in interpretation of the OEB's guidelines. Nevertheless, given the fact that differences in interpretation exist, and that some interpretations can lead to vastly different results, in this section we outline some considerations related to these interpretations and allocations.

IMPLICATIONS OF EXISTING ALLOCATIONS

As highlighted earlier in this report, the majority of Union and Enbridge's Administrative Costs are related to salaries and wages. To reduce administrative costs, the utilities would therefore need to focus on reducing staffing costs. We note, however, that doing so should be considered carefully, since it could lead to unintended consequences and, potentially, higher overall DSM costs because of the way that Administrative Costs are allocated. By allocating all *internal* program delivery and program administrative costs to Administrative Costs and all *third-party* program delivery and program administrative costs to Program Costs, **the allocations are not based on *value* to DSM program delivery; rather, they are based on *who* is performing a potentially identical activity**.

When it comes to administrative efficiency, **the current Administrative Costs structure creates an incentive to outsource program delivery to third parties for the purposes of reducing a utility's Administrative Costs.** This is because third-party salaries are captured as a program cost, not an administrative cost. **However, a shift to third-party delivery does not necessarily translate into a reduction in *overall* DSM costs**. Similarly, if either utility reduced in-house marketing support, Administrative Costs could be reduced, but additional external consulting fees could actually *increase* costs. There could also be an added drawback of reducing consistency and efficiencies in applying brand standards, reviewing materials, and other related issues.

Focusing efforts on reducing Administrative Costs is therefore likely to have a very specific outcome: increased third-party delivery structures. While this is not an issue *per se* (some program administrators offer their programs almost exclusively through third parties, while others offer almost all programs internally), an outsource-based delivery structure should be an intentional plan, with benefits and drawbacks fully considered. However, some potential drawbacks of such an approach can include customer-service concerns, increased oversight costs in terms of duplicating tracking and quality assurance activities between the utilities and program vendors, and increased consultant costs for marketing and outreach. **More importantly, doing so could result in *perceived* cost reductions only**, as allocations would shift from administration to program delivery without necessarily reducing costs.

ALTERNATIVE OPTIONS

A potential alternative to focusing on offering programs via third parties would be to change the allocation of internal staff salaries that relate to program delivery to Program Costs. Modifying the Program Cost category to include both internal and third-party program-delivery costs may help to clarify which costs are providing direct benefit to customers and which ones are indirect administrative costs of offering DSM programs. Doing so would mean that cost categories reflect the type of work conducted rather than the entity conducting it.

This alternative would align with other jurisdictions: while there is variation between jurisdictions' Administrative Cost definitions, it is not common practice to include salaries and benefits for staff engaged in program development, delivery, and/or support within this category. The approach in leading jurisdictions such as Massachusetts, Oregon, and Nova Scotia is to allocate those salaries as a program expense. EfficiencyOne, which limits Administrative Cost allocations to items such as supplies, equipment, technology, and non-program-related staff costs (e.g. human resources, finance, and information technology) has Administrative Costs that range from 5-8% each year.[15] While adjusting the Administrative Cost allocations would only reduce Union and Enbridge's *apparent* Administrative Costs, not overall costs, it could increase the clarity of where DSM investment is being spent. We note that further analysis would be required before implementing such a change, as it would increase allocation to program costs, which may have an impact on setting DSM targets.[16]

If consideration is given to redefining Administrative Costs, we would recommend allocating by activity type rather than who incurs the cost. While further study of Union and Enbridge's specific requirements and internal needs would be required to inform the exercise, examples could include:

- Incentives
- Program Delivery (e.g. delivery agent costs)
- Program Support (e.g. planning, evaluation, research, program-related staff, marketing, etc.)
- Pilot delivery and support
- Administrative and Overhead (e.g. office supplies, IT costs, employee travel and training, etc.)

Our task was not to recommend a particular change to the OEB's definition of Administrative Costs. We note the above as an example only, designed to highlight an option for mitigating potential drawbacks of the existing definition and to highlight potential unintended consequences

[15] EfficiencyOne. Response to Consumer Advocate Information Request 13. *2016-2018 Supply Agreement for Energy Efficiency and Conservation Activities.* Matter M06733. Exhibit 21. May 19, 2015.
[16] DSM targets are currently set based on program investment and other variable costs, so a substantial increase in allocated program costs without changing the methodology or assumptions for setting targets could cause an unattainable target to be set.

of reducing Administrative Costs by outsourcing work without an analysis of discernable benefit and/or potential reduction in ratepayer value.

OVERALL CONCLUSIONS

Our analysis of Union and Enbridge's Administrative costs was intended to provide clarification of the two utilities' categorization of costs and their apparent differences in magnitude, per the Board's direction for "Enbridge and Union to provide more detailed explanation of the administration and overhead costs associated with the overall DSM plan."[17] Overall, our review indicates **there is very little difference between Union and Enbridge's actual spend on Administrative Costs**.

The difficulty in determining whether one utility has significantly higher costs than the other appears to be related to different interpretations of the existing guidelines. Union and Enbridge each interpret the Board's filing guidelines differently, with Union generally applying a lens of "internal vs. external" categorization, and Enbridge of "delivery vs. overhead". Both utilities appear to be in compliance with the Board's guidelines, but differing interpretations may be leading to the confusion about allocations (both in dollars and percentage) to Administrative Costs. As indicated above, potential concern on the part of the Board or intervenors could be addressed by clarifying the filing guidelines or by revising how costs are allocated. **A more precise definition of the existing guidelines may provide the Board and intervenors with a clearer understanding of the two organizations' allocations in future DSM Plan applications**. This would involve the clarification of the staff and other applicable costs that should be allocated to Administrative Costs under the existing definition. Because the existing definitions are built into accounting and reporting frameworks, it may be difficult to adjust this prior to the next Plan filing.

Clarifying the existing definition is not likely to change the overall percentages allocated to administrative costs in a significant way. It could, in fact, result in continued concern regarding large allocations to this cost category. And these concerns will be exacerbated as levels of investment in DSM increase along with the staff needed to support higher targets. **An examination of potential changes to the guidelines for Administrative Costs to focus on function rather than internal and external costs could assist the Board and intervenors to have a clearer understanding of each utility's actual spend on costs unrelated to direct program delivery.**

This change, if pursued, would likely require implementation during the next DSM Plan process, as Administrative Costs are currently a function of overall budgets and targets, and recategorization would likely result in changes to accounting and reporting frameworks.

[17] Ontario Energy Board. *Decision and Order*. p. 60.

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