

Ontario Energy Board

IN THE MATTER OF the *Ontario Energy Board Act, 1998*,
S.O. 1998, c. 15 (Schedule B);

AND IN THE MATTER OF an Application by Enbridge Gas
Distribution Inc. pursuant to Section 36(1) of the *Ontario
Energy Board Act, 1998*, S.O. 1998, for an order or orders
approving its Demand Side Management Plan for 2015-2020

ENBRIDGE GAS DISTRIBUTION INC. COMPENDIUM OF MATERIALS FOR CROSS-EXAMINATION OF SYNAPSE

September 2, 2015

**ENBRIDGE GAS DISTRIBUTION INC.
COMPENDIUM OF MATERIALS
FOR CROSS-EXAMINATION OF
SYNAPSE**

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ENBRIDGE INTERROGATORY #4

INTERROGATORY

Reference: Exhibit L.OEBStaff.1, page 1

Preamble:

On page one and throughout this report, SEE discusses suggestions and recommendations for “improvements” to Enbridge’s DSM Plan. The Company is curious as to what analytical work was done to assess the impact of undertaking those “improvements” to the budgets, metrics or targets of Enbridge’s DSM Plan.

Question:

- a. Please provide all work completed by SEE in advance of completing its report that estimates the impact on Enbridge’s DSM annual and total budget from implementing each and all of the recommendations set out in the SEE report.
- b. Please provide all work completed by SEE in advance of completing its report that evaluates the cost-effectiveness of any or all of the expanded or modified programs proposed.
- c. Please confirm that SEE did not evaluate whether the implementation of its recommendations will lead to Enbridge exceeding the DSM budget guideline of a \$2 per month impact on an average residential customer. If not confirmed, please provide details of the evaluation that was performed.

RESPONSE

Synapse was tasked with reviewing the proposed DSM programs and commenting on the program design elements that could be modified or improved. The Synapse recommendation referenced above is intended to provide general guidance and direction, and is not intended to indicate a specific quantitative outcome (see Exhibit L.OEBStaff.1, page 2). Therefore, we have not estimated the requested data in all three parts of this question as it is beyond the scope of our work.

Specifically, Exhibit L.OEBStaff.1, page 2 states:

Lastly, as Ontario’s gas DSM programs are subject to a budget guideline maximum, as set out in the OEB’s DSM framework, we recommend the utilities take a cautious and balanced approach when considering adopting our recommendations so that new changes would not push the utilities’ programs over the current proposed budgets.⁵

⁵ The utilities’ proposed budgets are effectively at the budget guideline maximum.

Witnesses: T. Woolf

K. Takahashi

E. Malone

J. Kallay

A. Napoleon

Some of our recommendations (such as improving program design and adding new measures) would increase program participation, which would result in an increase in incentive amounts and budget. On the other hand, other recommendations (such as reducing free-ridership, eliminating unnecessary measures, and providing financing) would decrease program budgets. In summary, both utilities should consider and balance potential improvements on participation rates, energy savings, cost-effectiveness, and a potential increase or decrease in budget from each recommendation, and determine which recommendations to adopt within their constraints.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

ENBRIDGE INTERROGATORY #7

INTERROGATORY

Reference: Exhibit L.OEBStaff.1, page 29

Preamble:

SEE identifies the multi-family market segment as “underserved.”

Question:

- a. Please indicate SEE’s understanding of the multi-family building market segment in the Greater Toronto Area (Enbridge’s largest franchise area). In particular, please indicate SEE’s understanding of the size of this market (number of buildings and number of customers), the proportion of the market that has individual gas heating for each unit, and the age and energy efficiency of the housing stock in this market segment.
- b. Did Synapse review Enbridge’s historical DSM results to inform its conclusion that, relative to overall spending and savings in recent years, the multi-family market has been disproportionately underrepresented?

RESPONSE

- a. Synapse was tasked with reviewing the proposed DSM programs and commenting on the program design elements that could be modified or improved. Synapse was not asked to evaluate energy efficiency potential for the multi-family building market segment. Therefore, the requested information is beyond the scope of our work.

However, in the spirit of providing complete information, we offer the following.

In our experience, the multi-family market segment is underserved by energy efficiency programs across North America. This is due to split incentives between renters and owners, financial barriers, and building owners facing limited time and technical ability when deciding to invest in energy efficiency resources. Our recommendations are based on our review of the proposed offering by the Ontario gas utilities and best practices in other jurisdictions to serve this underserved market segment. See a 2013 report by ACEEE titled “Apartment Hunters: Programs Searching for Energy Savings in Multifamily Buildings” for the characterization of the underserved multifamily market segment and best practices to overcome some of the barriers faced in this market segment, available at <http://aceee.org/research-report/e13n>.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

However, the most recent gas energy efficiency potential study for Enbridge's jurisdiction finds that the multi-family market segment has significant energy savings potential in Ontario (See Enbridge's Plan, Exhibit C, Tab 1, Schedule 1). This study reveals that the multi-family segment is the second largest customer segment in terms of potential savings, accounting for 17% to 18% of the total economic and achievable potential within the entire commercial sector (Exhibit C, Tab 1, Schedule 1, pages 78 and 114).

- b. See Exhibit M.Staff.EGDI.7, part a.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

ENBRIDGE INTERROGATORY #20

INTERROGATORY

Reference: L.OEBStaff.1 p.128

Preamble:

10.1 – “This suggests that demand response programs, where customers are provided specific incentives and tools to postpone or avoid gas consumption during peak periods, could play a significant role in mitigating gas infrastructure needs. Enbridge should include a comprehensive assessment of demand response potential in its gas infrastructure planning study.”

Question:

- a. Please further expand on what types of demand response programs and/or technologies SEE believes would be able to postpone or avoid natural gas consumption during peak periods.
- b. Please elaborate on how this assessment will differ in scope from an assessment of EGD’s current Interruptible Rates structure and philosophy.

RESPONSE

- a. Synapse has not investigated the specific demand response programs and/or technologies that could be used to postpone or avoid natural gas consumption during peak periods.
- b. Synapse has not reviewed EGD's current Interruptible Rates structure and philosophy.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNION INTERROGATORY #5

INTERROGATORY

Reference: L.OEBStaff.1, Page 30

Preamble:

“A typical products program provides cash incentives to homeowners, or takes a mid-to-upstream approach by providing incentives directly to retailers, distributors or manufacturers of the equipment so that customers ultimately pay a lower price. This type of program is essential for homeowners just looking to replace their old space heating and hot water equipment, especially when the homeowners’ HVAC equipment has failed or broken and they need to replace the equipment immediately. Without such a program, homeowners are more likely to purchase lower cost, standard efficiency equipment. This type of products program is typically offered in other jurisdictions, and should be included as part of the utilities’ portfolio of programs.”

“Both utilities should develop a residential products offering to promote the installation of high efficiency space heating and water heating equipment. This type of program is essential especially when the homeowners’ HVAC equipment has failed or broken and they need to replace the equipment immediately.”

Question:

In making this recommendation, please provide Synapse’s understanding of the measure cost effectiveness which are most comparable in relation to Ontario’s code, climate, 2016 filed avoided costs, discount rate and TRC methodology for the following stand-alone measures on a prescriptive basis. Please include the relevant findings from Synapse’s comprehensive literature review of best practices and discussion papers.

- Furnaces
- Boilers
- Condensing water heaters
- Tankless water heaters
- HRVs

RESPONSE

Synapse was tasked with reviewing the proposed DSM programs and commenting on the program design elements that could be modified or improved. The Synapse recommendation referenced above is intended provide general guidance and direction, and is not intended to indicate a specific quantitative

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

outcome (see Exhibit L.OEBStaff.1, page 2; see also Exhibit M.Staff.EGDI.4). Therefore, we have not estimated the requested data as it is beyond the scope of our work.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #2

INTERROGATORY

Reference: No Reference - Billing Analysis

Question:

- a. Please define the scope of a Billing Analysis as described in the Report.
- b. Please provide an example of a billing analysis for a Residential RA Program/Offer (Union/EGD preferred).
- c. Please provide billing analysis for a Residential MT Program/offer (EGDI/Union preferred)

RESPONSE

- a. A billing analysis typically requires at least 9 to 12 months of both pre-retrofit and post-retrofit energy consumption data. It is recommended that a billing analysis use regression analysis to adjust the post-retrofit consumption data for all substantive explanatory (independent) variables that affect energy consumption such as weather, occupancy schedules, industrial throughput, control set points, and operating schedules. This approach is equivalent to the International Performance Measurement and Verification Protocol (IPMVP) Option C: Whole Facility Analysis. For more information, see SEE Action (2012). Energy Efficiency Program Impact Evaluation Guide, page 4-6, available at https://www4.eere.energy.gov/seeaction/system/files/documents/emv_ee_program_impact_guide_0.pdf
- b. A billing analysis for a residential single-family retrofit offering such as Enbridge's Home Energy Conservation offering and Union's Home Reno Rebate offering will require, as discussed in Exhibit M.Staff.EP.2, part a., 9 to 12 months of pre- and post-retrofit energy consumption data. Key independent variables for adjusting the baseline consumption data should include weather at a minimum.
- c. As discussed in Exhibit L.OEBStaff.1, page 35, a billing analysis is not useful for new construction projects as there is no pre-construction baseline data. In contrast, a large-scale consumption data billing analysis (as discussed in Exhibit L.OEBStaff.1, page 21) is often used for evaluating the impacts of residential behavior programs. In such an analysis, billing data for a treatment group and a control group are compared to each other.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

UNDERTAKING JT4.4

UNDERTAKING

August 18, 2015 Technical Conference Transcript, page 29.

To examine further Energy Probe's requests for analysis.

RESPONSE

In response to Enbridge Interrogatory #4 (Exh. M.Staff.EGDI.4), Synapse explained that we were asked by the OEB Staff to review the proposed DSM programs and comment on the program design elements that could be modified or improved. We were not asked to identify a specific quantitative outcome resulting from any recommendation, nor were we asked to quantitatively assess how our recommendations might affect the program budgets. Consequently, we have not prepared such quantitative estimates because they are outside of our scope of work for the OEB Staff.

In our report we make the following points regarding budget constraints:

Lastly, as Ontario's gas DSM programs are subject to a budget guideline maximum, as set out in the OEB's DSM framework, we recommend the utilities take a cautious and balanced approach when considering adopting our recommendations so that new changes would not push the utilities' programs over the current proposed budgets. Some of our recommendations (such as improving program design and adding new measures) would increase program participation, which would result in an increase in incentive amounts and budget. On the other hand, other recommendations (such as reducing freeridership, eliminating unnecessary measures, and providing financing) would decrease program budgets. In summary, both utilities should consider and balance potential improvements on participation rates, energy savings, cost-effectiveness, and a potential increase or decrease in budget from each recommendation, and determine which recommendations to adopt within their constraints. (Exhibit L.OEBStaff.1, page 2.)

At this point we wish to make one clarification to the text quoted above. While it is true that the utilities should balance our recommended program improvements with their budget limitations, it is of course ultimately the Board that must decide on the appropriate balance.

At a minimum, we recommend that the Board should direct the utilities to adopt all of our recommendations that are likely to reduce program costs. The Board should also consider directing the utilities to adopt all of our recommendations that are expected to be relatively low cost but with significant benefits.

Witnesses: T. Woolf
K. Takahashi
E. Malone
J. Kallay
A. Napoleon

Table 9: 2017 Resource Acquisition Scorecard

<u>Component</u>	<u>Offers Counted</u>	<u>Metric</u>	<u>Weight</u>	<u>Lower</u>	<u>Middle</u>	<u>Upper</u>
Large Volume Customers¹	Custom, Prescriptive, Direct Install, RiR, CEM	CCM (millions)	40%	450.7	600.9	901.3
Small Volume Customers	Custom, Prescriptive, Direct Install; HEC; Adaptive Thermostats	CCM (millions)	40%	273.7	364.9	547.4
TOTAL RESOURCE ACQUISITION CCM				724.3	965.8	1,448.7
Residential Deep Savings	HEC	Number of participants²	20%	7,500	10,000	15,000

1) Large volume consumers include commercial customers with a 3 year average annual consumption of greater than 75,000m³/year or industrial customers with a 3 year average consumption of greater than 340,000m³/year

2) Number of participants with at least 2 major measures (average annual gas savings across all participants must be at least 15% of combined baseline space heating and water heating usage for any incentives to be earned)

Witnesses: M. Lister
F. Oliver-Glasford
B. Ott

ONTARIO ENERGY BOARD

IN THE MATTER OF Demand Side Management
Guidelines for Natural Gas Distributors;

AND IN THE MATTER OF a Review of Demand Side
Management (DSM) Framework for Natural Gas
Distributors

**QUESTIONS OF ENBRIDGE GAS DISTRIBUTION
INC. TO CONCENTRIC ENERGY ADVISOR
("CONCENTRIC") RE THE "CONCENTRIC
REPORT"**

May 7, 2010

24. Please confirm that it is Concentric's recommendation that, where it is not appropriate to use market penetration of Best Available Technology as the performance metric, the most appropriate metric is the gas savings achieved for individual customer participants in the program.
25. How does Concentric propose to measure performance for market transformation and research and development programs?
26. Since it is likely that the utilities will have to use forecast program TRC or SCT values for the purposes of allocating an appropriate portion of the SSM to the program, why not simply continue to use TRC results (or SCTs) as the performance metric for resource acquisition programs?

Issue #8 Incentives

Concentric advised at the Stakeholder Conference that it does not support the use of updated best available information in a backwards or retroactive manner in respect of the program administrator costs ("PAC") test or selection of best available technology. That is, if the best available information was used by a utility at the time that the PAC is undertaken, technologies assessed and programs are designed and prioritized, Concentric takes the position that best available information which is generated after-the-fact should not be used to go back and reconsider and question the choice of the programs chosen.

Specifically, it would not be open for parties, based on newer information or the development of a new or better technology becoming available, to question the decision by a utility to proceed with a program .

27. On page 119 of the Report, Concentric states "... the Board-approved assumptions are updated annually based on the results of the evaluation report. When input assumptions are updated, Concentric believes that it is appropriate to use best available information for purposes of calculating the financial incentive payment." Please clarify that use of best available information and updated assumptions would apply to the calculation of the program results and incentive
 - a.) for the next full program year OR
 - b.) the current year.
28. If (b) above, how does Concentric reconcile its position in respect of the PAC test and best available technology with the position regarding program results and incentives? More specifically, where a program is designed and targets are set on the basis of the best available information at the time, why should the results of that program be challenged by reason of a study or research undertaken after the time that a program is designed and put into operation?
29. If Concentric continues to advocate retroactively changing input assumptions, for the purposes of evaluating the performance of a program, does Concentric agree

- that the same input assumptions used to develop the targets for the program should also be retroactively changed?
30. Is Concentric recommending that the overall incentive be apportioned between programs based on the societal benefits (SCT test)?
 31. If so, how does Concentric propose that the societal benefits of market transformation programs and programs based on a market penetration metric be calculated?
 32. Is Concentric recommending that the Ontario Energy Board use the societal benefits to assign a higher incentive rate to programs that it wishes Gas utilities to accelerate?
 33. If Concentric is recommending that program incentives be apportioned on the basis of societal benefits, how does that reconcile with the recommendation that the utilities prioritize programs based on the PAC test?
 34. How does Concentric propose that value for the 100% incentive level be established?
 35. How does Concentric propose the 100% target level be set for the resource acquisition programs, market transformation programs and research and development programs?
 36. How is Concentric's proposal a simpler and more transparent framework than the current graduated incentive for TRC based programs and scorecard approach for market transformation programs?

Issue #9 LRAM

37. Was Concentric aware of the extent of the decoupling that has already been implemented as a result of EGD's existing incentive regulation ("IR") framework?
38. Does Concentric agree that consideration of DSM decoupling should be deferred until completion of the current IR period (i.e., to the end of 2012)?

Issue #10 Evaluation

39. What is the basis of the recommendation that the Board appoint DSM evaluators and auditors and manage their work? Please describe the issues which this recommendation would address.
40. Which of the following activities/measurements are considered within the proposed utility "evaluation, monitoring and verification" budget of 3-5% of total DSM budget:

**REVIEW OF DEMAND SIDE MANAGEMENT
(DSM) FRAMEWORK FOR NATURAL GAS
DISTRIBUTORS**

Prepared for:

The Ontario Energy Board

March 19, 2010



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Broader issues of concern to stakeholders in addition to the prescriptive assumption values are the timing and process by which input assumptions are updated. The stakeholders favor transparent processes that include opportunities for stakeholders to present comments and participate in a decision-making proceeding. Enbridge feels that the DSM planning process it has used to involve the public during the past decade provides ample opportunities for stakeholders to provide input and advice to the utilities. The utility feels that changes instituted by the Board for the 2010 planning process are clear improvements.

c. Approach in Other Jurisdictions

Method for Establishing Input Assumptions

Input assumptions used to calculate the energy savings associated with a conservation program are generally developed using one of three models. The first option is for the regulatory agency to allow each utility to provide its own input assumptions when filing a proposed conservation plan. In this scenario, the utilities are required to explain how they arrived at these assumptions and to justify their use. As with all aspects of a proposed conservation plan, these inputs must be approved by the regulatory agency. Some of the jurisdictions surveyed have designated a third-party administrator to deliver conservation programs. In such cases, a second option is to allow these third-party administrators to develop the input assumptions with the regulatory agency maintaining oversight authority. The third option entails having the regulator itself develop and distribute a standardized set of input assumptions to be used by all utilities in calculating the energy savings associated with particular conservation programs. All three models for the development of input assumptions regularly involve the assistance of outside consultants and/or contractors. Regulators in six of the jurisdictions reviewed for this report allow utilities to submit their own input assumptions, two have designated a third-party administrator to deliver programs and develop input assumptions, and five employ standardized input assumptions developed by the regulator.

Input assumptions ordinarily provided with DSM plans include the useful life of equipment to be installed, the incremental cost of the new technology, an assumed free-ridership rate, the payback period, and the annual resource savings (i.e., gas, electricity, water) associated with the new technology. Gas savings are typically measured as a comparison between the new device and a generic baseline technology being replaced. For example, the savings associated with a new

condensing boiler are calculated by comparing the forecast fuel consumption for that appliance to the consumption that would be expected for a non-condensing boiler.

How Frequently Are Input Assumptions Updated?

Regardless of which party is responsible for developing the inputs, these assumptions are constantly updated as actual program impacts are evaluated and reported. Ensuring that input assumptions are derived from the best available data is critical for efforts such as measuring program performance against policy goals and, where offered, the calculation of performance incentives. All of the jurisdictions analyzed in our research conduct program evaluations on a regular basis, in part, to provide additional data to continuously refine the input assumptions. The majority of jurisdictions surveyed update their input assumptions on an annual basis, while others, such as Quebec and New Jersey, re-evaluate their input assumptions every few years.

However, updating input assumptions on an annual basis is a costly endeavor, and can add to the financial burden faced by customers. In order to constantly update the input assumptions employed, resource-intensive and expensive program evaluations must be conducted. The need for regular program evaluation must be balanced with maintaining fair and reasonable rates for natural gas customers.

Impact on Financial Incentives to Utilities

In jurisdictions where financial incentives are offered to utilities, the constant re-calculation of input assumptions, and therefore energy savings, leads to earnings uncertainty for utilities. In such jurisdictions, utilities' strategic plans include revenue and earnings projections from conservation program achievements. When the input assumptions which form the basis of these revenue and earnings projections are constantly changing, it becomes difficult for utilities to treat conservation programs as a predictable part of their business. Regardless of the frequency of updating, the input assumptions must be completed in a timely manner to avoid program or earnings disruptions.

Further, if the program evaluation process is highly intensive and rigorous, it can cause significant delays in updating input assumptions and timing difficulties in calculating financial incentive payments. For example, under California's Risk-Reward Incentive Mechanism ("RRIM"), utilities

are entitled to a financial reward based upon the percentage of pre-established conservation goals achieved. Conservation programs are approved for three-year cycles, with utilities submitting interim earnings claims after the first and second years and a final true-up claim after the third program year all based on verified energy savings. For the 2006-2008 program cycle, the interim earnings claims were intended to be submitted and approved based on a Verification Report of the past program year issued each August. The Verification Reports serve to update the Database for Energy Efficiency Resources (DEER), which is California's central database of input assumptions used to calculate energy savings based on actual program impacts. Due to the rigorous nature of these program evaluations and the aggressive timeframe in which they were to be completed, the Energy Division was delayed in completing the 2006-2007 Verification Report. Instead of being issued in August 2007, the 2006-2007 Report was not released until February 2008. Consequently, natural gas utilities were unable to submit their interim earnings claims and could not realize the RRIM in 2007 as expected. Although this is an isolated example, it demonstrates the potential risks involved with updating input assumptions.

d. Recommendations

The development of input assumptions is a complicated and highly technical process based on engineering assumptions for each specific technology. Concentric endorses the Board's current approach of developing a common set of input assumptions with the assistance of an independent consultant. However, if the gas distributors wish to deviate from these input assumptions, we believe that they should be allowed to file information that would support their assumptions. The input assumptions that were recently developed by Navigant Consulting reflect significant input from stakeholders. As the OEB continues to gain more experience with DSM programs, we would anticipate that material changes to input assumptions would occur less frequently. Therefore, concerns about the cost of maintaining such information should be mitigated to some extent. However, as new energy efficiency technologies are developed, it will be necessary to continuously develop new input assumptions for those particular DSM measures.

There is considerable debate concerning whether input assumptions should be locked in during the program cycle or updated to reflect the best available information. From Concentric's perspective, the Board should continue to update input assumptions to reflect the best available information based on the Evaluation Reports. This practice is consistent with the approach taken by the

majority of other jurisdictions in our research survey. The advantage of this approach is that the Board will be better able to measure programs success against policy objectives when input assumptions are updated frequently. Another advantage is that the Board will be relying on the best available information for purposes of determining the lost revenue adjustment mechanism and the financial incentive for the utility.

The primary disadvantage to frequent updates of input assumptions is cost. However, since the OEB has significant experience with DSM programs, Concentric would anticipate that the majority of changes to input assumptions would be refinements rather than major overhauls. Therefore, we would not expect the cost of frequent updates to be as significant in Ontario as it might be for a less mature DSM framework. Further, the information gathered from the annual Evaluation Reports should be very useful in making minor revisions to input assumptions based on empirical evidence, especially on issues such as free ridership.

**REVIEW OF DEMAND SIDE MANAGEMENT
(DSM) FRAMEWORK FOR NATURAL GAS
DISTRIBUTORS**

RESPONSE TO STAKEHOLDERS' WRITTEN QUESTIONS

Prepared for:

The Ontario Energy Board

May 20, 2010



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Issue #2: Avoided Costs

Question 47 – (EP Question 1)

Pp. 51-55 and passim: In your estimates of the values of greenhouse gas emissions in dollars per ton – those used in other jurisdictions and those recommended for Ontario – please clarify whether the values are stated in dollars per ton of carbon dioxide emitted, or per ton of carbon emitted as carbon dioxide.

We have not checked with each jurisdiction, but we believe these are expressed in dollars per ton of carbon emitted (or equivalent), which is the more common measure.

Question 48 – (EP Question 2)

Is Concentric aware of any jurisdictions that consider the climate-forcing impact of avoided (or increased) fugitive emissions of methane as a result of DSM programs? Do the authors recommend such consideration for Ontario?

In the course of our research, Concentric did not focus its attention on this issue. GHG emissions were considered in our research to the extent that other jurisdictions have attempted to account for environmental and societal externalities in applying the cost effectiveness tests. Concentric has recommended that the Board may wish to consider quantifying the value of carbon emissions for purposes of determining whether a DSM program is cost effective. As data on additional impacts become available (such as fugitive emissions), it would be appropriate to consider inclusion in the SCT determination.

Question 49 – (GEC Question 3)

Concentric's discussion of avoided costs did not mention what is sometimes referred to as Demand Reduction Induced Price Effects (DRIPE), or the impact that substantial levels of gas savings could potentially have on market clearing prices for commodity. Why not? Is this simply a conservatism?

As indicated on page 53 of the Report, Concentric has endorsed the Board's current approach for updating gas commodity costs. Our understanding is that gas commodity costs are assessed using standard forecasts, relating prices to the NYMEX price at Henry Hub and other points, and applying seasonal adjustments and load shape factors. This is consistent with the practice in other jurisdictions that were included in our research sample. To the extent that reductions in gas consumption reduce the market clearing price for the commodity, Concentric expects that change would ultimately be reflected in current and projected market gas prices, and therefore captured in the Board's current approach.

Question 50 – (SEC Question 13)

The Report discusses, at pages 53 – 55, the possibilities of reducing the discount rate, or using the avoided costs of renewable electricity options. It also refers to “extending the effective useful life of certain DSM measures...”, but does not explain that suggestion. Please expand on what is meant in that sentence on page 53.

The concept of “extending the effective useful life of certain DSM measures” refers to the determination of whether the benefits from installing an energy efficiency measure are expected to continue beyond the standard useful life of that measure. For example, energy efficient windows are frequently cited as a measure that provides longer-term benefits than what is allowed in standard useful life calculations.

Issue #3 – Input Assumptions and Parameters

Question 51 – (EGDI Question 8)

What process does Concentric propose for approving assumptions for new measures during the multi-year plan period?

Concentric's Report did not specifically address this issue other than to note on page 61 that it will be necessary for the Board to continuously develop new input assumptions for new energy efficiency technologies. The Board may determine that it is necessary to retain an independent consultant to assist in developing a common set of input assumptions for these new measures, or the Board may determine that it is possible to establish input assumptions based on its knowledge and experience with similar DSM technologies and the input of the distributors. In either event, Concentric anticipate that interested stakeholders would be allowed to provide evidence and participate in the process.

Question 52 – (EGDI Question 9)

In respect of approved measure assumptions, please clarify if approved measure assumptions would be “locked in” at the beginning of the program year for the entirety of a program year for the purposes of calculating program results and incentives.

As indicated on page 61 of the Report, Concentric recommends that the Board continue to update input assumptions to reflect the best available information based on the Evaluation Reports. Page 119 of the Report notes that the Board-approved input assumptions are updated annually based on the Evaluation Report. The following sentence states: “When input assumptions are updated, Concentric believes that it is appropriate to use best available information for purposes of calculating the financial incentive payment.” Concentric clarifies that our intention was that DSM input assumptions will be updated for the current and subsequent program years as a result of the annual Evaluation Reports for purposes of SSM. They would not, however, be adjusted retrospectively for the prior program year that the Evaluation Report covered. Should the Board determine that LRAM (vs. decoupling) should be retained, then the Evaluation Report would apply to the program year covered by the Evaluation Report. The reason for this distinction is that we understand LRAM to be a true-up mechanism for lost revenues due to the implemented DSM measures, and therefore a retrospective approach is appropriate. The SSM mechanism is designed to incent the utility for deploying DSM measures that meet targets set in advance with the full input of the utility, stakeholders, the Board, and its independent consultant. There is ample opportunity to vet these assumptions in advance, with the benefit of providing greater certainty for program planning and implementation. Further, with the adoption of BAT as a primary metric for setting targets, this should alleviate some of the concerns regarding measurement of TRC savings. Lastly, we would expect that the evaluation reports will be used to adjust input assumptions on a going forward basis, so any gaps should narrow over time. We understand that input assumptions are primarily technology related, while adjustment factors are more attributable to program design and consumer behavior (and therefore more subject to change). To the extent that the Board sees a persistent gap between projected program results and those verified through the Evaluation Reports, it may wish to reconsider the trade-off between the planning certainty that our recommendation embraces, and the ability to verify benefits commensurate with the incentives awarded.

In short, we recommend a continuation of the approach taken in the 2006 DSM Framework with regards to certainty of assumptions for LRAM and SSM calculations (EB-2006-0021, Decision with Reasons, August 25, 2006, pp 10-11, Issue 3.3).

Question 53 – (EGDI Question 10)

Please clarify if avoided costs would be “locked in” at the beginning of the program year for the entirety of a program year for the purposes of calculating program results and incentives.

As indicated on page 53 of the Report, Concentric endorses the Board’s current. Also, please see response to EGDI Question 9 (Question 52) above.

Question 54 – (EGDI Question 11)

Please confirm that Concentric is recommending that every program will need to have input assumptions (energy savings, incremental costs, free ridership, etc.) measured and established for the purposes of SCT and PAC screening, in addition to market penetration data for those programs that will be evaluated on that basis.

Concentric confirms EGDI’s understanding of this recommendation.

Question 55 – (SEC Question 14)

Please confirm that Concentric’s proposal on page 61 to allow gas distributors to propose different input assumptions would be symmetrical, i.e. either distributors or intervenors could propose different input assumptions to the Board and provide evidence in support.

Concentric confirms that this proposal is intended to be symmetrical.

Question 56 – (Union Question 5)

Please clarify which of the approaches below Concentric recommends for the use of best available input assumptions, including avoided costs, and outline the rationale for the approach recommended.

- a. would be based on best available data approved for SCT, PAC, the target(s) and performance measurement prior to the program year and would not be changed retroactively within that year. Any changes based on Evaluation Reports and new information would be applied to the next full program year within the term of the DSM framework;
- b. Input assumptions would be based on best available data for SCT, PAC, the target(s) and performance measurement at the end of the program year and would all be changed retroactively at the end of that year;
- c. Outline approach if not captured by a) or b).

Please see response to VECC Question 2.D (Question 45) and EGDI Question 9 (Question 52), and EGDI Question 10 (Question 53).

Question 57 – (Union Question 6)

Question 142 – (CCC Question 18)

p. 118 - The paper states that Concentric recommends that the financial incentive mechanism be primarily tied to the success of the gas distributor in achieving predetermined market penetration levels for each DSM technology. How, specifically, should that incentive be designed? From Concentric's perspective how should the Board determine what levels of financial incentives is appropriate? How would this work for custom programs?

Concentric's Report did not offer specific recommendations regarding the design of the shareholder incentive mechanism. Rather, the Report provided relevant factors to be considered in the determination of the financial incentive calculation. For example, on page 118 of the Report, Concentric recommends that the financial incentive mechanism be primarily tied to the success of the gas distributor in achieving pre-determined market penetration levels for each DSM technology. Further, Concentric recommends that the Board set metrics and targets for gas distributors so that they are incented to pursue DSM measures that provide deep energy savings. Additionally, Concentric recommends that the Board develop an incentive formula that considers the magnitude by which the gas distributor exceeds certain metrics or targets, including market penetration, reduction in gas consumption, and/or contributions toward reductions in carbon emissions.

Concentric's Report has not made any recommendations concerning how the Board should determine what levels of financial incentives are appropriate. As noted on page 118 of the Report, the NRRI has observed that utilities need adequate financial incentives so that they will design DSM programs that encourage customer participation. Table 25 provides a small sample of financial incentive payments for selected U.S. gas distributors. However, as noted on page 115 of the Report, there is very limited information concerning the financial incentives earned by gas distributors in the jurisdictions covered by our research.

Question 143 – (EGDI Question 27)

Concentric advised at the Stakeholder Conference that it does not support the use of updated best available information in a backwards or retroactive manner in respect of the program administrator costs ("PAC") test or selection of best available technology. That is, if the best available information was used by a utility at the time that the PAC is undertaken, technologies assessed and programs are designed and prioritized, Concentric takes the position that best available information which is generated after-the-fact should not be used to go back and reconsider and question the choice of the programs chosen.

Specifically, it would not be open for parties, based on newer information or the development of a new or better technology becoming available, to question the decision by a utility to proceed with a program .

On page 119 of the Report, Concentric states "... the Board-approved assumptions are updated annually based on the results of the evaluation report. When input assumptions are updated, Concentric believes that it is appropriate to use best available information for purposes of calculating the financial incentive payment." Please clarify that use of best available information and updated assumptions would apply to the calculation of the program results and incentive

a. for the next full program year OR

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b. the current year.

Concentric recommends that the use of best available information and updated input assumptions would apply to the calculation of the program results and incentives for the next full program year, with the exception of LRAM. Please see the response to EGDI Question 9 (Question 52).

Question 144 – (EGDI Question 28)

If (b) above, how does Concentric reconcile its position in respect of the PAC test and best available technology with the position regarding program results and incentives? More specifically, where a program is designed and targets are set on the basis of the best available information at the time, why should the results of that program be challenged by reason of a study or research undertaken after the time that a program is designed and put into operation?

N/A

Question 145 – (EGDI Question 29)

If Concentric continues to advocate retroactively changing input assumptions, for the purposes of evaluating the performance of a program, does Concentric agree that the same input assumptions used to develop the targets for the program should also be retroactively changed?

N/A

Question 146 – (EGDI Question 30)

Is Concentric recommending that the overall incentive be apportioned between programs based on the societal benefits (SCT test)?

Concentric did not explicitly recommend a formula for incentive apportionment.

Question 147 – (EGDI Question 31)

If so, how does Concentric propose that the societal benefits of market transformation programs and programs based on a market penetration metric be calculated?

The estimated societal benefits for each program should be estimated as part of the input assumptions developed at the outset of each DSM program cycle, with the aid of an independent consultant, and updated, as necessary, with the annual evaluation reports.

Question 148 – (EGDI Question 32)

Is Concentric recommending that the Ontario Energy Board use the societal benefits to assign a higher incentive rate to programs that it wishes Gas utilities to accelerate?

No. As noted in response to EGDI Question 30 (Question 146), Concentric did not explicitly recommend a formula for incentive apportionment. We believe the Board should use its discretion

Before the Ontario Energy Board

EB-2006-0021

**An Effective Policy Framework
for Gas DSM in Ontario**

Prepared by:

**Chris Neme & Glenn Reed
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For:

**The Green Energy Coalition
David Suzuki Foundation
EnerAct
Greenpeace Canada
Sierra Club of Canada**

June 2, 2006

“...it seems unlikely that this [procurement] program is creating any new savings.” (p. 12)

A similar problem occurred in the context of Enbridge’s TAPs programs, where its service delivery contractors were initially only installing efficient showerheads to homes in which bag-tests demonstrated that the old showerheads were inefficient. Enbridge later stopped the testing but continued to claim the same savings and free rider rates until challenged by GEC.

3.3 What certainty is required that the assumptions are set for the duration of the DSM plan?

Answer

There is value in “locking in” assumptions – at least for a year at a time – on variables that the utility cannot affect without changing program designs, but only for the purpose of determining whether or not the utilities have met TRC performance targets and for calculating shareholder incentives. Even then, if the utility changes its program designs in a way that could affect what would otherwise be prescriptive assumptions, best available information should be used to compute the TRC net benefits that will be used to determine whether performance targets have been met and the magnitude of shareholder incentives to which the utility may be entitled. This is consistent with current shareholder incentive rules for both EGDI and Union (sometimes referred to as the 2003 rules). Computations of LRAM adjustments should *always* be based on the best available information, irrespective of previous assumptions.

Rationale

The principal purpose of a shareholder incentive mechanism is to encourage a DSM provider to excel in the delivery of DSM services. To that end, the utility should be held accountable only for variables over which it has direct control. That is why it is reasonable to lock in, for example, assumptions regarding per unit savings for programs promoted to mass markets. It is also why it is not reasonable to lock in assumptions for custom measures promoted to individual (usually large) customers. Finally, it is why it is reasonable to change assumptions used to compute program results (but not the performance targets) if the utility has changed its programs in a way that can be anticipated to generate different levels of savings, costs, free ridership, etc.

That said, it may be problematic to “lock in” prescriptive assumptions for a full three-year term, even for just determining eligibility for shareholder incentives, because our understanding of savings that DSM measures and programs generate can change both significantly and fairly quickly. It is important that the DSM rules encourage utilities to make appropriate mid-course modifications rather than continuing with old strategies simply because they can earn shareholder incentives. For example, if an evaluation that becomes available six months into a three-year period suggests that the free rider rate for an important program is 90% rather than the 30% that was previously assumed, we

should want the utility to shift spending away from that program and into more productive programs. To not encourage them to do so would be a major disservice to rate-payers – both because they would pay for a program that did not generate much savings and because they would potentially be rewarding the utility for good performance on a program that did not generate much benefits. Thus, there should be a mechanism for annually adjusting prescriptive assumptions. The Evaluation and Audit Committee(s) are the ideal mechanism for reviewing and recommending such changes. Any changes recommended by the Committee(s) should be applied on a forward-going basis (i.e. from the next annual anniversary date of the plan) so that the utility which has relied on the previous assumption is not penalized for past actions.

LRAM is different. Its purpose is to ensure that (1) the utility does not lose revenue as a result of achieving greater DSM savings than anticipated, or (2) ratepayers do not pay more in rates than necessary because their utility over-forecast DSM impacts. To that end, there is no reason to use “locked in” assumptions for LRAM account clearances. If the plan assumed greater savings than actually occurred, using locked in assumptions would pay the utility for revenue it did not lose. Conversely, if the plan assumed lower savings than actually occurred, using locked in assumptions would under-compensate the utility for lost revenues. The utilities have argued that these two effects will cancel each other out over time. However, empirical data from gas DSM in Ontario demonstrates that such a presumption is wishful thinking, at best. For the three years Union has had an audit of its DSM savings, post-audit savings estimates have been lower than pre-audit estimates every year. Over the three years, post-audit values are 82% of pre-audit estimates. Similarly, over the last two years of Enbridge’s audited results, actual savings have been 88% of pre-audit estimates. In addition, the presumption that planning estimates will be an equal mix of under-estimate and over-estimates of actual savings ignores the reality that if assumptions are locked in for LRAM the utilities will have an added incentive to err on the high side in their planning estimates. While GEC and others may be able to identify and convince the Board to fix a number of those errors, the effects of such an approach would be the opposite of the stream-lining of the regulatory process that the utilities have argued is so important. Moreover, placing the burden of proof on intervenors would be particularly problematic under the utilities’ proposals in which they alone decide what evaluation work to do, who to share the results with and when to do so.

3.4 What is the mechanism to determine if an input assumption needs to be reviewed or researched?

Answer

The mandate of existing Audit Committees should be expanded so that they become Evaluation and Audit Committees with ongoing (rather than just once a year – at audit time) responsibility for assessing the reasonableness of DSM assumptions that the companies propose. To that end, they should be responsible for prioritizing and managing evaluations of independent evaluation contractors, as well as managing and the annual audit. Three percent of the utilities’ DSM budgets should be set aside for these purposes. As part of the process of determining which DSM assumptions should be