ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an application by Enbridge Gas Inc. for a determination that its Integrated Resource Planning Proposal is reasonable and appropriate.

EB-2020-0091

CROSS-EXAMINATION COMPENDIUM

ANWAATIN INC.

February 28, 2021

EB-2020-0091
Oral Hearing

Anwaatin Inc.
Cross-Examination Compendium
February 28, 2021

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ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To describe the exact nature of the leave to not construct, the non-pipeline alternative to be sought and the legislative authority.

Response:

In its response at Exhibit I.STAFF.10, Enbridge Gas provides a general explanation of the nature of future IRPA applications (referred to by Anwaatin as leave to not construct applications). The Company also clarifies in that same response, that it is seeking to obtain similar approvals or assurances under similar thresholds and parameters for investments in IRPAs as the OEB Act affords utilities through applications for leave to construct facilities. Enbridge Gas has indicated that it believes that the Board can approve investments made to avoid facilities additions under section 36 of the OEB Act. To the extent that other parties or the Board do not share that view. Enbridge Gas is asking the Board to provide guidance regarding its legislative authority as it relates to the filing, review and approval of the proposed IRPA applications.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit A, Tab 13 / p. 15 of 24; Exhibit B / p. 17, 36 of 46

Preamble:

Enbridge Gas notes that "once it is determined that an IRP/IRPA is preferable to an identified facility expansion/reinforcement project, Enbridge Gas will apply to the OEB for approval to recover the costs associated with that IRPA. This may be done in a rate application or as a separate stand-alone application." Enbridge Gas also indicates that it would seek OEB approval to adjust investments in such IRPAs as appropriate (e.g., to shift funding to an alternate IRPA or to increase/decrease/cease investment in IRPAs accordingly).

Question:

a) Pipeline projects meeting certain criteria require a facilities approval (Leave to Construct) under section 90 of the *OEB Act*. The Leave to Construct review includes consideration of need and alternatives. Leave to Construct approval also provides some level of assurance to Enbridge Gas that it will likely be eligible to recover prudently incurred costs associated with the project.
    a. Does Enbridge Gas propose that a similar process and a new form of OEB review and project approval be established for IRP Plans, in advance of seeking approval to recover costs through rate applications?
    b. If so, does Enbridge Gas propose that this approval would be required for all IRP Plans, or only in certain circumstances?
    c. If the latter, does Enbridge Gas have any proposals regarding what criteria would be used to determine if an IRP Plan approval would be required(e.g. cost threshold)?
b) Enbridge Gas indicates that it would also seek OEB approval to adjust investments in IRPAs as appropriate. Does Enbridge Gas propose that this approval would be sought for any adjustment to an approved IRP Plan, or would certain thresholds apply (regarding changes to level of spending, changes to IRPA technology or

implementation approach, etc.)? If the latter, please provide any views Enbridge Gas has as to what considerations might apply.

c) The OEB currently approves recovery of capital costs for facilities projects through rate applications, in particular, in a rebasing application or in a price cap incentive regulation application through an Incremental Capital Module to recover funding for significant capital investments for discrete projects during the period of incentive regulation between rebasing applications. Does Enbridge Gas believe that any adjustments to this approach would be needed to address rate approvals (s. 36 of the *OEB Act*) for recovery of costs for IRPAs (outside of Enbridge Gas's proposal to treat IRPA costs as capital, discussed under issue7)? If so, please describe.

Response

a) Enbridge Gas is seeking to establish similar assurances under similar thresholds and parameters for investments in natural gas IRPA(s) as the *Ontario Energy Board Act, 1998* (the "Act"), (Section 90 and 91) affords natural gas utilities through applications for leave-to-construct facilities (LTC), assuming associated costs of investment in IRPA(s) have been incurred prudently.

a. - c.
Yes, as set out in its Additional Evidence at page 32, Enbridge Gas expects that a similar process to that established by the Board for applications for LTC facilities should be established for IRPA applications:

> "Enbridge Gas will apply to the OEB for approval to recover the costs associated with investment in any IRPA. Enbridge Gas presumes that such an application would, similar to applications for LTC facility alternatives, include an explanation of the system constraint/need, a summary of stakeholder engagement input, rationale for investment in the IRPA, the estimated individual and overall costs of investment, proposed cost allocation and recovery methodologies, proposed ownership and operationalization arrangements and a commitment to ongoing annual monitoring and reporting on the relative effectiveness of the IRPA to relieve the identified constraint."

As part of this process, the Board could establish a threshold for IRPA applications that leverages Enbridge Gas's IRP Proposal which includes identification of a preferred facility alternative to IRPA(s) for the purposes of testing cost-effectiveness and as a risk mitigation strategy in instances where IRPA(s) are underperforming relative to forecast (in certain instances triggering an application for LTC facilities). In other words, for any IRPA(s) where their directly comparable facility alternative would

trigger a requirement under Section 90 of the Act for Enbridge Gas to apply for LTC, an IRPA application should be made to the Board. Further, consistent with Section 91 of the Act, Enbridge Gas may also submit an IRPA application to the Board in instances where Section 90 of the Act does not apply, if it so chooses.

Where the identified system constraint and/or customer need underlying an IRPA investment would not trigger Section 90 of the Act and Enbridge Gas determines it is not necessary or appropriate to file an IRPA application under Section 91 of the Act, then Enbridge Gas expects that such investments would be subject to review by the Board and parties at such time that the Company applies to recover their costs from ratepayers.

In all instances, IRPA investments would be reflected in Enbridge Gas's AMP and Enbridge Gas would apply separately to the Board for cost recovery and rate changes resulting from OEB-approved IRPA investments.

b) Enbridge Gas proposes that the Board establish a threshold for adjustments to IRPA investments of 25% or greater of total OEB-approved costs of each IRPA investment in order to ensure that the Company and the Board are not overly burdened by the need to prepare and consider countless applications for adjustments to such investments in the future. This approach strikes a reasonable balance between maintaining regulatory efficiency and providing sufficient oversight of IRPA investments consistent with Enbridge Gas's Additional Evidence at page 32, where it stated:

> "To provide some certainty of the effectiveness of IRPAs as early as possible, Enbridge Gas will build off its existing evaluation, measurement and verification ("EM&V") expertise to determine how the IRPA or IRPA portfolio is progressing in relation to targets. Enbridge Gas will identify and, where possible, resolve unanticipated operational challenges or flaws in the design or delivery of IRPAs that could impede its ability to reliably serve the needs of customers. If no such resolution is reasonably possible, then Enbridge Gas will evaluate the potential of new/incremental/replacement IRPAs and may consider ceasing investment in existing IRPAs that are not achieving the peak period demand reductions originally forecast."

c) No, consistent with the response at part a) above, Enbridge Gas proposes to seek cost recovery for OEB-approved IRPA(s) investments under Section 36 of the Act in a similar manner to cost recovery of facility alternatives during an incentive period and through rate rebasing.

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To advise whether IRPA's are in scope within a rebasing proceeding.

Response:

To the extent that Enbridge Gas's future rebasing proceedings include a forecast of capital projects in the form of an updated Asset Management Plan, the Company expects that any identified system constraints and related IRPAs or facility alternatives discussed in the AMP to resolve those constraints over the next IRM-period would be within the scope of what may be considered relevant in that proceeding. The degree to which future capital spending plans are relevant would depend on the form of ratemaking model being considered.

Enbridge Gas does caution, however, that review of future IRPA plans in any rebasing review should be limited in scope, taking into account that Enbridge Gas has committed to conduct an annual Stakeholder Day to discuss and receive feedback on them and that the Company intends to apply separately for specific approval to invest in either facility or non-facility (IRPA) projects.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit B / pp. 12-17, 29 of 46

Preamble:

Enbridge Gas provides an Illustrative Process Plan that appears to be scoped to its infrastructure planning responsibilities. However, on p. 29, Enbridge Gas notes that it will consider long-term natural gas supply IRPAs if they meet the Gas Supply Guiding Principles as outlined in Enbridge Gas's 5 Year Gas Supply Plan.

Question:

a) Please clarify whether Enbridge Gas's IRP proposal (and Illustrative Process Plan) is intended to encompass consideration of IRPAs in the planning processes for both infrastructure needs (currently addressed largely through the Asset Management Plan) and gas supply needs (currently addressed largely through the 5 Year Gas Supply Plan), or only infrastructure needs (i.e. any consideration of natural gas supply IRPAs by Enbridge Gas would initially be done in the context of the IRPA's potential ability to meet an infrastructure need).Please provide the rationale behind Enbridge Gas's proposed approach.

b) Please describe the key linkages between the infrastructure planning process and the gas supply planning process, with an emphasis on any considerations relevant to the role of IRPAs. For example, if an IRPA was under consideration to address an infrastructure planning need, could and would Enbridge Gas take into account as part of its evaluation the impact (if any) of this IRPA on its gas supply needs and costs?

Response

a) & b)

Enbridge Gas intends for the IRP Proposal to consider IRPA(s), including supply-side alternatives, in order to resolve identified system constraints. Enbridge Gas is not, however, planning to apply its IRP Proposal to evaluate options for incremental gas supply requirements.

The Asset Management Plan considers long-term forecasts for customer demand at a granular, geographically specific level. This level of detail is then used to formulate potential future projects to address identified system constraints. Once a constraint is identified, IRPAs would then be evaluated alongside facility alternatives. IRPAs could include supply-side alternatives, but these would be evaluated as part of the IRPA evaluation and are not associated with the Gas Supply Plan itself as the IRPAs would be addressing a very specific local transmission or distribution need.

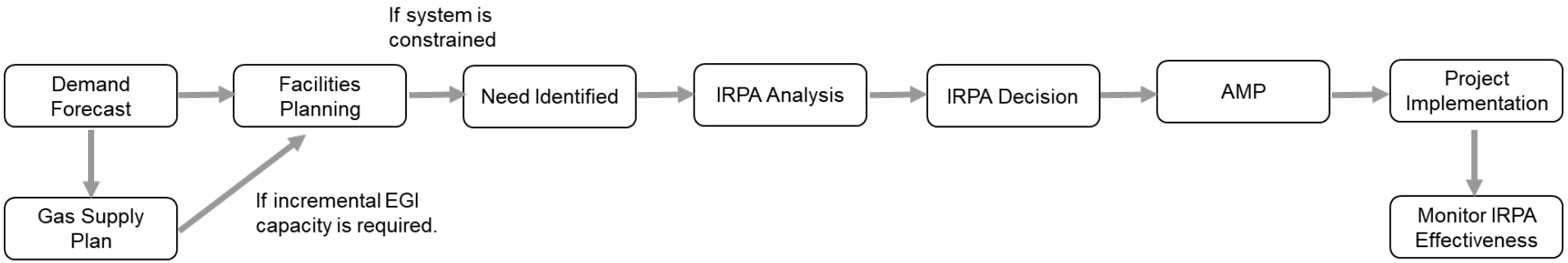
Whereas the Asset Management Plan and the development of specific IRPA(s) or facility alternatives are done at a local facility level, Enbridge Gas's Gas Supply Plan is created at the Delivery Area level (Union South, Union North DDAs, and the Enbridge CDA and EDA) based on forecasted peak day demands for each Delivery Area. The Gas Supply Plan does not look at specific local facilities, and therefore IRPAs would not be developed out of the Gas Supply Plan itself.

Enbridge Gas's Gas Supply Plan considers existing facility capabilities as an input, thus the impact of any IRPAs would be reflected in the Gas Supply Plan. As an example, if an IRPA required firm upstream transportation to deliver gas supply to a specific Delivery Area, this requirement would become an input into the Gas Supply Plan.

Enbridge Gas is in the process of integrating EGD and Union processes and will be developing new processes and procedures as an output of the integration exercise (please see the response at Exhibit I.OSEA.1 c)).

Please see Figure 1 below for a visual representation of the integration of IRP with system planning and gas supply planning processes. As outlined above, the Gas Supply Planning process is upstream of the Asset Management Plan and any IRPA analysis that is performed.

Figure 1


If system is constrained
Demand Forecast
Facilities Planning
Need Identified
IRPA Analysis
IRPA Decision
AMP
Project Implementation
Gas Supply Plan
If incremental EGI capacity is required.
Monitor IRPA Effectiveness

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To advise as to whether any changes need to be made to paragraph 74 of Exhibit B to reflect what's set out in IR STAFF 22; to clarify as necessary.

Response:

No changes are required to Exhibit B, paragraph 74 as it is consistent with the information provided in the response at Exhibit I.STAFF.22.

The response at Exhibit I.STAFF.22 discusses Enbridge Gas's proposed treatment of three categories of IRP costs: (i) Incremental IRP Administrative Costs to be treated as an O&M cost; (ii) IRPA Project Costs to be capitalized to rate base; and (iii) Ongoing IRP Operating and Maintenance Costs to be treated as an O&M cost.

Pre-filed evidence Exhibit B, paragraph 74 proposes that IRPA Project Costs be treated in the same manner as the costs for facility expansion/reinforcement projects they defer, avoid or reduce and capitalized to rate base. This treatment is consistent with the second category of IRP costs, IRPA Project Costs, in Exhibit I.STAFF.22.

Enbridge Gas expects that the treatment of costs may evolve over time as experience is gained and that future IRPA applications to the Board will contain more specific details regarding the IRPA-specific cost recovery proposed or incentive/reward sought.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit B / pp. 32-34

Preamble:

Enbridge Gas proposes that the costs associated with an IRPA be included in its revenue requirement, and capitalized to rate base.

Question:

a) Does Enbridge Gas propose that IRP planning costs incurred prior to OEB approval of an IRP Plan would also be eligible for capitalization to rate base?
b) If so, would this treatment apply only to project-specific costs for the specific IRPA(s) approved in an IRP Plan?
c) Is Enbridge Gas proposing that IRP Plan costs would be eligible for cost recovery once the IRP Plan was "in-service", similar to the treatment for facility projects? Please describe any special considerations that might apply regarding the determination of an "in-service" date for IRPAs.
d) Does Enbridge Gas have any views as to how cost recovery for general investments to better enable Enbridge Gas to consider and implement IRP across its system (e.g. piloting of different IRPA technologies, improvements to system planning procedures, investments in AMI) should be treated?
e) Does Enbridge Gas have any views as to whether IRP raises any issues regarding the allocation of IRP costs to rate classes that need to be identified and addressed on a general basis within the IRP Framework?

Response

a) & b)
There are several categories of cost related to the implementation of IRPAs including the incremental administrative costs, the IRPA project costs and ongoing

operating and maintenance costs associated with the IRPA and the treatment of IRP planning costs incurred prior to OEB approval, as O&M or capital, will be consistent with accounting policy. These cost categories are also addressed through the Additional Evidence filed as Appendix B on page 36 where it states:

> "Enbridge Gas has also proposed to report annually on the actual annual and cumulative effects of OEB-approved IRPAs relative to associated peak period demand reductions originally forecast (via an IRP report) and to seek OEB approval to adjust investments in such IRPAs as appropriate (e.g., to shift funding to an alternate IRPA or to increase/decrease/cease investment in IRPAs accordingly). Enbridge Gas expects that any and all of the prudently incurred: (i) original costs to invest in OEB-approved IRPAs; (ii) costs associated with OEB-approved adjustments to IRPA investments; and (iii) costs of any subsequent OEB-approved LTC project (in the instance that an IRPA is determined to have been insufficiently effective), would be borne entirely by ratepayers subject to the Board's determination that in the course of incurring such costs Enbridge Gas acted prudently and responsibly in serving the firm needs of its ratepayers."

The cost categories are independent of whether the IRPA solution is proposed to be owned and operated by Enbridge Gas, or if it is completed through a market solicitation. Enbridge Gas expects the IRPA cost categories will include:

Incremental IRP Administrative Costs

IRP administrative costs include the additional staff and resources required to meet the increased workload related to IRP. Enbridge Gas proposes incremental IRP administrative costs be included in the O&M costs of the Company's revenue requirement. Please see the discussion of incremental IRP administrative costs at Exhibit I.APPrO.6.

IRPA Project Costs

IRPA project costs include the planning, implementing, administering, measuring and verifying the effectiveness of specific investments in IRPAs. Similar to traditional infrastructure projects, Enbridge Gas proposes that the IRPA project-related costs be capitalized to rate base

Ongoing Operating and Maintenance Costs

Ongoing operating and maintenance costs include the regular costs incurred to operate and maintain a specific IRPA investment after the project is in-service. Similar to traditional infrastructure projects, Enbridge Gas proposes that the O&M costs related to the ongoing operating maintenance of an IRPA be included in Enbridge Gas's O&M costs of the Company's revenue requirement.

c) Yes, Enbridge Gas expects that the IRPA costs would be eligible for cost recovery once the IRPA project is in-service. Enbridge Gas will seek approval of IRPA(s)-specific spending, including the manner and timing of cost recovery, through a separate approval from the OEB, as appropriate.

d) Enbridge Gas proposes that a deferral account be established for the incremental IRP costs not included in base rates. This deferral account is discussed in the response at Exhibit I.APPrO.6.

e) Enbridge Gas is seeking guidance from the Board on the issue of cross-subsidization between rate classes and the allocation of IRPA costs to rate classes, should the Board seek to include costs beyond the DCF analysis proposed (E.B.O. 134 stage 1 assessment e.g. commodity costs, etc.). Currently, broad-based DSM programs are accessible to all customers, with DSM costs allocated to the rate classes where the savings are achieved. This minimizes cross-subsidization between rate classes and between participants and non-participants under a maximum acceptable level; in the residential sector this is currently $2/month. The implementation of geo-targeted DSM (ETEE) for instance means that not all customers can participate in a geo-targeted program as they are not in the affected area, however as an IRPA, those costs will be allocated to all ratepayers, without having the benefit of participation. As such, either the full societal cost is less than the cost of the comparable facility alternative, only an economic assessment is undertaken, or the Board provides a maximum bill impact for all customers.

ENBRIDGE GAS INC.

Undertaking Response to GEC

To provide what additional information would be provided in the AMP specifically if an IRP is chosen, and what specific information will now be shown in future AMPs where you've not selected an IRP and you have gone for a facility.

Response:

Enbridge Gas will provide in successive versions of the AMP, evidence on where each identified need is in the planning process. A conceptual example of that information is shown Table 1 below.

Table 1

	IRP Binary Screening Completed? *(Yes, No)*	**IRP Stage 1 – IRPA Assessment Completed?** *(Yes, No, n/a)*	**IRP Stage 2 - Economic Analysis Completed? Results?** *(Yes, No, n/a)*	**Contains IRPA(s)?** *(Yes, No, Description of IRPA(s))*
Project 1				
Project 2				
…				
Project n				

Enbridge Gas is proposing that Table 1 that will feature in the AMP, will show all projects and whether they have been screened in or out. Further, where a project has an IRPA solution (or portfolio of IRPAs) an Investment Summary Report will be completed and included in the AMP. Where a project or need is screened out, Enbridge Gas notes that it will be done either on the basis of an objective binary screening criteria established by the Board as part of the IRP Framework, or on the basis of some insight regarding the Company's obligation to safely and reliably meet the needs of its customers. Enbridge Gas notes that the AMP continuously evolves and so the there are many opportunities for changes over time.

ENBRIDGE GAS INC.

Undertaking Response to FRPO

To provide Enbridge's position on what capital cost treatment or capital cost treatment would be applied to supply side IRPA's that delay infrastructure projects, on the simple basis of a 10-million-dollar revenue requirement IRPA or a 20-million-dollar revenue requirement capital cost.

Response:

The cost recovery sought would be the IRPA cost. In the scenario outlined above, the $10 million revenue requirement for the IRPA would be capitalized.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

INTERROGATORY

Preamble:

Based on the process described in the EB 2019-0159 materials, it appears that EGI's current system design and planning process calls for the identification, screening, assessment, and presentation of alternatives considered in relation to a proposal to have the OEB approve the construction of incremental pipeline facilities.

At Exhibit B page 13, EGD is proposing an IRP process that takes into account its existing planning and forecasting processes.

Question:

What costing and assessment criteria are currently applied to compare an alternative that uses existing utility and interconnected infrastructure in a way that defers a facility addition by a period of 3 years or more?

Response

As set out in the response at Exhibit I.FRPO.1, Enbridge Gas's withdrawn 2021 Dawn Parkway Expansion Project application and evidence, including alternatives assessed, is not currently before the Board in this proceeding.

Please see the response at Exhibit.I.FRPO.16 for a description of Enbridge Gas's current approach to evaluation of economic feasibility.

Enbridge Gas assumes that FRPO is referring to supply-side or market-based alternatives for the purposes of providing this response. Enbridge Gas has historically and currently evaluates commercial alternatives where such services carry a minimum term renewal right so that, subject to non-renewal, the Company can ensure that it has sufficient time to re-evaluate both facility and non-facility alternatives. In the case that a facility alternative is preferred, based on Enbridge Gas's current estimates of scheduling, the Company would require a minimum term of approximately 4 years to design, plan, seek OEB approval for and to construct.

Non-facility supply-side or market-based alternatives are compared against other alternatives (both facility and non-facility) in terms of cost, type and terms of service, reliability, term and renewal rights, and counterparty credit status.

Please also see the responses at Exhibit I.STAFF.4 d) and e) and at Exhibit I.STAFF.19.

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To provide any and all economic analysis to support the exclusion of non-pipeline alternatives or IRPA's in community expansion projects.

Response:

No such economic analysis was conducted to support the exclusion of non-pipeline alternatives or IRPAs in community expansion projects. Enbridge Gas's proposal to exclude (through binary screening) community expansion projects from IRP analysis relates exclusively to community expansion projects that are underpinned by dedicated funding for the delivery of natural gas to specific communities. In such cases, given the specific intention of the funding and government direction, it would not be appropriate to consider IRPAs, and therefore economic analysis was not needed to support this screening criteria.

ENBRIDGE GAS INC.

Undertaking Response to GEC

To clarify the proportion of identified projects which will now fall under the increased LTC threshold, by percentage of projects and percentage of capital spending.

Response:

There are over two thousand (2,000) projects in the Company's Asset Management Plan ("AMP"). Establishing a scope that requires all of those projects to be considered for IRP analysis in the early stages of Enbridge Gas's implementation of an IRP Framework would not be reasonable or efficient as it would require exponential incremental administrative burden to be borne by ratepayers for limited value. Further, the Company doubts that such a task would be technically feasible.

Following its review of review of the Board's recent Decision and Order for the London Lines Replacement Project (EB-2020-0192), Enbridge Gas has reconsidered whether its singular focus upon growth projects for IRP purposes remains appropriate. Enbridge Gas continues to believe that that IRP will most effectively be applied to projects where growth is the main driver. However, the Company acknowledges that for large pipeline replacement and relocation projects, there may be opportunities to reduce the size of the replacement and these too should be considered for IRP in the future. The Company does not believe that IRP will be appropriate for smaller scale pipeline replacement projects (less than $10 million cost), as the cost savings that would result from downsizing pipeline size will not be significant enough to support consideration of IRP alternatives.

To provide clarity with regard to the nature of projects that are most relevant for IRP consideration, Enbridge Gas proposes to add one additional binary screening criteria, as follows:

vi. Pipeline Replacement and Relocation Projects – if a project is being advanced for replacement or relocation of pipeline, and the cost is less than $10 million, then that project is not a candidate for IRP analysis.

Based on these criteria, Tables 1 and 2 below have been developed to reflect the percentage of Enbridge Gas's total capital spending that could feasibly advance beyond the binary screening process to the proposed IRPA evaluation process. However, in order to provide a representative view that might apply in future years, Tables 1 and 2 below do not take into account the Company's proposed Timing criterion (required 3-year lead time). As seen in Table 1 below, 27% of forecasted capital investments could advance beyond the Company's proposed binary screening process.

Table 1

	2021	2022	2023	2024	2025	Total
Main Replacements & Relocations > $10M	$ 206,228,091	$ 174,849,057	$ 106,671,087	$ 161,012,110	$ 127,225,506	$ 775,985,851
System Reinforcement (all)	$ 92,412,034	$ 289,881,388	$ 159,168,683	$ 177,997,863	$ 208,094,403	$ 927,554,370
Total	$ 298,640,125	$ 464,730,445	$ 265,839,770	$ 339,009,973	$ 335,319,908	$ 1,703,540,220
EGI Capital Spend	$ 1,270,478,059	$ 1,405,978,079	$ 1,163,427,104	$ 1,352,601,964	$ 1,111,519,734	$ 6,304,004,942
IRP Eligible Spend as a % of Total	24%	33%	23%	25%	30%	27%

It is also relevant to understand the number of unique projects that are represented in the overall capital forecast for each category, as it informs the amount of effort required to perform the binary screening exercise and then to undertake the two-stage IRPA evaluation process.

Table 2 below sets out the number of projects from the 2021-2025 AMP that are included in Table 1 above. Note that the AMP does not provide granular project-level information about discrete projects for all later years (in some cases the Programs in the AMP are not yet broken down into projects for later years - for example projects anticipated to be driven by changes to Class Location or Municipal Requirements). As a result, the number of projects indicated in Table 2 will change over time.

Table 2

Main Replacements & Relocations > $10M	20
System Reinforcement (all)	168
Total	188
Number of Projects in the AMP	2114
% of Projects	9%

ENBRIDGE GAS INC.

Answer to Interrogatory from
Green Energy Coalition (GEC)

INTERROGATORY

Question:

On p. 15, paragraph 32 of its reply evidence, Enbridge states that in the context of "natural gas facilities planning where decisions to advance or delay projects are based on regularly updated growth projections" a planning committee modelled on Vermont' System Planning Committee "may prove overly cumbersome to navigate given the complexities of system design and planning."

a. Is Enbridge suggesting that the context in which "decisions to advance or delay projects are based on regularly updated growth projections" is different for gas facilities planning than for electric facilities planning? If so, please explain why? Isn't the planning for electric facilities also based on load growth projections that also change over time?
b. Is Enbridge suggesting that such a committee would be more cumbersome for gas planning than for electric planning? If so, why? What specifically would make it more cumbersome for gas?
c. What is Enbridge's understanding or assumption regarding the role that the Vermont System Planning Committee plays in developing load forecasts upon which transmission and/or distribution system investment decisions are made?
d. What is Enbridge's understanding or assumption regarding the role of the Vermont System Planning Committee in delving into the transmission and/or distribution system design?

Response

a) Enbridge Gas is not indicating that the context in which decisions to advance or delay projects based on regularly updated growth projections is different for natural gas facilities planning than for electricity facilities planning. Rather, Enbridge Gas recognizes that the complexities of Enbridge Gas's system design far surpass those of the electricity system in Vermont and thus do not lend themselves to a stakeholder model similar to Vermont's System Planning Committee ("VSPC"). Further, such a model could lead to excessive administrative costs being borne by ratepayers and could cause excessive delays in decision making around resolution of identified system constraints and customer needs, increasing the risk to

ratepayers and the Company alike. Further, based on the information found in the most recent Vermont Gas Integrated Resource Plan,[1] the natural gas utility in Vermont does not utilize the VSPC model. Instead, the stakeholder model that Vermont Gas currently utilizes is very similar to the IRPA Project Geographically-Specific Stakeholder Engagement described in Component 3 of Enbridge Gas's proposed stakeholder model.[2]

b) The VSPC includes voting memberships made up of grid operators, ISO, distributors and the public. This model does not reflect the environment in Ontario where the natural gas system is operated by Enbridge Gas who is both the transmission operator and the distributor. Enbridge Gas has put forward an Ontario focused stakeholder engagement model that takes into account the vast geographic differences as well as diverse populations that are impacted by the natural gas system. Enbridge Gas's proposed model is similar to the IESO stakeholder model which has evolved in recent years in response to a cycle of continuous improvement, informed by government policy and the OEB, and is used to engage with stakeholders across a similarly complex energy system.

c) & d)
Enbridge Gas has made no assumptions regarding the role that the VSPC plays in developing load forecasts and influencing system design. Enbridge Gas has reviewed the VSPC model from a purely theoretical viewpoint recognizing that a stakeholder model that is used to plan and make electric investment decisions for a state with a population of less than 650,000 people may not be transferable to a Province with over 14.5 million people and natural gas and electricity systems that are vastly larger and more complex.

[1] http://www.vermontgas.com/wp-content/uploads/2021/01/2021-01-15-VGS-Integrated-Resource-Plan-including-Attachments-00306267-2xE4196.pdf
[2] Exhibit B, Additional Evidence, pp. 41-42

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit B / pp. 39-42 of 46

Additional Public Documents: Ontario Power Authority and Independent Electricity System Operator, Engaging Local Communities in Ontario's Electricity Planning Continuum: Enhancing Regional Electricity Planning and Siting, August 1, 2013.

Preamble:

Enbridge Gas discusses its proposed approach to stakeholder engagement in IRP.

Question:

a) Regarding the geographically-specific stakeholder engagement in response to a specific system need (component 3), does Enbridge Gas intend for this stage to seek input from stakeholders on how best to meet the system need (e.g., presenting information and seeking feedback on multiple potential solutions under consideration by Enbridge Gas, seeking stakeholder input on addition allocation-specific solutions Enbridge Gas may not have considered), or only to seek input on the specific preferred IRPA that Enbridge Gas has identified? Please describe the rationale behind Enbridge Gas's preferred approach.
b) Community engagement has been an important aspect of Ontario's regional electricity planning, including the referenced report by the Ontario Power Authority and Independent Electricity System Operator on this issue. Does Enbridge Gas have any views as to the community engagement approach discussed in this report and used for regional electricity planning in Ontario, and its applicability for Enbridge Gas regarding community engagement on solutions to geographically-specific system needs?

Response

a) Once a system constraint has been identified as potentially suitable from a timing perspective for a geotargeted IRP application it will require more targeted stakeholder and Indigenous community engagement.

Component 1 (*Gather and analyze data and insight from ongoing stakeholder engagement initiatives*) provides for the ongoing gathering of market data intelligence from existing stakeholder engagement channels, while mitigating incremental expenses. These existing channels to stakeholders, include: municipal outreach, Indigenous engagement, DSM, market surveys, LTC stakeholder outreach, utility regional directors, outreach to customer associations and formal/informal dialogue with customers of all types (e.g., through sales representatives). By utilizing this information Enbridge Gas will be able to bring forward for consideration and discussion with stakeholders potential IRPAs to address identified system constraints.

As part of Component 3 (*IRPA Project Geographically-Specific Stakeholder Engagement*), Enbridge Gas intends to seek feedback on multiple potential solutions. Component 3 will allow opportunities for stakeholders and Indigenous communities to review the IRPA's and facility alternatives under consideration and to provide feedback. This geographically and project specific stakeholder and Indigenous engagement provides an opportunity to consider specific initiatives that may be happening at the local level that may have a bearing on possible IRPAs such as confirmation of growth projections or Community Energy Planning. Enbridge Gas recognizes that as part of these activities, participating stakeholders and Indigenous communities could provide additional insight into IRPAs that the Company did not consider or was unaware of. For example, the stakeholder plan will seek to gain understanding from stakeholders and Indigenous communities on customer growth expectations and willingness to participate in potential demand response programming; economic activity and growth; low carbon alternative opportunities; energy efficiency and conservation potential opportunities; new and emerging technological advances.

Enbridge Gas expects that the stakeholders to be included in engagement activities may include: local government representatives; local LDC staff; IESO representatives; Indigenous communities; local key customer and industry groups, local private residential customers (including low income customers / local low-income representative groups and associations); and local project developers and builders. Engagement initiatives will be tailored according to the relevant geotargeted area and are anticipated to be in the form of open houses, webinars, surveys, and online opportunities to provide written feedback. Further,

All three components of the Enbridge Gas Stakeholder Engagement Plan will allow transparency, while respecting the confidentiality of any sensitive information gathered.

b) Enbridge Gas reviewed the IESO model of stakeholder engagement and incorporated many of the same principles into its proposed Stakeholder engagement model, while at the same time leveraging its existing stakeholder channels to mitigate incremental costs. Enbridge Gas also reviewed stakeholder models of other natural gas utilities that conduct a form of integrated resource planning, such as the stakeholder engagement model used by FortisBC.[1]

While developing the IRP stakeholder engagement model proposed in its Additional Evidence, Enbridge Gas reviewed both the referenced report by the Ontario Power Authority and Independent Electricity System Operator (IESO) released in 2013 as well as the new stakeholder engagement framework released by the IESO on April 16, 2020.[2] Further, Enbridge Gas held discussions with members of the IESO stakeholder group to better understand the processes, tools and outreach efforts of its public information sessions on geographically specific system needs.

Enbridge Gas's IRP Stakeholder plan was influenced by the four IESO engagement categories:[3]

> "Forecasting and Planning: To support provincial and regional electricity planning over the next 20 years.
>
> Resource Acquisition: To ensure we have the tools and processes to acquire the resources we need to maintain a reliable and efficient system.
>
> Operations: To ensure that Ontario's electricity resources are operating reliably within the IESO-administered market, while also undertaking continuous market improvements.
>
> Sector Evolution: A look to the future to see how innovation, new technologies and new collaborations can improve how we conduct our business."

[1] https://www.fortisbc.com/about-us/projects-planning/natural-gas-projects-planning/natural-gas-planning-stakeholder-engagement
[2] https://www.ieso.ca/en/Sector-Participants/IESO-News/2020/04/IESO-launches-new-stakeholder-engagement-framework
[3] https://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Overview/Stakeholder-Engagement-Framework

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To advise as to whether Enbridge has an updated expectation or forecast as to what percentage of its projects would be conducive to IRP, and whether directionally it is anticipated to be higher or lower than the 14 to 17 percent threshold.

Response:

Please see the response at Exhibit JT2.11. Please note that the estimate of projects conducive to IRP referenced in ICF's 2018 IRP Study was derived prior to the development of the Company's IRP Proposal, was limited to consideration of geo-targeted DSM, and reflected application of a growth rate threshold which is not included in Enbridge Gas's IRP Proposal.

ENBRIDGE GAS INC.

Undertaking Response to FRPO

To provide the evidentiary or transcript reference to a process for stakeholders to raise alternate IRPAs and have them considered and addressed.

Response:

The process for stakeholders to raise alternative IRPAs is addressed as an objective of the proposed stakeholder approach in Enbridge Gas's Additional Evidence (Exhibit B) at paragraph 88 on page 39:

> Accordingly, the objectives of the IRP Stakeholder Engagement process will be to: (i) ensure planned resources will meet Enbridge Gas's obligation to safely and reliably deliver firm contracted demands; (ii) gather ample geographically-specific information such that IRPAs can be adequately reviewed and monitored; (iii) help inform the development of new or enhanced energy efficiency programming; and (iv) broadly inform Enbridge Gas's long-term strategic planning.
> (emphasis added)

It is further articulated in the Company's Reply Evidence (Exhibit C) at pages 13 and 14 within Section 3.0 Stakeholder Consultation/Engagement.

> Enbridge Gas acknowledges the importance of obtaining stakeholder input ahead of developing IRPAs to address identified system needs/constraints and of establishing a feedback loop to keep stakeholders (including municipal and government representatives, First Nations, end use customers from all sectors, customer and business associations) informed of its investments in and the impact of their respective input into the development of IRPAs.
>
> Enbridge Gas's proposed three component approach to stakeholder engagement, as set out in its Additional Evidence,[1] is meant to go beyond data collection in that it: (i) recognizes that each geographic area being consulted regarding an identified customer need or system constraint and relevant IRPA(s) will have unique attributes and stakeholders;[2] and (ii) seeks to solicit concrete input for Enbridge Gas planners to consider when assessing alternatives to resolve identified system capacity needs/constraints, through engagement with members of the public that are expected to be directly impacted.
> (emphasis added)

[1] Enbridge Gas Additional Evidence, Exhibit B, para. 89.
[2] Examples of which may include local chambers of commerce and boards of trades and their members, local businesses owners and associations, and local LDC's.

Additionally, Mr. Stiers provided an example of how an alternate IRPA could be brought forward on the proposed Stakeholder Day, as part of Component 2 of Enbridge Gas's proposed Stakeholder process, during his testimony in the Technical Conference on February 10, 2021:[3]

> And so in an effort to put forward a process that is reasonable and efficient, the company has suggested that what is appropriate is for it to focus on identifying the system constraints, as you stated, as it normally does in the normal course of business, and then subsequently to reflect on any input from external parties that it has through existing communication channels, so component one of our stakeholdering process. And then to consider using the IRP assessment process that we have set out in Exhibit B.
>
> Thus, various IRPAs might be reasonable or viable for serving that need. So the company expects that all along this process, it will take into account the input of stakeholders at that first early stage. It will be based on what we received already, but then we do expect that stakeholders will have an early and frequent opportunity to pose questions and provide comments on the decisions that the company has made.
>
> And so, following the identification of system constraints in our asset management plan, we would make the asset management plan public as part of our annual rates proceedings, and stakeholders would have an opportunity at its annual stakeholder day shortly after to pose questions and understand the decisions that the utility has made and to provide input on those, and all of that we intend to record.
>
> So beyond that, we also expect that we will file annual IRP reports and that we will, at the time we make an IRP application to the board, we would in each of those instances also be in a position to explain the decisions that we've made. And so we don't think it would be efficient for us to have additional, let's say, process aside from that.

Mr. Stiers went on to state:[4]

> I am letting you know our intentions going forward are to also hear at the -- for example, at the stakeholder day --from stakeholders, from people in affected geographic locations where a system constraint has been identified, and from parties, <u>whether or not they think there are other viable IRPAs that the utility should consider. Now, some of those we may have already assessed and considered and we may be prepared to speak to on the day or to provide follow-up on in fairly short order. I do foresee that there might be an instance where new IRPAs that were not necessarily considered could also surface, and we would give those consideration as well.</u> That's the purpose of the stakeholdering.
> <u>(emphasis added)</u>

[3] EB-2020-0091 OEB Technical Conference Transcript, February 10, 2021, pp. 12-14.
[4] EB-2020-0091 OEB Technical Conference Transcript, February 10, 2021, pp. 64-65.

After further discussion during his testimony in the Technical Conference on February 12, 2021, Mr. Stiers concluded:

> I think what we set out is up to ten years in advance identifying a system constraint and as quickly as possible, wrapping our heads around what that constraint is and what the appropriate means might be to resolve that constraint from both a facility and a non-facility standpoint, and as immediately as possible looking to consult on what we think makes sense with the public, with First Nations, with parties. We see that as quite timely consultation.

UPDATE

Enbridge Gas is committed to public participation and receiving formal written suggestions and questions that will be answered by the Company and posted online (e.g. as part of its website). As part of its response to OEB Staff interrogatories, the Company stated:[5]

> Enbridge Gas recognizes that as part of these activities, participating stakeholders and Indigenous communities could provide additional insight into IRPAs that the Company did not consider or was unaware of. For example, the stakeholder plan will seek to gain understanding from stakeholders and Indigenous communities on customer growth expectations and willingness to participate in potential demand response programming; economic activity and growth; low carbon alternative opportunities; energy efficiency and conservation potential opportunities; new and emerging technological advances.

Enbridge Gas has put forward an Ontario focused stakeholder engagement model that reflects the vast differences in geography, climate, customer type and demands in communities served by the Company across the province. As discussed in the Company's interrogatory response at Exhibit I.STAFF.9 b), Enbridge Gas's proposed stakeholder engagement strategy has been influenced by and is similar in many respects to the engagement initiatives conducted by Ontario's IESO as part of its Integrated Regional Resource Plan ("IRRP") processes. The IESO stakeholder model has evolved in recent years in response to a cycle of continuous improvement, informed by government policy and the OEB, and is used to engage with stakeholders across a similarly complex energy system.[6] Currently the IESO uses a regional electricity network model that allows for more targeted discussions to be conducted in five specific regions.

Initially, as part of Component 2 of its proposed Stakeholder Outreach strategy, Enbridge Gas proposed to discuss the AMP and any associated IRPA's during an annual Stakeholder Day following the filing of the annual update to the AMP. Following the Technical Conference and the Presentation Day in this proceeding the Company reflected upon whether it would be appropriate, efficient and helpful to expand upon the

[5] Exhibit I.STAFF.9 a).
[6] Exhibit I.GEC.5 b).

proposed annual Stakeholder Day. Enbridge Gas has determined that Component 2 of its stakeholder engagement process could also benefit from this regional focus. Therefore, the Company now proposes to separate the projects identified in its annual update to the AMP (including IRPAs) into similar regional areas in support of conducting multiple targeted annual Stakeholder Days (one in each region annually where projects have been identified). In establishing regions for these purposes, Enbridge Gas will attempt to mimic the regional breakdown of the IESO Regional Electricity Networks wherever appropriate.[7]

[7] https://www.ieso.ca/en/Get-Involved/Regional-Planning/Electricity-Networks/Overview

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit A, Tab 13 / p. 11 of 24; Exhibit B / pp. 19-20 of 46; OEB staff evidence (Guidehouse report) / pp. 29-31 of 77

Additional Public Documents: Enbridge Gas Inc. 2021-2025 Asset Management Plan (filed October 15, 2020; EB-2020-0181), Exhibit C, Tab 2, Schedule 1, Tables 6.1-3, 6.1-4, pp. 257-259); Consolidated Edison Company of New York, Inc, Proposal for use of a Framework to Pursue Non-Pipeline Alternatives to Defer or Eliminate Capital Investment in Certain Traditional Natural Gas Distribution Infrastructure / p. 5 of 33.

Preamble:

Enbridge Gas proposes criteria for a binary screening that would be used to determine which system needs would require consideration of IRPAs. Guidehouse provides a discussion of Consolidated Edison Company of New York's (Con Ed's) Non-Pipeline Alternatives Framework Proposal as to which types of projects could likely be considered for IRP solutions, which can be compared with Enbridge Gas's proposed criteria.

Question:

a) Has Enbridge Gas reviewed Con Ed's proposed screening criteria? Does Enbridge Gas believe that there are any differences between Enbridge Gas and Con Ed's circumstances that have led to differences in proposed screening criteria? If so, please describe.
b) Enbridge Gas's original IRP proposal included a proposed screening criterion that IRPAs would only be considered in areas with a maximum annual forecasted load growth of 1.4%. Please confirm that Enbridge Gas is no longer proposing that load growth be an element of the binary screening for the relevance of IRPAs, and if so, why Enbridge Gas has proposed removing this criterion.
c) Please provide more clarity as to Enbridge Gas's proposed exemption criterion for safety. Does Enbridge Gas intend this criterion to apply only to projects that need to be addressed immediately, or also to projects where Enbridge Gas intends to

address safety/integrity issues over a longer period of time? For comparison, Con Ed proposes a similar criterion which is limited to “emergent safety risks” that must be resolved as quickly as practicable. Con Ed gives the examples of “replacement of leaking services; replacement of gas mains with active leaks; replacement of main segments due to water intrusion or contractor damage; and replacement of cast iron main due to encroachment activity.”

d) Enbridge Gas proposes that projects where system needs must be met in under 3 years would be exempt from IRP consideration. Based on Enbridge Gas’s historical experience and its needs identification process, how often do facility expansion/reinforcement system needs arise that would not have been identified more than 3 years in advance? Please describe.
e) Is Enbridge Gas’s proposed exemption criterion for “Customer-specific builds” limited to projects that would not impose additional supply or infrastructure costs on Enbridge Gas ratepayers other than the specific customers the projects are intended to connect?
f) Is Enbridge Gas’s proposed exemption criterion for “Community expansion &economic development” driven by policy and related funding limited to specific named projects that have been listed as being eligible for rate reduction (e.g. those currently listed in in O. Reg. 24/19 (“Expansion of Natural Gas Distribution Systems”)? If additional funding was made available to Enbridge Gas to support community expansion projects, but was not allocated to specific projects, would Enbridge Gas propose that the community expansion projects it chose to pursue with this funding would also be exempt from IRPA consideration? Please clarify what (if any) other factors would exempt a project from IRPA consideration under this criterion.
g) Taking into account both Enbridge Gas’s proposal to limit IRP to facility expansion/reinforcement projects, and the additional exemption criteria proposed by Enbridge Gas, please indicate which of the ICM-eligible projects shown in Tables 6.1-3 and 6.1-4 of Enbridge Gas’s 2021-2025 Asset Management Plan(pp. 257-259) would have likely been determined to be suitable for further consideration of IRPAs, had these criteria been in place. For projects determined not to be suitable, please indicate which criterion/criteria would have disqualified them from further consideration of IRPAs.

Response

a) – c)
Enbridge Gas evolved its thinking on binary screening related to IRP assessment in the period between filing its original 2019 IRP Policy Proposal and the October 15, 2020 Additional Evidence. Enbridge Gas considered in more depth what factors should constitute a more definitive screening and which items, although insightful,

might not absolutely preclude the possible viability of a IRPA such as load growth rate, or project cost, especially when the Company broadened its thinking beyond incremental traditional DSM programming, as had been explored in the May 2018 ICF IRP Study.

Enbridge Gas has reviewed Con Ed's NPA Framework and the screening criteria. Enbridge Gas feels its screening criteria are similar to Con Ed's and remain appropriate. Con Ed in discussing its screening criteria show two things:

i. They outline by way of specific example projects that are a fit for NPA (IRP) are gas distribution infrastructure projects associated with load growth. Indeed, Enbridge Gas sees projects driven by load growth to be the projects best suited to IRP analysis as well especially as the Company is developing practical experience with IRP.
ii. That Con Ed articulates emergent safety risks, which includes gas leaks, being out of scope. This is in line with Enbridge Gas's proposal. Con Ed indicates in their NPA Framework on page 5, that they are looking at reviewing all other safety and resiliency projects for NPA recognizing that it is nascent learning.

> "Instead, under this Framework, the Company [Con Ed] proposes to evaluate planned safety- and reliability-related infrastructure projects (e.g., planned future work under its Main Replacement Program) for replacement using an NPA and attempts to shed light on the many unanswered questions in this uncharted territory."

Enbridge Gas notes that Con Ed is a joint gas and electric utility which may provide it some inherent ability to benefit from a transition to electricity solutions.
Although Enbridge Gas believes that year over year forecasted load growth is an important factor within a Stage 1 analysis on IRPAs, the Company is no longer proposing a specific threshold for load growth after which an IRPA should not be considered. Enbridge Gas feels that the 1.4% was a finding out of ICF's May 2018 IRP Study which may be appropriate for geotargeted DSM as an IRPA but may or may not be appropriate for other IRPA solutions or portfolios of solutions.

At the outset, as Enbridge Gas is gaining comfort with IRPAs and how to effectively plan around them, it is proposing that all safety or integrity related projects are screened out. Enbridge Gas notes that in addition to 'emergent safety risks', Con Ed has also scoped out regulatory requirements that include main replacements for methane reduction. Between the categories under emergent safety and the regulatory requirements, Enbridge Gas believes there may be little difference

between what it has proposed with a broader safety screen and what Con Ed has proposed.

d) Most significant investments (those requiring Leave to Construct approval of the OEB) would be identified with more than three years' notice through Enbridge Gas's long-range planning processes. This process identifies projects up to ten years in advance.

   The projects that are required more urgently are typically smaller in scope and cost.

   Please see the response at Exhibit. I.STAFF.4 a), for discussion of forecasting and need identification processes. In addition to this, Enbridge Gas monitors the gas distribution network for emergent areas of low pressure or capacity constraints. These would typically require immediate remedy.

   Projects identified through the long-range planning process would typically be suitable for IRP consideration, if required more than three years in the future. Those identified through the emergent process would not.

e) Yes, the exemption criterion for 'Customer-specific builds' would be limited to projects where no other customers were connecting or deriving value.

f) Yes, Enbridge Gas's proposed exemption criterion for 'Community expansion and economic development' are driven by policy and funding related to projects specific to O. Reg. 24/19 (Expansion of Natural Gas Distribution Systems). If additional funding was made available to Enbridge Gas to support community expansion projects, but was not allocated to specific projects, Enbridge Gas would include consideration of IRPAs.

g) Tables 6.1-3 and 6.1-4 from Enbridge Gas's 2021-2025 Asset Management Plan tables are replicated below for reference.

Table 6.1-3 ICM-Eligible Capital Projects – EGD Rate Zone

Asset Class	Project Name	In-Service Year	2021-2025 Net Capital ($M)	Total In-Service Capital ($M)	Driver	IRP Eligibility
Distribution Growth	Rideau Reinforcement	2025	52.7	53.5	Mandatory: Reinforcement Specified per Network Analysis	These Distribution Growth Projects would be suitable for IRPA consideration, providing there is sufficient lead time.
	York Region Reinforcement	2026	23.8	65.8	Mandatory: Reinforcement Specified per Network Analysis	
	Amaranth System Reinforcement	2024	10.3	10.3	Mandatory: Reinforcement Specified per Network Analysis	
	Thornton Reinforcement	2023	10.9	10.9	Mandatory: Reinforcement Specified per Network Analysis	
Distribution Pipe	NPS 20 Lake Shore Replacement (Cherry to Bathurst) (2019+)	2022	103.4	104.7	Condition	These Distribution Pipe Projects would be excluded as a result of Enbridge Gas' Safety criterion (EB-2020-0091, Exhibit B, Paragraph 38 i).
	NPS 12 St. Laurent Aviation Pkwy[1]	2022	29.5	29.8	Condition	
	NPS 12 St. Laurent Queen Mary/Prince Albert[10]	2022	11.0	11.1	Condition	
	NPS 12 Martin Grove Rd Main Replacement: Lavington to St. Albans Rd.	2024	18.3	18.3	Condition	
	NPS 10 Glenridge Avenue, St. Catharines	2025	11.8	11.8	Condition	
Distribution Stations	Harmer District Station	2022	13.1	13.1	Compliance & ILI requirements	This Distribution Stations Project would be excluded as a result of Enbridge Gas' Safety criterion.
Compressor Stations	SCOR: K701/2/3 Reliability - Replacement	2024	185.2	185.2	Obsolescence	These investments are driven by condition and obsolescence and would generally not qualify for IRPA - particularly if there was a short timeline. However, given the size of the facilities, opportunities to reduce the size of the replacement capacity through the use of IRPAs would be considered.
	Storage Crowland (SCRW): Station-Renewal In-Place	2025	27.9	27.9	Obsolescence	
	Dehydration Expansion	2023	41.0	41.0	Condition; Growth	The Expansion of De-hydration capacity is partially driven by growth and could be considered for IRPAs providing there is sufficient lead time.
	SCOR: Meter Area-Upgrade	Ph 1 - 2021	34.2	45.6	Condition	This project is driven by condition and is already underway. It would not be considered for IRPA's.
		Ph 2 - 2022				

[1] The St. Laurent portfolio of work consists of four phases of work, and each phase is comprised of separate projects. Phases 1 & 2 have been previously completed, with Phases 3 & 4 remaining in this forecast period. Phase 3 includes the following investments; Three PE main investments in 2021 including Lower Section, Coventry/Cummings/St Laurent, and Montreal to Rockcliffe. Phase 4 includes the following investments; Two steel main investments as included in this table in 2022. The investments comprising Phases 3 & 4 will be combined in a single Leave to Construct application that will be submitted in Fall 2020.

Asset Class	Project Name	In-Service Year	2021-2025 Net Capital ($M)	Total In-Service Capital ($M)	Driver	IRP Eligibility
Transmission Pipe & Storage	Crowland Pool (PCRW): Wells-Upgrade	2027	1.7	11.6	Compliance, Condition	This Transmission Pipe and Storage Project would be excluded as a result of Enbridge Gas' Safety criterion.
REWS	Kennedy Road Expansion	2024	26.3	26.3	Condition	These Real Estate and Workplace Services investments are not within the scope of the IRP Framework.
	Station B New Building	2021	15.5	17.6	Condition, Function, In Progress	
	SMOC/Coventry Facility Consolidation	2027	30.8	30.8	Function and Service Coverage Duplication	
	Kelfield Operations Centre	2023	10.8	10.8	Condition, Function	
	VPC Core and Shell	2025	20.0	20.0	Condition	

Table 6.1-4 ICM-Eligible Capital Projects – Union Rate Zones

Asset Class	Project Name	In-Service Year	2021-2025 Net Capital ($M)	Total In Service Capital ($M)	Driver	IRP Eligibility
Distribution Growth	Customer Stratford Reinforcement	2022	13.3	13.3	Mandatory: Reinforcement Specified per Network Analysis	Customer Stratford Reinforcement is driven by a specific customer and does not meet Enbridge Gas' Customer-Specific Builds criterion (EB-2020-0091 Exhibit B, Paragraph 38 iv).
	Dunnville Line Reinforcement (6.3 km of NPS 10)	2025	9.0	11.0	Mandatory: Reinforcement Specified per Network Analysis	Some of these Projects could be considered for IRPAs (Owen Sound Transmission Reinforcement, Goderich Transmission Reinforcement) providing there is sufficient lead time but the remainder are required within three years and do not meet Enbridge Gas' Timing criterion (EB-2020-0091, Exhibit B, Paragraph 38 ii).
	NBAY: Parry Sound Lateral Reinforcement (12.5 km of NPS 6)	2025	15.0	15.0	Mandatory: Reinforcement Specified per Network Analysis	
	WATE: Owen Sound Transmission System, Reinforcement (28.8km of NPS 16)	2025	81.7	83.6	Mandatory: Reinforcement Specified per Network Analysis	
	LOND: Goderich Transmission System, Reinforcement (11.4km of NPS 10)	2025	2.2	25.0	Mandatory: Reinforcement Specified per Network Analysis	
Distribution Pipe	NPS 8 Port Stanley Replacement	2024	20.6	20.6	Condition	These Distribution Pipe Projects would be excluded as a result of Enbridge Gas' Safety criterion (EB-2020-0091, Exhibit B, Paragraph 38 i)
	INTE: North Shore - Section A: Retrofit ECDA to ILI	2021	12.0	12.3	Mandatory: Retrofit for TIMP program (ILI Compliance)	
	Windsor Line Replacement	2020	7.2	90.3	Condition	
	LOND - London Lines Replacement	2021	102.6	108.2	Condition	
	Kirkland Lake Lateral Replacement	2022	16.8	16.8	Condition	
	SUDB: Marten River Compression, Reinforcement	2023	51.6	51.6	Mandatory: Reinforcement Specified per Network Analysis	These Projects could be considered for IRPAs providing there is sufficient lead time.
	WATE - Owen Sound Reinforcement Ph 4	2020	1.9	56.6	Mandatory: Reinforcement Specified per Network Analysis	
Compression Stations	Dawn Plant-C Compression Life Cycle	2024	130.9	130.9	Obsolescence	These Compression Stations Projects are driven by obsolescence and would be excluded as a result of Enbridge Gas' Safety criterion (EB-2020-0091, Exhibit B, Paragraph 38 i)
	Waubuno Compression Life Cycle	2024	12.9	12.9	Obsolescence	
Transmission Pipe & Storage	Panhandle Line Replacement	2023	29.7	29.7	Condition, High Consequence	These Projects are driven by condition and compliance and would not be considered for IRPAs (Safety criterion).
	INTE: Dawn - Cuthbert - ECDA to ILI Retrofit NPS 42, 34, 26	2022	24.6	25.0	Mandatory: Retrofit for TIMP program (ILI Compliance)	
	Dawn Parkway Expansion (Kirkwall-Hamilton NPS 48)	2022	176.1	181.7	Growth	These investments are driven by growth and would qualify for IRPA's unless there is insufficient time to meet Enbridge Gas' Timing criterion or it meeting the criteria of a Customer-Specific Build.
	Sarnia Expansion (NPS 20 Dow to Bluewater)	2021	19.2	20.5		
	Sarnia Expansion (Novacor Station)		6.5	6.5		

Asset Class	Project Name	In-Service Year	2021-2025 Net Capital ($M)	Total In Service Capital ($M)	Driver	IRP Eligibility
	Sarnia Expansion - Bluewater Energy Park (Asset #1)	2024	64.5	64.6		
	Sarnia Expansion Project- Bluewater Energy Park (Customer Station)		11.7	11.7		
	Sarnia Expansion - Bluewater Energy Park (Asset #2)		34.0	34.0		
REWS	Thunder Bay Regional Operations Centre	2026	10.2	10.2	Condition	These Real Estate and Workplace Services investments are not within the scope of the IRP Framework.
	New Site No. 4	2023	28.8	28.8	Operations Site Consolidation	

ENBRIDGE GAS INC.

Undertaking Response to ED

To advise the best time to screen out IRPA's before a leave-to-construct application.

Response:

If (contrary to Enbridge Gas's proposal) the Board was to determine that an adjudication of Enbridge Gas's decision not to pursue an IRP solution to meet an identified need/constraint should take place before the LTC application where the facilities solution is presented, then Enbridge Gas believes that such adjudication should take place in the year after Enbridge Gas has presented its determination not to pursue an IRPA. That would provide early clarity to Enbridge Gas as to how to proceed to meet the identified need/constraint.

ENBRIDGE GAS INC.

Undertaking Response to ED

To provide a proposal or what your thoughts are if the board agrees that there should be adjudication of those kinds of IRP decisions to choose pipe over non-pipe for projects below the leave-to-construct threshold where that would be adjudicated.

Response:

Enbridge Gas does not believe that it is necessary to have formal adjudication of decisions not to proceed with IRPAs for smaller projects (those under the LTC threshold). The Company believes it has put forth a robust stakeholder approach where input in many forms from any interested party can be received and will be taken into account by the utility. Enbridge Gas notes that it has proposed binary screening in its IRP Proposal for purposes of allowing the Company to minimize unnecessary costs associated with considering and designing IRP solutions for every identified need. If each such decision was adjudicated that would impose a very large regulatory and administrative burden.

If the Board was to require such adjudication, then Enbridge Gas would endorse the approach indicated at Exhibit JT1.5.

ENBRIDGE GAS INC.

Undertaking Response to ED

To advise whether an IRP analysis has been undertaken, whether IRP alternatives have been screened out, and whether the project is driven all or in part by forecast demand growth.

Response:

Given that Enbridge Gas's IRP Proposal is currently before the Board and thus, an IRP Framework for the Company remains outstanding at the time of this submission, none of Enbridge Gas's proposed IRP assessment or evaluation processes have been completed for the future forecasted projects listed on page 34 of the Company's 2021-2025 Asset Management Plan. For discussion of which of the projects contained therein is driven by growth please see the response at Exhibit I.STAFF.8.

ENBRIDGE GAS INC.

Undertaking Response to ED

To provide an updated and revised version of IR STAFF 20 with more detail for avoided commodity-fuel costs and for infrastructure costs.

Response:

	Benefit/Cost	Stage 1	Stage 2	Stage 3
	Benefits			
	Incremental Revenues	x		
2	Avoided Utility Infrastructure Costs	x		
3	Avoided Customer Infrastructure Costs		x	
4	Avoided Utility Commodity/Fuel Costs	x		
5	Avoided Customer Commodity/Fuel Costs		x	
	Avoided O&M	x		
	Avoided GHG Emissions		x	
	Other External Non-Energy Benefits			x

	Costs			
1	Incremental Capital Expenditure	x		
1	Incremental O&M	x		
	Incremental Taxes	x		
4	Incremental Utility Commodity/Fuel Costs	x		
5	Incremental Customer Commodity/Fuel Costs		x	
	Incremental GHG Emissions		x	
	Incremental Customer Costs		x	
	Other External Non-Energy Costs			x

Notes:

(1) Capital & O&M is inclusive of program administrative costs.
(2) Avoided or reduced infrastructure capital costs of the Utility (e.g. use of smaller diameter pipe).
(3) Avoided or reduced infrastructure capital costs of the customer (e.g. reduced Contribution in Aid of Construction).
(4) Avoided or incremental fuel costs of the Utility (e.g. compressor fuel and unaccounted for gas).
(5) Avoided or incremental fuel costs of the customer (e.g. lower/higher natural gas use, lower/higher electricity use).

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit B / p.31 of 46; Exhibit C / pp. 8-13 of 46

Additional Public Documents: Consolidated Edison Company of New York, Inc, Gas Benefit-Cost Analysis Handbook (filed as part of Con Ed's NPA Framework Proposal filing), September 14, 2020, p. 9

Preamble:

Enbridge Gas discusses the economic evaluation that should be used to compare IRPAs and facility projects, and proposes that the OEB establish a staged economic evaluation standard for IRPAs through this proceeding that ultimately resembles a modified version of the OEB's E.B.O. 134 guidelines or a Discounted Cash Flow + (DCF+) test. Enbridge Gas compares its proposed approach to Consolidated Edison's Benefit-Cost Analysis Handbook used for its analysis of non-pipes alternatives in New York State.

Question:

a) Enbridge Gas proposes that "the economic feasibility for IRPAs will be assessed using a Discounted Cash Flow ("DCF") methodology consistent with principles underpinning the Board's E.B.O. 134 and E.B.O. 188." These methodologies were originally developed to assess potential expansions of the natural gas distribution and transmission system. If the OEB determines that IRP should be considered for other categories of infrastructure projects, does Enbridge Gas believe that this methodology remains appropriate to assessing and comparing the economic feasibility of IRPAs and facility projects, and if so, would any key modifications be required?
b) Enbridge Gas proposes that the OEB develop a staged economic evaluation, noting the three potential stages of cost-benefit analysis in the E.B.O. 134 process (economic, customer, and societal).
    a. Can Enbridge Gas provide a table identifying which categories of costs and benefits it would propose to include in the different stages of its proposed

cost-benefit evaluation, similar in nature to Table 3-1 (p. 9) in Con Edison's Gas-Benefit Cost Analysis Handbook? In particular, please clarify how impacts on commodity costs paid by Enbridge Gas customers would be treated.

Table 3-1: Summary of Cost-Effectiveness Tests by Benefit and Cost

Benefit/Cost	SCT	UCT	RIM
Benefits			
Avoided Peaking Services	✓	✓	✓
Avoided Pipeline & Storage Costs	✓	✓	✓
Avoided Commodity Costs	✓	✓	✓
Avoided On-System Capacity Infrastructure	✓	✓	✓
Avoided O&M	✓	✓	✓
Reliability/Resiliency	✓	✓	✓
Avoided CO2 Emissions	✓		
Other Avoided Emissions	✓		
Non-Energy Benefits*	✓	✓	✓
Other External Benefits	✓		
Costs			
Program Administration Costs	✓	✓	✓
Incremental On-System Investments	✓	✓	✓
Lost Utility Revenue			✓
Shareholder Incentives			✓
Incremental Participant Costs	✓		
Alt. Fuel Costs	✓	✓	✓
Alt. Fuel CO_2 Emissions	✓		
Alt. Fuel Other Emissions	✓		
Net Non-Energy Costs*	✓	✓	✓
Other External Costs	✓		

*It is necessary to identify which cost-effectiveness test should include the benefit or cost in the Net Non-Energy Benefit or Net Non-Energy Cost as it may apply to the SCT, UCT, and/or RIM.

b. Is Enbridge Gas proposing that all three stages of the cost-benefit analysis would always be conducted?
c. Does Enbridge Gas have a position as to how the results of the different tests would be used together, and which test, if any, would be given primacy in determining the preferred project?

Response

a) Enbridge believes using a Discounted Cash Flow ("DCF") methodology consistent with the principles underpinning the Board's E.B.O. 134 and E.B.O. 188 is an appropriate methodology to assess and compare economic feasibility of IRPAs and facility alternatives. Enbridge is not seeking to make any changes to E.B.O. 134. Enbridge proposes to use the DCF methodology of E.B.O. 134 and E.B.O. 188 to assess IRPAs without any modifications. However, as stated in Enbridge Gas's Reply Evidence at Exhibit C, Page 9, Enbridge is open to discussing additional costs and/or benefits that could be incorporated in the economic assessment of IRPAs. If additional costs or benefits are included in the economic evaluation of IRPAs, the additions need to evaluate facility alternatives and IRPAs equitably and fairly. For example, if the avoided commodity and delivery costs (benefits) of natural gas are included in the evaluation of an IRPA, then any additional costs such as electricity charges should also be included.

b)

a. Please see Table 1 below:

Table 1

Benefit/Cost	Stage 1	Stage 2	Stage 3
Benefits			
Incremental Revenues	x		
Avoided Infrastructure Costs	x	x	
Avoided Commodity/Fuel Costs	x	x	
Avoided O&M	x		
Avoided GHG Emissions		x	
Other External Non-Energy Benefits			x
Costs			
Incremental Capital Expenditure	x		
Incremental O&M	x		
Incremental Taxes	x		
Incremental Commodity/Fuel Costs	x	x	
Incremental GHG Emissions		x	
Incremental Customer Costs		x	
Other External Non-Energy Costs			x

Note: Capital & O&M is inclusive of program administrative costs

b. Enbridge Gas expects that all three stages of the cost-benefit analysis will be conducted assuming that the necessary data and information to do so is available.

c. Enbridge Gas believes that the results of the three stages should be evaluated in totality with primacy to a specific stage determined based on factors such as reliability of data on a case by case basis.

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To explain how, if at all, were each of the commitments set out in the bullets in the Enbridge indigenous peoples policy considered or applied in the formation of Enbridge's IRP proposal, broken down by bullet point.

Response:

Enbridge Indigenous Peoples Policy Principles:	
• We recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples in the context of existing Canadian law and the legal and constitutional obligations governments in both Canada and the US have to protect those rights.	Enbridge recognizes the importance of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in further advancing reconciliation with Indigenous and non-Indigenous communities in Canada. It is part of Enbridge's core business and our collective success depends on our ability to build respectful and mutually beneficial relationships with the Indigenous groups that are near our projects and operations. This is a general guiding principle in everything that we do, including the formation of Enbridge Gas IRP Proposal.
• We recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) within the context of existing Canadian and U.S. law and the commitments that governments in both countries have made to protecting the rights of Indigenous Peoples.	In addition to the response above, Enbridge Gas can confirm that it is committed to ensuring that its projects, operations and initiatives such as the IRP Proposal, are carried out in a manner that respects Indigenous rights and their traditional territories. Enbridge Gas works to build and maintain positive relationships with Indigenous groups that are near our projects and operations.
• We engage in forthright and sincere consultation with Indigenous Peoples about Enbridge's projects and operations through processes that seek to achieve early and meaningful engagement so their input can help define our projects that may occur on lands traditionally used by	The Enbridge Gas stakeholder and Indigenous engagement proposal allows for meaningful engagement such that all stakeholders and Indigenous groups are able to provide input into IRPA solutions that may occur on lands traditionally used by Indigenous Peoples. Enbridge Gas will follow the existing processes as set out in the OEB's 2016 Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (the

Indigenous Peoples.	"Guidelines") and consult with potentially affected Indigenous groups to ensure that any potential impacts of Enbridge Gas's facility and/or IRPA projects may have on Indigenous rights and interests are mitigated, as appropriate.
• We commit to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge's projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.	Through our projects, operations and various initiatives such as the IRP Proposal, Enbridge, including Enbridge Gas, strives to continue to help support Indigenous communities, and to advance economic reconciliation through education and training, jobs, procurement and other business opportunities where appropriate. As mentioned in our response above, Enbridge Gas will commit to working with Indigenous Peoples to achieve benefits for them in and around IRPA planning or implementation. Enbridge Gas values its relationships with Indigenous Peoples and will continue to engage with them regarding Enbridge Gas's facility and/or IRPA projects, as appropriate.
• We foster understanding of the history and culture of Indigenous Peoples among Enbridge's employees and contractors, in order to create better relationships between Enbridge and Indigenous communities.	Enbridge has sought to respond to Call to Action 92 from the Truth and Reconciliation Commission of Canada, including through employee training around the history of Indigenous peoples, active efforts to hire more Indigenous employees, and important cultural, educational and environmental investments in local Indigenous communities. This applies to Enbridge Gas.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Anwaatin Inc. (Anwaatin)

INTERROGATORY

Reference:

Exhibit B, paras 30 and 90-93.
Exhibit C, paras 29-31.

Preamble:

Enbridge Gas Inc. (EGI) indicates that it will file Integrated Resource Planning (IRP) alternatives (IRPAs) applications that lay out respective anticipated savings or peak period impacts together with associated costs and ownership/operationalization arrangements. EGI indicates that it intends to consult with any impacted landowners, municipalities, First Nations, Indigenous groups, and other affected stakeholders prior to filing any IRPA application with the Ontario Energy Board (the Board).

Consequently, EGI's IRP Proposal (the IRP Proposal) may constitute, inform, or underpin strategic higher level decisions in relation to natural gas infrastructure and the selection of IRP alternatives (IRPAs).

In its Decision and Order in EB-2017-0319 dated October 18, 2018, the Board confirmed that "strategic, higher level decisions can trigger the duty to consult" First Nation and Métis communities (p. 25).

Questions:

a) Please describe, in detail, and provide evidence for whether — and, if so, how — EGI will determine, interpret, and apply:

   (i) its procedural requirements;
   (ii) the Crown's procedural requirements; and
   (iii) the Board's procedural requirements;

in assisting the Crown in fulfilling its duty to consult and accommodate First Nation and Métis communities in relation to IRP, the planning of natural gas infrastructure, and the selection of IRPAs.

b) Please provide a detailed outline of EGI's Indigenous consultation process with respect to the IRP Proposal. Please include a description of all steps that EGI has taken or will take in order to engage, consult, and accommodate Indigenous communities on the IRP Proposal.

c) Please indicate whether EGI has or expects to make capacity funding available to Indigenous communities in order to facilitate their participation in relation to IRP, the planning of natural gas infrastructure, and the selection of IRPAs.

d) Please place EGI's Indigenous consultation policy with respect to IRPAs on the record in this proceeding.

e) Please describe, in detail, EGI's plans and modalities for involving Indigenous rights-holding communities in the IRP process and selection of IRPAs.

Response:

a) Enbridge Gas does not believe that the current application triggers the duty to consult. This proceeding is intended to establish an IRP Framework for Enbridge Gas. The OEB is not being asked to review or approve any specific IRPAs or to render a decision that may adversely affect rights of any Indigenous groups. If specific IRPA investments are proposed in the future, and such investments do give rise to a duty to consult, then Enbridge Gas expects that the Ministry of Energy and/or the OEB will provide direction to Enbridge Gas about how that duty is to be honoured, taking account of the OEB's existing processes as set out in the OEB's *2016 Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (the "Guidelines"), and Enbridge Gas will consult with potentially affected Indigenous groups as appropriate.

b) This approach is consistent with the approach that Enbridge Gas explained, and that the OEB accepted, in the EB-2017-0319 RNG Enabling Program proceeding.[1]

[1] EB-2017-0319, Decision and Order, October 18, 2018, pp. 24-25.

c) – e)

In Enbridge Inc.'s ("Enbridge") Indigenous Peoples Policy (Policy),[2] Enbridge states that it is committed "to working with Indigenous peoples to achieve benefits for them resulting from Enbridge's projects and operations, including opportunities in training and education, employment, procurement, business development, and community development." Enbridge Gas consults with Indigenous groups in accordance with this Policy and as appropriate.

The proposed IRP Stakeholder and Indigenous Engagement model proposed in Enbridge Gas's Additional Evidence at pages 39 to 42 and as clarified in the response at Exhibit I.STAFF.9, is meant to allow for fulsome public participation including with Indigenous communities and groups. Enbridge Gas notes that Anwaatin is an active participant in this proceeding before the OEB. Enbridge Gas will address any questions raised by members of Indigenous rights holding communities regarding the IRPAs as they arise. Given the nature of IRP, while Enbridge Gas does not expect to make separate capacity funding available to Indigenous communities and groups, it remains open to doing so depending on the specific circumstances of the community and the potential impact any IRPA may have on their rights and interests.

[2] https://www.enbridge.com/~/media/Enb/Documents/About%20Us/indigenous_peoples_policy.pdf?la=en

Enbridge Inc. Indigenous Peoples Policy

ENBRIDGE®
Life Takes Energy®

Enbridge Indigenous Peoples Policy

Enbridge recognizes the diversity of Indigenous Peoples who live where we work and operate. We understand that the history of Indigenous Peoples in both Canada and the United States has had destructive impacts on the social and economic wellbeing of Indigenous Peoples. Enbridge recognizes the importance of reconciliation between Indigenous communities and broader society. Positive relationships with Indigenous Peoples, based on mutual respect and focused on achieving common goals, will create constructive outcomes for Indigenous communities and for Enbridge.

Enbridge commits to pursuing sustainable relationships with Indigenous Nations and groups in proximity to where Enbridge conducts business. To achieve this, Enbridge will govern itself by the following principles:

- We recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples in the context of existing Canadian law and the legal and constitutional obligations governments in both Canada and the US have to protect those rights.
- We recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) within the context of existing Canadian and U.S. law and the commitments that governments in both countries have made to protecting the rights of Indigenous Peoples.
- We engage in forthright and sincere consultation with Indigenous Peoples about Enbridge's projects and operations through processes that seek to achieve early and meaningful engagement so their input can help define our projects that may occur on lands traditionally used by Indigenous Peoples.
- We commit to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge's projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.
- We foster understanding of the history and culture of Indigenous Peoples among Enbridge's employees and contractors, in order to create better relationships between Enbridge and Indigenous communities.

This commitment is a shared responsibility involving Enbridge and its affiliates, employees and contractors, and we will conduct business in a manner that reflects the above principles. Enbridge will provide ongoing leadership and resources to ensure the effective implementation of the above principles, including the development of implementation strategies and specific action plans.

Enbridge commits to periodically reviewing this policy to ensure it remains relevant and meets changing expectations.

ENBRIDGE
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ENBRIDGE GAS INC.

Answer to Interrogatory from
Anwaatin Inc. (Anwaatin)

INTERROGATORY

Reference:

Exhibit B, paras 22 and 28.

Preamble:

EGI notes that its IRP Proposal and the illustrative process plan are underpinned by guiding principles, one of which is public policy. EGI notes that "IRP will be considered in a manner to ensure that is it supportive of and aligned with public policy, where appropriate." Alignment with public policy is also considered in the second stage of IRPA evaluation.

Questions:

a) Please outline the current areas of public policy that EGI believes should be supported by, and aligned with:
   (i) its IRP Proposal; and
   (ii) the IRPA evaluation process.

b) How does EGI propose to monitor and report on the effectiveness of the IRP Proposal and the IRPA evaluation process in their support for, and alignment with, public policy? Please provide an example or examples.

c) Does EGI believe that its IRP Proposal and the IRPA evaluation process supports and is aligned with EGI's consideration of non-gas or blended gas alternatives? If so, please explain why. If not, please explain why not.

d) Does EGI believe that its IRP Proposal and the IRPA evaluation process supports and is aligned with the expansion of natural gas access to First Nation reserve communities and off-reserve First Nation Members? If so, please explain why. If not, please explain why not.

Response:

a) Enbridge Gas is focused upon public policy priorities that enable all communities in which it operates to realize the benefits of clean, safe, reliable and affordable energy. In our view, this focus is consistent with its IRP Proposal and proposed IRPA evaluation process.

b) In its Additional Evidence at page 17, Enbridge Gas states:

> "Following the implementation of an IRPA(s), the effectiveness of the alternative in meeting the identified need will be carefully monitored to ensure the identified system constraints/needs are being sufficiently resolved. Enbridge Gas will provide an annual report of IRPA effectiveness to the OEB as part of either its annual Rates application or Non-Commodity Deferral Account Clearance and Earnings Sharing Mechanism application or as otherwise directed by the Board. If the IRPA is not meeting the identified need, Enbridge Gas will propose corrective action in its report which may include, but not be limited to, proposals to implement additional IRPAs or a new facility build to meet the need. Given that natural gas IRP is still relatively nascent and forms an innovative approach to meeting natural gas facility needs, the process outlined above will necessarily be refined over time as experience is gained and opportunities for improvement in IRPA design and implementation are identified."

As Enbridge Gas has proposed that alignment with and support of public policy should be one of the Guiding Principles of natural gas IRP,[1] the Company expects that consideration of public policy will necessarily occur at each stage of IRPA review by the OEB and parties, including: (i) as part of the OEB's review of any IRP application made by Enbridge Gas for approval to invest in and/or recover the costs associated with IRPAs; (ii) at such time that Enbridge Gas provides an annual report of IRPA effectiveness to the OEB; and (iii) in instances where an OEB-approved IRPA is found to be underperforming relative to forecast and thus Enbridge Gas proposes corrective action which may include, but not be limited to, proposals to implement additional IRPAs or to construct new facilities to meet identified system constraints driving such investments.

c) Yes, Enbridge Gas believes that its IRP Proposal and the IRPA evaluation process supports, and is aligned with consideration of non-gas or blended gas alternatives where those alternatives may impact infrastructure and supply planning decisions (please also see the response at Exhibit I.STAFF.2). However, to be clear, although IRP alternatives should not create a higher greenhouse gas profile, reduction of such is not the primary goal IRP. For this reason, not all blended or non-gas solutions may be considered during IRP planning.

[1] Additional Evidence, Exhibit B, pp. 12-17.

d) Yes, Enbridge Gas believes that its IRP Proposal and the IRPA evaluation process supports and is aligned with the expansion of natural gas access to First Nation on-reserve communities and off-reserve First Nation Members. Enbridge Gas's IRP Proposal includes: (i) exemptions related to policies and targeted funding for example for Community Expansion (as further discussed in the response at Exhibit I.Anwaatin.3)); and (ii) extensive Stakeholder Engagement including with First Nations on-reserve communities and off-reserve First Nation Members in order to consider feedback on potential IRPA(s) and any specific local initiatives that may have a bearing on alternatives considered to resolve identified system constraints (as further discussed in the response at Exhibit I.STAFF.9).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Ontario Sustainable Energy Association (OSEA)

INTERROGATORY

Reference:

EGI Additional Evidence, Exhibit B, Page 13 and 14 of 46

Preamble:

Figure 2.1 of the Enbridge's Additional Evidence summarizes IRP Integration at Enbridge Gas

Question:

a) When comparing IRPAs to facility alternatives, will Enbridge Gas test reasonable sensitivities to planning assumptions (e.g., variations in demand growth rates, policy impacts, technology advances)? If yes, please provide a description of how Enbridge will incorporate sensitivity analysis into the planning process.

b) Enbridge Gas states that it incorporates DSM impacts into its annual demand forecast. OSEA supports the incorporation of DSM impacts early in the planning process. Please describe how the quantity and quality of DSM impacts are determined by Enbridge Gas. For example, does Enbridge Gas only assess committed (e.g., contracted) DSM impacts?

c) Please describe how IRPA(s) for identified system needs will be developed, and specify how costs will be estimated, quantity of network demand calculated, and viability of solutions tested.

Response

a) Enbridge Gas will not test sensitivities to the planning assumptions for the demand forecast during its facility and IRPA analysis as doing so for any number of potential factors would not be efficient or reasonable. Enbridge Gas uses the best information available when developing its demand forecasts and utilizes those forecasts to identify future system constraints/needs. Enbridge Gas will monitor identified system constraints as part of the Asset Management Plan process and will update

the demand forecast should any of the planning assumptions change. Enbridge Gas will consider all IRPAs available to meet identified constraints as part of the IRP planning process.

Enbridge Gas will test reasonable sensitivities to planning assumptions for specific IRPAs. For example, any assumption associated with an IRPA that would require field validation could have a sensitivity assessment performed at the time of development to better understand the impact on an identified system constraint and any associated baseline facility alternative.

b) Enbridge Gas does not make any assumptions with respect to future changes in DSM program activity in the development of its annual demand forecast. The demand forecast includes currently approved DSM levels carried forward into future years beyond the OEB's current DSM Framework and OEB-approved multi-year plan period.

DSM volumes used in Enbridge Gas's annual demand forecast for the EGD and Union rate zones are determined based on the OEB-approved DSM Plans (EB-2015-0029, EB-2015-0049 and EB-2019-0271).[1]

c) For a high-level overview of how Enbridge Gas proposes that IRP be integrated into planning process, please see the response at Exhibit I.STAFF.2. Enbridge Gas is undertaking a review of its existing planning practices to integrate its IRP Proposal into those processes with more refinement. This review will include the entire IRP process from stakeholdering to implementation of the IRPAs and will include all impacted groups within Enbridge Gas. As part of this effort, Enbridge Gas will identify all of the processes required to assess and evaluate IRPAs including the timing and scope of each step. In addition, this review process will identify additional resources required within Enbridge Gas to adequately undertake IRP. Enbridge Gas expects that approval to proceed with IRP pilot projects will provide a further means to refine and update IRP process integration over time.

[1] EB-2019-0137, Enbridge Gas Inc. – 5 Year Gas Supply Plan, May 1, 2019, pp. 31-33 & 69-71.

ENBRIDGE GAS INC.

Answer to Interrogatory from
The Consumers Council of Canada ("CCC")

INTERROGATORY

Reference:

Ex. B, p. 2

Question:

Please set out, in detail, the specific approvals being sought by EGI through this Application.

Response

Enbridge Gas is seeking OEB-approval and establishment of an IRP Policy Framework for the Company to guide its assessment of IRPAs and that reflects its original IRP Proposal, Additional Evidence and Reply Evidence, including proposed:

- IRP Guiding Principles;[1]
- IRPA screening criteria and assessment processes;[2]
- IRPA evaluation and assessment processes (first and second stages);[3]
- IRP cost recovery mechanisms and treatment;[4]
- IRPA application structure and principles (for new IRPA investments, their cost recovery and/or adjustment to existing IRPA investments);[5] and
- IRPA monitoring and reporting.[6]

Please also see the response at Exhibit I.STAFF.10, for discussion of IRP/IRPA related approvals that the Company proposes to seek in the future, following establishment of an IRP Framework for Enbridge Gas.

[1] Additional Evidence, Exhibit B. para. 22.
[2] Additional Evidence, Exhibit B. pp. 15-21.
[3] Additional Evidence, Exhibit B. pp. 15-16, 30-31; Exhibit I.STAFF.20.
[4] Additional Evidence, Exhibit B. pp. 32-34; Exhibit I.STAFF.22.
[5] Additional Evidence, Exhibit B. para. 30.
[6] Additional Evidence, Exhibit B. pp. 17, 37-38.

Enbridge Gas is also seeking approval for the establishment of an IRP cost deferral account so that the Company can enable the incremental work that is required to complete IRP analysis of needs. Please see the responses at Exhibit I.APPrO.6 and at Exhibit I.GEC.6 for more information about the deferral account.

Please also see the response at Exhibit I.APPrO.2 d), for discussion regarding Enbridge Gas's ongoing investigation into AMI to support investments in IRPAs going forward.

As discussed in its Additional Evidence at Exhibit B, paragraph 3:

> "Approval of the IRP Proposal will enable Enbridge Gas to create actionable IRP plans to support deferment, avoidance or reduction of future infrastructure requirements and to gain important implementation experience. When a need is identified in the planning process, it will be assessed to determine the appropriateness of developing IRPAs to address it. This approach will ensure that Enbridge Gas has adequate lead time to fully assess, put forward to the OEB and verify the effectiveness of IRPAs to address peak period demands, deferring or reducing the need to construct facility alternatives. Where approvals are required in relation to IRPA(s)-specific spending, cost recovery, ownership or other items, Enbridge Gas will seek separate approval from the OEB, as appropriate."

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

INTERROGATORY

Reference:

Ex B P13

Question:

Enbridge Gas's IRP Proposal are underpinned by four Guiding Principles. With respect to Public Policy, Enbridge Gas indicates the IRP will be considered in a manner to ensure that it is supportive of and aligned with public policy, where appropriate.

Please specify the existing public policy that Enbridge Gas is most focused on in considering IRPAs.

Response

In considering natural gas IRP and investment in IRPAs, Enbridge Gas will consider public policy where there is existing legislation, Board directives or Company policies in place that may impact IRP. This includes public policy related to federal, provincial and municipal climate policies, indigenous policies, and community expansion policies. Specifically, the following policies are currently in place and will be considered:

- Greenhouse Gas Pollution Pricing Act, including the associated regulations;[1]
- Final Guidelines for Potential Projects to Expand Access to Natural Gas Distribution;[2] and
- Enbridge Inc.'s ("Enbridge") Indigenous Peoples Policy.[3]

Other regulations that are implemented in the future arising from the Made in Ontario Environment Plan and the federal Pan-Canadian Framework on Clean Growth and Climate Change will also be considered as they are enacted in legislation.

[1] https://laws-lois.justice.gc.ca/eng/acts/G-11.55/
[2] https://www.oeb.ca/sites/default/files/ltr-final-guidelines-gas-expansion-20200305.pdf
[3] https://www.enbridge.com/~/media/Enb/Documents/About%20Us/indigenous_peoples_policy.pdf?la=en

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To explain how each bullet in Enbridge's IRP proposal is reflected in the proposed framework.

Response:

Please see the response at Exhibit JT3.1.

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To advise how they are intended to be applied if the proposed framework is approved.

Response:

Please see the response at Exhibit JT3.1.

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To advise if there were any first nations representatives who participated in the study advisory group related to ICF's 2018 IRP Study.

Response:

The utilities convened a study advisory group (SAG) made up of participants that had direct experience with integrated resource planning for the purposes of informing the 2018 IRP Study. As such, experience in the field of IRP was the sole criteria for the participant selection, not specific representation of any particular customer or community. SAG members included a representative from each of Northwest Natural Gas; FortisBC; IESO; University of Toronto, Division of Environmental Engineering and Energy Systems; and observers from the OEB.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Question:

a) Please provide a summary of all external stakeholder feedback received by Enbridge on its IRP Proposal prior to it being filed and explain how the feedback was incorporated into the IRP Proposal.

Response

Enbridge Gas did not seek direct external stakeholder feedback on its IRP Proposal prior to it being filed with the Board. However, Enbridge Gas's IRP Proposal was informed by Natural Gas IRP practices in other jurisdictions, Ontario developments and by the IRP Studies that Enbridge Gas has commissioned ICF to conduct.

The May 2018 IRP Study conducted by ICF was informed by external stakeholder feedback. A summary of the external stakeholder feedback received for the May 2018 IRP Study can be found in EGD's January 15, 2018 DSM Mid-Term Review (EB-2017-0127/EB-2017-0128) Submission at paragraphs 119 to 129.[1]

[1] https://www.rds.oeb.ca/CMWebDrawer/Record/596649/File/document

General Assembly

Distr.: General
2 October 2007

Sixty-first session
Agenda item 68

Resolution adopted by the General Assembly on 13 September 2007

[*without reference to a Main Committee (A/61/L.67 and Add.1)*]

61/295. United Nations Declaration on the Rights of Indigenous Peoples

The General Assembly,

Taking note of the recommendation of the Human Rights Council contained in its resolution 1/2 of 29 June 2006,[1] by which the Council adopted the text of the United Nations Declaration on the Rights of Indigenous Peoples,

Recalling its resolution 61/178 of 20 December 2006, by which it decided to defer consideration of and action on the Declaration to allow time for further consultations thereon, and also decided to conclude its consideration before the end of the sixty-first session of the General Assembly,

Adopts the United Nations Declaration on the Rights of Indigenous Peoples as contained in the annex to the present resolution.

107th plenary meeting
13 September 2007

Annex

United Nations Declaration on the Rights of Indigenous Peoples

The General Assembly,

Guided by the purposes and principles of the Charter of the United Nations, and good faith in the fulfilment of the obligations assumed by States in accordance with the Charter,

Affirming that indigenous peoples are equal to all other peoples, while recognizing the right of all peoples to be different, to consider themselves different, and to be respected as such,

Affirming also that all peoples contribute to the diversity and richness of civilizations and cultures, which constitute the common heritage of humankind,

[1] See *Official Records of the General Assembly, Sixty-first Session, Supplement No. 53* (A/61/53), part one, chap. II, sect. A.

Affirming further that all doctrines, policies and practices based on or advocating superiority of peoples or individuals on the basis of national origin or racial, religious, ethnic or cultural differences are racist, scientifically false, legally invalid, morally condemnable and socially unjust,

Reaffirming that indigenous peoples, in the exercise of their rights, should be free from discrimination of any kind,

Concerned that indigenous peoples have suffered from historic injustices as a result of, inter alia, their colonization and dispossession of their lands, territories and resources, thus preventing them from exercising, in particular, their right to development in accordance with their own needs and interests,

Recognizing the urgent need to respect and promote the inherent rights of indigenous peoples which derive from their political, economic and social structures and from their cultures, spiritual traditions, histories and philosophies, especially their rights to their lands, territories and resources,

Recognizing also the urgent need to respect and promote the rights of indigenous peoples affirmed in treaties, agreements and other constructive arrangements with States,

Welcoming the fact that indigenous peoples are organizing themselves for political, economic, social and cultural enhancement and in order to bring to an end all forms of discrimination and oppression wherever they occur,

Convinced that control by indigenous peoples over developments affecting them and their lands, territories and resources will enable them to maintain and strengthen their institutions, cultures and traditions, and to promote their development in accordance with their aspirations and needs,

Recognizing that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment,

Emphasizing the contribution of the demilitarization of the lands and territories of indigenous peoples to peace, economic and social progress and development, understanding and friendly relations among nations and peoples of the world,

Recognizing in particular the right of indigenous families and communities to retain shared responsibility for the upbringing, training, education and well-being of their children, consistent with the rights of the child,

Considering that the rights affirmed in treaties, agreements and other constructive arrangements between States and indigenous peoples are, in some situations, matters of international concern, interest, responsibility and character,

Considering also that treaties, agreements and other constructive arrangements, and the relationship they represent, are the basis for a strengthened partnership between indigenous peoples and States,

Acknowledging that the Charter of the United Nations, the International Covenant on Economic, Social and Cultural Rights[2] and the International Covenant on Civil and Political Rights,[2] as well as the Vienna Declaration and Programme of

[2] See resolution 2200 A (XXI), annex.

Action,[3] affirm the fundamental importance of the right to self-determination of all peoples, by virtue of which they freely determine their political status and freely pursue their economic, social and cultural development,

Bearing in mind that nothing in this Declaration may be used to deny any peoples their right to self-determination, exercised in conformity with international law,

Convinced that the recognition of the rights of indigenous peoples in this Declaration will enhance harmonious and cooperative relations between the State and indigenous peoples, based on principles of justice, democracy, respect for human rights, non-discrimination and good faith,

Encouraging States to comply with and effectively implement all their obligations as they apply to indigenous peoples under international instruments, in particular those related to human rights, in consultation and cooperation with the peoples concerned,

Emphasizing that the United Nations has an important and continuing role to play in promoting and protecting the rights of indigenous peoples,

Believing that this Declaration is a further important step forward for the recognition, promotion and protection of the rights and freedoms of indigenous peoples and in the development of relevant activities of the United Nations system in this field,

Recognizing and reaffirming that indigenous individuals are entitled without discrimination to all human rights recognized in international law, and that indigenous peoples possess collective rights which are indispensable for their existence, well-being and integral development as peoples,

Recognizing that the situation of indigenous peoples varies from region to region and from country to country and that the significance of national and regional particularities and various historical and cultural backgrounds should be taken into consideration,

Solemnly proclaims the following United Nations Declaration on the Rights of Indigenous Peoples as a standard of achievement to be pursued in a spirit of partnership and mutual respect:

Article 1

Indigenous peoples have the right to the full enjoyment, as a collective or as individuals, of all human rights and fundamental freedoms as recognized in the Charter of the United Nations, the Universal Declaration of Human Rights[4] and international human rights law.

Article 2

Indigenous peoples and individuals are free and equal to all other peoples and individuals and have the right to be free from any kind of discrimination, in the exercise of their rights, in particular that based on their indigenous origin or identity.

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[3] A/CONF.157/24 (Part I), chap. III.

[4] Resolution 217 A (III).

Article 3

Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.

Article 4

Indigenous peoples, in exercising their right to self-determination, have the right to autonomy or self-government in matters relating to their internal and local affairs, as well as ways and means for financing their autonomous functions.

Article 5

Indigenous peoples have the right to maintain and strengthen their distinct political, legal, economic, social and cultural institutions, while retaining their right to participate fully, if they so choose, in the political, economic, social and cultural life of the State.

Article 6

Every indigenous individual has the right to a nationality.

Article 7

1. Indigenous individuals have the rights to life, physical and mental integrity, liberty and security of person.

2. Indigenous peoples have the collective right to live in freedom, peace and security as distinct peoples and shall not be subjected to any act of genocide or any other act of violence, including forcibly removing children of the group to another group.

Article 8

1. Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture.

2. States shall provide effective mechanisms for prevention of, and redress for:

(*a*) Any action which has the aim or effect of depriving them of their integrity as distinct peoples, or of their cultural values or ethnic identities;

(*b*) Any action which has the aim or effect of dispossessing them of their lands, territories or resources;

(*c*) Any form of forced population transfer which has the aim or effect of violating or undermining any of their rights;

(*d*) Any form of forced assimilation or integration;

(*e*) Any form of propaganda designed to promote or incite racial or ethnic discrimination directed against them.

Article 9

Indigenous peoples and individuals have the right to belong to an indigenous community or nation, in accordance with the traditions and customs of the

community or nation concerned. No discrimination of any kind may arise from the exercise of such a right.

Article 10

Indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return.

Article 11

1. Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature.

2. States shall provide redress through effective mechanisms, which may include restitution, developed in conjunction with indigenous peoples, with respect to their cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs.

Article 12

1. Indigenous peoples have the right to manifest, practise, develop and teach their spiritual and religious traditions, customs and ceremonies; the right to maintain, protect, and have access in privacy to their religious and cultural sites; the right to the use and control of their ceremonial objects; and the right to the repatriation of their human remains.

2. States shall seek to enable the access and/or repatriation of ceremonial objects and human remains in their possession through fair, transparent and effective mechanisms developed in conjunction with indigenous peoples concerned.

Article 13

1. Indigenous peoples have the right to revitalize, use, develop and transmit to future generations their histories, languages, oral traditions, philosophies, writing systems and literatures, and to designate and retain their own names for communities, places and persons.

2. States shall take effective measures to ensure that this right is protected and also to ensure that indigenous peoples can understand and be understood in political, legal and administrative proceedings, where necessary through the provision of interpretation or by other appropriate means.

Article 14

1. Indigenous peoples have the right to establish and control their educational systems and institutions providing education in their own languages, in a manner appropriate to their cultural methods of teaching and learning.

2. Indigenous individuals, particularly children, have the right to all levels and forms of education of the State without discrimination.

3. States shall, in conjunction with indigenous peoples, take effective measures, in order for indigenous individuals, particularly children, including those living outside their communities, to have access, when possible, to an education in their own culture and provided in their own language.

Article 15

1. Indigenous peoples have the right to the dignity and diversity of their cultures, traditions, histories and aspirations which shall be appropriately reflected in education and public information.

2. States shall take effective measures, in consultation and cooperation with the indigenous peoples concerned, to combat prejudice and eliminate discrimination and to promote tolerance, understanding and good relations among indigenous peoples and all other segments of society.

Article 16

1. Indigenous peoples have the right to establish their own media in their own languages and to have access to all forms of non-indigenous media without discrimination.

2. States shall take effective measures to ensure that State-owned media duly reflect indigenous cultural diversity. States, without prejudice to ensuring full freedom of expression, should encourage privately owned media to adequately reflect indigenous cultural diversity.

Article 17

1. Indigenous individuals and peoples have the right to enjoy fully all rights established under applicable international and domestic labour law.

2. States shall in consultation and cooperation with indigenous peoples take specific measures to protect indigenous children from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development, taking into account their special vulnerability and the importance of education for their empowerment.

3. Indigenous individuals have the right not to be subjected to any discriminatory conditions of labour and, inter alia, employment or salary.

Article 18

Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.

Article 19

States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.

Article 20

1. Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence and development, and to engage freely in all their traditional and other economic activities.

2. Indigenous peoples deprived of their means of subsistence and development are entitled to just and fair redress.

Article 21

1. Indigenous peoples have the right, without discrimination, to the improvement of their economic and social conditions, including, inter alia, in the areas of education, employment, vocational training and retraining, housing, sanitation, health and social security.

2. States shall take effective measures and, where appropriate, special measures to ensure continuing improvement of their economic and social conditions. Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities.

Article 22

1. Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities in the implementation of this Declaration.

2. States shall take measures, in conjunction with indigenous peoples, to ensure that indigenous women and children enjoy the full protection and guarantees against all forms of violence and discrimination.

Article 23

Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development. In particular, indigenous peoples have the right to be actively involved in developing and determining health, housing and other economic and social programmes affecting them and, as far as possible, to administer such programmes through their own institutions.

Article 24

1. Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals also have the right to access, without any discrimination, to all social and health services.

2. Indigenous individuals have an equal right to the enjoyment of the highest attainable standard of physical and mental health. States shall take the necessary steps with a view to achieving progressively the full realization of this right.

Article 25

Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.

Article 26

1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.

2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.

3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.

Article 27

States shall establish and implement, in conjunction with indigenous peoples concerned, a fair, independent, impartial, open and transparent process, giving due recognition to indigenous peoples' laws, traditions, customs and land tenure systems, to recognize and adjudicate the rights of indigenous peoples pertaining to their lands, territories and resources, including those which were traditionally owned or otherwise occupied or used. Indigenous peoples shall have the right to participate in this process.

Article 28

1. Indigenous peoples have the right to redress, by means that can include restitution or, when this is not possible, just, fair and equitable compensation, for the lands, territories and resources which they have traditionally owned or otherwise occupied or used, and which have been confiscated, taken, occupied, used or damaged without their free, prior and informed consent.

2. Unless otherwise freely agreed upon by the peoples concerned, compensation shall take the form of lands, territories and resources equal in quality, size and legal status or of monetary compensation or other appropriate redress.

Article 29

1. Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for indigenous peoples for such conservation and protection, without discrimination.

2. States shall take effective measures to ensure that no storage or disposal of hazardous materials shall take place in the lands or territories of indigenous peoples without their free, prior and informed consent.

3. States shall also take effective measures to ensure, as needed, that programmes for monitoring, maintaining and restoring the health of indigenous peoples, as developed and implemented by the peoples affected by such materials, are duly implemented.

Article 30

1. Military activities shall not take place in the lands or territories of indigenous peoples, unless justified by a relevant public interest or otherwise freely agreed with or requested by the indigenous peoples concerned.

2. States shall undertake effective consultations with the indigenous peoples concerned, through appropriate procedures and in particular through their representative institutions, prior to using their lands or territories for military activities.

Article 31

1. Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.

2. In conjunction with indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.

Article 32

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.

2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.

3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.

Article 33

1. Indigenous peoples have the right to determine their own identity or membership in accordance with their customs and traditions. This does not impair the right of indigenous individuals to obtain citizenship of the States in which they live.

2. Indigenous peoples have the right to determine the structures and to select the membership of their institutions in accordance with their own procedures.

Article 34

Indigenous peoples have the right to promote, develop and maintain their institutional structures and their distinctive customs, spirituality, traditions, procedures, practices and, in the cases where they exist, juridical systems or customs, in accordance with international human rights standards.

Article 35

Indigenous peoples have the right to determine the responsibilities of individuals to their communities.

Article 36

1. Indigenous peoples, in particular those divided by international borders, have the right to maintain and develop contacts, relations and cooperation, including activities for spiritual, cultural, political, economic and social purposes, with their own members as well as other peoples across borders.

2. States, in consultation and cooperation with indigenous peoples, shall take effective measures to facilitate the exercise and ensure the implementation of this right.

Article 37

1. Indigenous peoples have the right to the recognition, observance and enforcement of treaties, agreements and other constructive arrangements concluded with States or their successors and to have States honour and respect such treaties, agreements and other constructive arrangements.

2. Nothing in this Declaration may be interpreted as diminishing or eliminating the rights of indigenous peoples contained in treaties, agreements and other constructive arrangements.

Article 38

States in consultation and cooperation with indigenous peoples, shall take the appropriate measures, including legislative measures, to achieve the ends of this Declaration.

Article 39

Indigenous peoples have the right to have access to financial and technical assistance from States and through international cooperation, for the enjoyment of the rights contained in this Declaration.

Article 40

Indigenous peoples have the right to access to and prompt decision through just and fair procedures for the resolution of conflicts and disputes with States or other parties, as well as to effective remedies for all infringements of their individual and collective rights. Such a decision shall give due consideration to the customs, traditions, rules and legal systems of the indigenous peoples concerned and international human rights.

Article 41

The organs and specialized agencies of the United Nations system and other intergovernmental organizations shall contribute to the full realization of the provisions of this Declaration through the mobilization, inter alia, of financial cooperation and technical assistance. Ways and means of ensuring participation of indigenous peoples on issues affecting them shall be established.

Article 42

The United Nations, its bodies, including the Permanent Forum on Indigenous Issues, and specialized agencies, including at the country level, and States shall promote respect for and full application of the provisions of this Declaration and follow up the effectiveness of this Declaration.

Article 43

The rights recognized herein constitute the minimum standards for the survival, dignity and well-being of the indigenous peoples of the world.

Article 44

All the rights and freedoms recognized herein are equally guaranteed to male and female indigenous individuals.

Article 45

Nothing in this Declaration may be construed as diminishing or extinguishing the rights indigenous peoples have now or may acquire in the future.

Article 46

1. Nothing in this Declaration may be interpreted as implying for any State, people, group or person any right to engage in any activity or to perform any act contrary to the Charter of the United Nations or construed as authorizing or encouraging any action which would dismember or impair, totally or in part, the territorial integrity or political unity of sovereign and independent States.

2. In the exercise of the rights enunciated in the present Declaration, human rights and fundamental freedoms of all shall be respected. The exercise of the rights set forth in this Declaration shall be subject only to such limitations as are determined by law and in accordance with international human rights obligations. Any such limitations shall be non-discriminatory and strictly necessary solely for the purpose of securing due recognition and respect for the rights and freedoms of others and for meeting the just and most compelling requirements of a democratic society.

3. The provisions set forth in this Declaration shall be interpreted in accordance with the principles of justice, democracy, respect for human rights, equality, non-discrimination, good governance and good faith.

ENBRIDGE GAS INC.

Undertaking Response to Anwaatin

To confirm whether the IRP proposal is intended to be consistent with the Enbridge new ESG goals.

Response:

Enbridge Inc.'s ("Enbridge") greenhouse gas ("GHG") reduction targets (referred to in the question as Enbridge's new ESG goals) pertain only to scope 1 (direct emissions from operations) and scope 2 (indirect emissions from purchased electricity) emissions, and do not include scope 3 emissions (emissions from sold products) from customers' consumption of natural gas. While certain IRPAs will reduce scope 3 emissions, the GHG reductions cannot be used towards achieving Enbridge's targets as these targets pertain only to scope 1 and 2 emissions as outlined above.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Anwaatin Inc. (Anwaatin)

INTERROGATORY

Reference:

Exhibit B, para 38(v)

Preamble:

EGI states that "[i]f a project has been driven by policy and related funding to explicitly deliver natural gas into communities to help bring heating costs down, then it is not reasonable to conduct an IRP analysis."

Questions:

a) Please explain the above statement, including its underlying rationale.

b) Please clarify whether EGI believes that it is not appropriate to consider IRPAs in situations where community expansion is underway. Please explain.

Response:

a) & b)
Community expansion pertains to the expansion of natural gas to existing communities that do not currently have access to natural gas. These types of projects are governed by the Final Guidelines for Potential Projects to Expand Access to Natural Gas Distribution that were issued on March 5, 2020.[1] Where Government grants are not identified for the specific purpose of growing natural gas access, then, IRP could be considered for community expansion provided IRPAs such as district energy systems were included in scope. Please also see response at Exhibit I.STAFF.8.

In the case of economic development these projects are usually driven by customer requests and are often funded by contributions in aid of construction ("CIAC") ensuring that the infrastructure project is financially feasible, such that this specific

[1] https://www.oeb.ca/sites/default/files/ltr-final-guidelines-gas-expansion-20200305.pdf

customer or group of customers bears the cost of the new or reinforced infrastructure without causing undue burden on other existing customers.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit B / pp. 12-17, 29 of 46

Preamble:

Enbridge Gas provides an Illustrative Process Plan that appears to be scoped to its infrastructure planning responsibilities. However, on p. 29, Enbridge Gas notes that it will consider long-term natural gas supply IRPAs if they meet the Gas Supply Guiding Principles as outlined in Enbridge Gas's 5 Year Gas Supply Plan.

Question:

a) Please clarify whether Enbridge Gas's IRP proposal (and Illustrative Process Plan) is intended to encompass consideration of IRPAs in the planning processes for both infrastructure needs (currently addressed largely through the Asset Management Plan) and gas supply needs (currently addressed largely through the 5 Year Gas Supply Plan), or only infrastructure needs (i.e. any consideration of natural gas supply IRPAs by Enbridge Gas would initially be done in the context of the IRPA's potential ability to meet an infrastructure need).Please provide the rationale behind Enbridge Gas's proposed approach.

b) Please describe the key linkages between the infrastructure planning process and the gas supply planning process, with an emphasis on any considerations relevant to the role of IRPAs. For example, if an IRPA was under consideration to address an infrastructure planning need, could and would Enbridge Gas take into account as part of its evaluation the impact (if any) of this IRPA on its gas supply needs and costs?

Response

a) & b)

Enbridge Gas intends for the IRP Proposal to consider IRPA(s), including supply-side alternatives, in order to resolve identified system constraints. Enbridge Gas is not, however, planning to apply its IRP Proposal to evaluate options for incremental gas supply requirements.

The Asset Management Plan considers long-term forecasts for customer demand at a granular, geographically specific level. This level of detail is then used to formulate potential future projects to address identified system constraints. Once a constraint is identified, IRPAs would then be evaluated alongside facility alternatives. IRPAs could include supply-side alternatives, but these would be evaluated as part of the IRPA evaluation and are not associated with the Gas Supply Plan itself as the IRPAs would be addressing a very specific local transmission or distribution need.

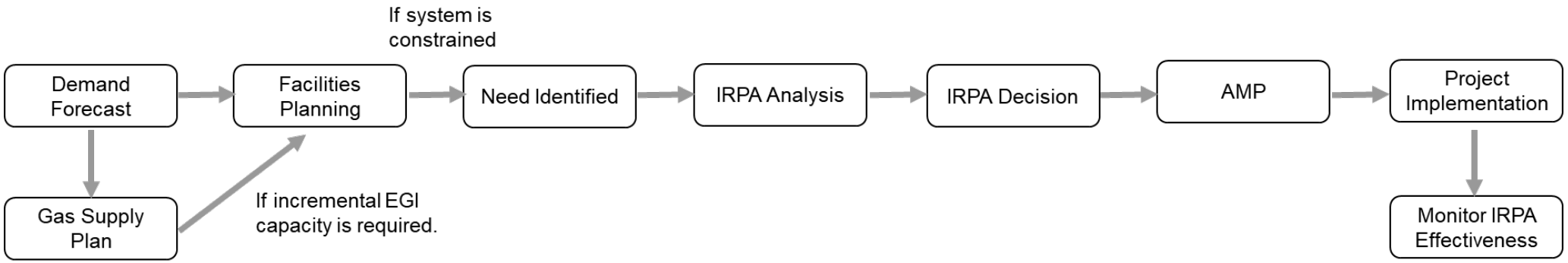
Whereas the Asset Management Plan and the development of specific IRPA(s) or facility alternatives are done at a local facility level, Enbridge Gas's Gas Supply Plan is created at the Delivery Area level (Union South, Union North DDAs, and the Enbridge CDA and EDA) based on forecasted peak day demands for each Delivery Area. The Gas Supply Plan does not look at specific local facilities, and therefore IRPAs would not be developed out of the Gas Supply Plan itself.

Enbridge Gas's Gas Supply Plan considers existing facility capabilities as an input, thus the impact of any IRPAs would be reflected in the Gas Supply Plan. As an example, if an IRPA required firm upstream transportation to deliver gas supply to a specific Delivery Area, this requirement would become an input into the Gas Supply Plan.

Enbridge Gas is in the process of integrating EGD and Union processes and will be developing new processes and procedures as an output of the integration exercise (please see the response at Exhibit I.OSEA.1 c)).

Please see Figure 1 below for a visual representation of the integration of IRP with system planning and gas supply planning processes. As outlined above, the Gas Supply Planning process is upstream of the Asset Management Plan and any IRPA analysis that is performed.

Figure 1


If system is constrained
Demand Forecast
Facilities Planning
Need Identified
IRPA Analysis
IRPA Decision
AMP
Project Implementation
Gas Supply Plan
If incremental EGI capacity is required.
Monitor IRPA Effectiveness

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit A, Tab 13 / p. 11 of 24; Exhibit B / pp. 19-20 of 46; OEB staff evidence (Guidehouse report) / pp. 29-31 of 77

Additional Public Documents: Enbridge Gas Inc. 2021-2025 Asset Management Plan (filed October 15, 2020; EB-2020-0181), Exhibit C, Tab 2, Schedule 1, Tables 6.1-3, 6.1-4, pp. 257-259); Consolidated Edison Company of New York, Inc, Proposal for use of a Framework to Pursue Non-Pipeline Alternatives to Defer or Eliminate Capital Investment in Certain Traditional Natural Gas Distribution Infrastructure / p. 5 of 33.

Preamble:

Enbridge Gas proposes criteria for a binary screening that would be used to determine which system needs would require consideration of IRPAs. Guidehouse provides a discussion of Consolidated Edison Company of New York's (Con Ed's) Non-Pipeline Alternatives Framework Proposal as to which types of projects could likely be considered for IRP solutions, which can be compared with Enbridge Gas's proposed criteria.

Question:

a) Has Enbridge Gas reviewed Con Ed's proposed screening criteria? Does Enbridge Gas believe that there are any differences between Enbridge Gas and Con Ed's circumstances that have led to differences in proposed screening criteria? If so, please describe.
b) Enbridge Gas's original IRP proposal included a proposed screening criterion that IRPAs would only be considered in areas with a maximum annual forecasted load growth of 1.4%. Please confirm that Enbridge Gas is no longer proposing that load growth be an element of the binary screening for the relevance of IRPAs, and if so, why Enbridge Gas has proposed removing this criterion.
c) Please provide more clarity as to Enbridge Gas's proposed exemption criterion for safety. Does Enbridge Gas intend this criterion to apply only to projects that need to be addressed immediately, or also to projects where Enbridge Gas intends to

address safety/integrity issues over a longer period of time? For comparison, Con Ed proposes a similar criterion which is limited to “emergent safety risks” that must be resolved as quickly as practicable. Con Ed gives the examples of “replacement of leaking services; replacement of gas mains with active leaks; replacement of main segments due to water intrusion or contractor damage; and replacement of cast iron main due to encroachment activity.”

d) Enbridge Gas proposes that projects where system needs must be met in under 3 years would be exempt from IRP consideration. Based on Enbridge Gas’s historical experience and its needs identification process, how often do facility expansion/reinforcement system needs arise that would not have been identified more than 3 years in advance? Please describe.
e) Is Enbridge Gas’s proposed exemption criterion for “Customer-specific builds” limited to projects that would not impose additional supply or infrastructure costs on Enbridge Gas ratepayers other than the specific customers the projects are intended to connect?
f) Is Enbridge Gas’s proposed exemption criterion for “Community expansion &economic development” driven by policy and related funding limited to specific named projects that have been listed as being eligible for rate reduction (e.g. those currently listed in in O. Reg. 24/19 (“Expansion of Natural Gas Distribution Systems”)? If additional funding was made available to Enbridge Gas to support community expansion projects, but was not allocated to specific projects, would Enbridge Gas propose that the community expansion projects it chose to pursue with this funding would also be exempt from IRPA consideration? Please clarify what (if any) other factors would exempt a project from IRPA consideration under this criterion.
g) Taking into account both Enbridge Gas’s proposal to limit IRP to facility expansion/reinforcement projects, and the additional exemption criteria proposed by Enbridge Gas, please indicate which of the ICM-eligible projects shown in Tables 6.1-3 and 6.1-4 of Enbridge Gas’s 2021-2025 Asset Management Plan(pp. 257-259) would have likely been determined to be suitable for further consideration of IRPAs, had these criteria been in place. For projects determined not to be suitable, please indicate which criterion/criteria would have disqualified them from further consideration of IRPAs.

Response

a) – c)
Enbridge Gas evolved its thinking on binary screening related to IRP assessment in the period between filing its original 2019 IRP Policy Proposal and the October 15, 2020 Additional Evidence. Enbridge Gas considered in more depth what factors should constitute a more definitive screening and which items, although insightful,

might not absolutely preclude the possible viability of a IRPA such as load growth rate, or project cost, especially when the Company broadened its thinking beyond incremental traditional DSM programming, as had been explored in the May 2018 ICF IRP Study.

Enbridge Gas has reviewed Con Ed's NPA Framework and the screening criteria. Enbridge Gas feels its screening criteria are similar to Con Ed's and remain appropriate. Con Ed in discussing its screening criteria show two things:

i. They outline by way of specific example projects that are a fit for NPA (IRP) are gas distribution infrastructure projects associated with load growth. Indeed, Enbridge Gas sees projects driven by load growth to be the projects best suited to IRP analysis as well especially as the Company is developing practical experience with IRP.
ii. That Con Ed articulates emergent safety risks, which includes gas leaks, being out of scope. This is in line with Enbridge Gas's proposal. Con Ed indicates in their NPA Framework on page 5, that they are looking at reviewing all other safety and resiliency projects for NPA recognizing that it is nascent learning.

> "Instead, under this Framework, the Company [Con Ed] proposes to evaluate planned safety- and reliability-related infrastructure projects (e.g., planned future work under its Main Replacement Program) for replacement using an NPA and attempts to shed light on the many unanswered questions in this uncharted territory."

Enbridge Gas notes that Con Ed is a joint gas and electric utility which may provide it some inherent ability to benefit from a transition to electricity solutions.
Although Enbridge Gas believes that year over year forecasted load growth is an important factor within a Stage 1 analysis on IRPAs, the Company is no longer proposing a specific threshold for load growth after which an IRPA should not be considered. Enbridge Gas feels that the 1.4% was a finding out of ICF's May 2018 IRP Study which may be appropriate for geotargeted DSM as an IRPA but may or may not be appropriate for other IRPA solutions or portfolios of solutions.

At the outset, as Enbridge Gas is gaining comfort with IRPAs and how to effectively plan around them, it is proposing that all safety or integrity related projects are screened out. Enbridge Gas notes that in addition to 'emergent safety risks', Con Ed has also scoped out regulatory requirements that include main replacements for methane reduction. Between the categories under emergent safety and the regulatory requirements, Enbridge Gas believes there may be little difference

between what it has proposed with a broader safety screen and what Con Ed has proposed.

d) Most significant investments (those requiring Leave to Construct approval of the OEB) would be identified with more than three years' notice through Enbridge Gas's long-range planning processes. This process identifies projects up to ten years in advance.

The projects that are required more urgently are typically smaller in scope and cost.

Please see the response at Exhibit. I.STAFF.4 a), for discussion of forecasting and need identification processes. In addition to this, Enbridge Gas monitors the gas distribution network for emergent areas of low pressure or capacity constraints. These would typically require immediate remedy.

Projects identified through the long-range planning process would typically be suitable for IRP consideration, if required more than three years in the future. Those identified through the emergent process would not.

e) Yes, the exemption criterion for 'Customer-specific builds' would be limited to projects where no other customers were connecting or deriving value.

f) Yes, Enbridge Gas's proposed exemption criterion for 'Community expansion and economic development' are driven by policy and funding related to projects specific to O. Reg. 24/19 (Expansion of Natural Gas Distribution Systems). If additional funding was made available to Enbridge Gas to support community expansion projects, but was not allocated to specific projects, Enbridge Gas would include consideration of IRPAs.

g) Tables 6.1-3 and 6.1-4 from Enbridge Gas's 2021-2025 Asset Management Plan tables are replicated below for reference.

Table 6.1-3 ICM-Eligible Capital Projects – EGD Rate Zone

Asset Class	Project Name	In-Service Year	2021-2025 Net Capital ($M)	Total In-Service Capital ($M)	Driver	IRP Eligibility
Distribution Growth	Rideau Reinforcement	2025	52.7	53.5	Mandatory: Reinforcement Specified per Network Analysis	These Distribution Growth Projects would be suitable for IRPA consideration, providing there is sufficient lead time.
	York Region Reinforcement	2026	23.8	65.8	Mandatory: Reinforcement Specified per Network Analysis	
	Amaranth System Reinforcement	2024	10.3	10.3	Mandatory: Reinforcement Specified per Network Analysis	
	Thornton Reinforcement	2023	10.9	10.9	Mandatory: Reinforcement Specified per Network Analysis	
Distribution Pipe	NPS 20 Lake Shore Replacement (Cherry to Bathurst) (2019+)	2022	103.4	104.7	Condition	These Distribution Pipe Projects would be excluded as a result of Enbridge Gas' Safety criterion (EB-2020-0091, Exhibit B, Paragraph 38 i).
	NPS 12 St. Laurent Aviation Pkwy[1]	2022	29.5	29.8	Condition	
	NPS 12 St. Laurent Queen Mary/Prince Albert[10]	2022	11.0	11.1	Condition	
	NPS 12 Martin Grove Rd Main Replacement: Lavington to St. Albans Rd.	2024	18.3	18.3	Condition	
	NPS 10 Glenridge Avenue, St. Catharines	2025	11.8	11.8	Condition	
Distribution Stations	Harmer District Station	2022	13.1	13.1	Compliance & ILI requirements	This Distribution Stations Project would be excluded as a result of Enbridge Gas' Safety criterion.
Compressor Stations	SCOR: K701/2/3 Reliability - Replacement	2024	185.2	185.2	Obsolescence	These investments are driven by condition and obsolescence and would generally not qualify for IRPA - particularly if there was a short timeline. However, given the size of the facilities, opportunities to reduce the size of the replacement capacity through the use of IRPAs would be considered.
	Storage Crowland (SCRW): Station-Renewal In-Place	2025	27.9	27.9	Obsolescence	
	Dehydration Expansion	2023	41.0	41.0	Condition; Growth	The Expansion of De-hydration capacity is partially driven by growth and could be considered for IRPAs providing there is sufficient lead time.
	SCOR: Meter Area-Upgrade	Ph 1 - 2021	34.2	45.6	Condition	This project is driven by condition and is already underway. It would not be considered for IRPA's.
		Ph 2 - 2022				

[1] The St. Laurent portfolio of work consists of four phases of work, and each phase is comprised of separate projects. Phases 1 & 2 have been previously completed, with Phases 3 & 4 remaining in this forecast period. Phase 3 includes the following investments; Three PE main investments in 2021 including Lower Section, Coventry/Cummings/St Laurent, and Montreal to Rockcliffe. Phase 4 includes the following investments; Two steel main investments as included in this table in 2022. The investments comprising Phases 3 & 4 will be combined in a single Leave to Construct application that will be submitted in Fall 2020.

Asset Class	Project Name	In-Service Year	2021-2025 Net Capital ($M)	Total In-Service Capital ($M)	Driver	IRP Eligibility
Transmission Pipe & Storage	Crowland Pool (PCRW): Wells-Upgrade	2027	1.7	11.6	Compliance, Condition	This Transmission Pipe and Storage Project would be excluded as a result of Enbridge Gas' Safety criterion.
REWS	Kennedy Road Expansion	2024	26.3	26.3	Condition	These Real Estate and Workplace Services investments are not within the scope of the IRP Framework.
	Station B New Building	2021	15.5	17.6	Condition, Function, In Progress	
	SMOC/Coventry Facility Consolidation	2027	30.8	30.8	Function and Service Coverage Duplication	
	Kelfield Operations Centre	2023	10.8	10.8	Condition, Function	
	VPC Core and Shell	2025	20.0	20.0	Condition	

Table 6.1-4 ICM-Eligible Capital Projects – Union Rate Zones

Asset Class	Project Name	In-Service Year	2021-2025 Net Capital ($M)	Total In Service Capital ($M)	Driver	IRP Eligibility
Distribution Growth	Customer Stratford Reinforcement	2022	13.3	13.3	Mandatory: Reinforcement Specified per Network Analysis	Customer Stratford Reinforcement is driven by a specific customer and does not meet Enbridge Gas' Customer-Specific Builds criterion (EB-2020-0091 Exhibit B, Paragraph 38 iv).
	Dunnville Line Reinforcement (6.3 km of NPS 10)	2025	9.0	11.0	Mandatory: Reinforcement Specified per Network Analysis	Some of these Projects could be considered for IRPAs (Owen Sound Transmission Reinforcement, Goderich Transmission Reinforcement) providing there is sufficient lead time but the remainder are required within three years and do not meet Enbridge Gas' Timing criterion (EB-2020-0091, Exhibit B, Paragraph 38 ii).
	NBAY: Parry Sound Lateral Reinforcement (12.5 km of NPS 6)	2025	15.0	15.0	Mandatory: Reinforcement Specified per Network Analysis	
	WATE: Owen Sound Transmission System, Reinforcement (28.8km of NPS 16)	2025	81.7	83.6	Mandatory: Reinforcement Specified per Network Analysis	
	LOND: Goderich Transmission System, Reinforcement (11.4km of NPS 10)	2025	2.2	25.0	Mandatory: Reinforcement Specified per Network Analysis	
Distribution Pipe	NPS 8 Port Stanley Replacement	2024	20.6	20.6	Condition	These Distribution Pipe Projects would be excluded as a result of Enbridge Gas' Safety criterion (EB-2020-0091, Exhibit B, Paragraph 38 i)
	INTE: North Shore - Section A: Retrofit ECDA to ILI	2021	12.0	12.3	Mandatory: Retrofit for TIMP program (ILI Compliance)	
	Windsor Line Replacement	2020	7.2	90.3	Condition	
	LOND - London Lines Replacement	2021	102.6	108.2	Condition	
	Kirkland Lake Lateral Replacement	2022	16.8	16.8	Condition	
	SUDB: Marten River Compression, Reinforcement	2023	51.6	51.6	Mandatory: Reinforcement Specified per Network Analysis	These Projects could be considered for IRPAs providing there is sufficient lead time.
	WATE - Owen Sound Reinforcement Ph 4	2020	1.9	56.6	Mandatory: Reinforcement Specified per Network Analysis	
Compression Stations	Dawn Plant-C Compression Life Cycle	2024	130.9	130.9	Obsolescence	These Compression Stations Projects are driven by obsolescence and would be excluded as a result of Enbridge Gas' Safety criterion (EB-2020-0091, Exhibit B, Paragraph 38 i)
	Waubuno Compression Life Cycle	2024	12.9	12.9	Obsolescence	
Transmission Pipe & Storage	Panhandle Line Replacement	2023	29.7	29.7	Condition, High Consequence	These Projects are driven by condition and compliance and would not be considered for IRPAs (Safety criterion).
	INTE: Dawn - Cuthbert - ECDA to ILI Retrofit NPS 42, 34, 26	2022	24.6	25.0	Mandatory: Retrofit for TIMP program (ILI Compliance)	
	Dawn Parkway Expansion (Kirkwall-Hamilton NPS 48)	2022	176.1	181.7	Growth	These investments are driven by growth and would qualify for IRPA's unless there is insufficient time to meet Enbridge Gas' Timing criterion or it meeting the criteria of a Customer-Specific Build.
	Sarnia Expansion (NPS 20 Dow to Bluewater)	2021	19.2	20.5		
	Sarnia Expansion (Novacor Station)		6.5	6.5		

Asset Class	Project Name	In-Service Year	2021-2025 Net Capital ($M)	Total In Service Capital ($M)	Driver	IRP Eligibility
	Sarnia Expansion - Bluewater Energy Park (Asset #1)	2024	64.5	64.6		
	Sarnia Expansion Project- Bluewater Energy Park (Customer Station)		11.7	11.7		
	Sarnia Expansion - Bluewater Energy Park (Asset #2)		34.0	34.0		
REWS	Thunder Bay Regional Operations Centre	2026	10.2	10.2	Condition	These Real Estate and Workplace Services investments are not within the scope of the IRP Framework.
	New Site No. 4	2023	28.8	28.8	Operations Site Consolidation	

ENBRIDGE GAS INC.

Answer to Interrogatory from
Green Energy Coalition (GEC)

INTERROGATORY

Question:

On pp. 22-23, paragraph 45 of its reply evidence, Enbridge states that "Despite the establishment of GHG emissions reductions targets by the governments of Ontario and Canada, the ultimate path to achieving such reductions remains uncertain…"

a. Would Enbridge agree that the only ways to substantially reduce carbon emissions otherwise resulting from consumption of natural gas are to (1) increase efficiency of gas use (i.e. reduce gas consumption); (2) electrify gas end uses (i.e. another way to reduce gas consumption); or (3) to switch from burning of fossil gas to burning of renewable gas, hydrogen or another GHG-neutral fuel? If not, please explain what other options exist and what portion of GHG emissions resulting from current gas consumption in homes and businesses they could potentially eliminate.
b. In its report, EFG made reference to a 2019 study by ICF for the American Gas Foundation which found that the marginal cost of renewable gas under optimistic assumptions about quantities available would be on the order of $55 (CDN) per Gj – or nearly 20 times the recent Henry Hub spot prices.
    i. Does the Company have any reason to believe that renewable gas could be produced in volumes comparable to current gas consumption levels at costs appreciably lower than $55 per Gj? In responding, please assume that all jurisdictions have the same goals – i.e., Enbridge could only access RNG in proportion to its current gas consumption levels relative to other jurisdictions in Canada and/or North America)?
    ii. If the answer to subpart (i) of this question is yes, at how much lower cost?
    iii. Please provide all references to support conclusions reached in response to this question.
c. What is Enbridge's best estimate of both the short-term and long-term price elasticity of demand for natural gas from customers in its service territory? Please specify the periods of time the Company assumes to be "short-term" and "long-term" in providing the answer. Also, please provide the basis for the response.

Response

a) Enbridge Gas agrees that GEC has identified some of the ways in which to reduce carbon emissions otherwise resulting from consumption of natural gas and that a combination of these approaches may work in collaboration with the other(s). In addition to options listed by GEC, Enbridge Gas has identified other measures that can support GHG reductions, which include:

   (4) atmospheric capture of CO_2 and conversion or sequestration through nature-based solutions (e.g., photosynthesis);

   (5) capture of emissions from combusted fuels at customer facilities and subsequent utilization or sequestration of CO_2 through man made equipment; and

   (6) atmospheric capture of CO_2 and utilization or sequestration through man-made equipment (e.g., direct air capture).

b) Enbridge Gas is not pursuing RNG as a specific IRPA as part of this proceeding. Furthermore, the ICF study for American Gas Foundation referenced may not be applicable as it is not Ontario focused nor does it necessarily represent the current government, regulatory or market conditions for RNG in Ontario or Canada.

c) The annual demand forecast for the EGD and Union rate zones are both developed using Board-approved methodologies. There are no different methodologies/models used for EGD and Union's short- and long-term general service demand forecasts. Therefore, there is one set of price elasticity determined from those models.

   As discussed on page 31 and page 70 of Enbridge Gas's 5 Year Gas Supply Plan (EB-2019-0137), gas demand is price-inelastic. A 10% price increase is estimated to reduce demand by approximately 0.3%* for the Union rate zones and 0.2% for the EGD rate zone.

   **Note, page 70 of the Plan states 0.03% price impact per 10% change in price; this should read 0.3%.*

ENBRIDGE GAS INC.

Answer to Interrogatory from
The Consumers Council of Canada ("CCC")

INTERROGATORY

Reference:

Ex. B, p. 24

Question:

Please explain how a district energy project works to avoid natural gas pipeline construction. Please indicate to what extent there are district energy projects in place in EGI's franchise area. For each of those projects please provide detailed descriptions and explain how those projects are providing benefits to EGI natural gas ratepayers.

Response

As detailed in paragraph 47 of Enbridge Gas's Additional Evidence, district energy systems operate by harnessing and converting various forms of energy, such as natural gas, geothermal, photovoltaic cells, and waste heat recovery, into useful thermal energy which can offset demand for natural gas. Through its investigation of and potential investment in district energy systems Enbridge Gas expects that it may be feasible to reduce, avoid or defer the construction of new natural gas facilities in the future.[1]

There are several public district energy systems within Enbridge Gas's franchise area. Markham District Energy operates two district energy systems in Markham, Ontario. The first system serves the City of Markham's downtown core, while the second system serves the Markham Stouffville Hospital and surrounding area.[2] Enwave, a subsidiary of Brookfield Infrastructure also operates district energy systems in several Canadian cities.[3] However, it should be noted that Enbridge Gas does not currently own or operate any district energy systems and thus is unable to provide detailed descriptions

[1] District energy systems may reduce, avoid or defer the need for new natural gas facilities and increase the need for other forms of infrastructure (e.g., electricity).
[2] www.markhamdistrictenergy.com
[3] www.enwave.com

of their nature or the costs/benefits afforded to the homes, businesses and/or institutions which are served by such systems, including to Enbridge Gas's customers.

At such time that the OEB establishes an IRP Framework for Enbridge Gas that enables consideration of district energy systems as IRPAs the Company expects that it would investigate such projects wherever economically feasible (subject to the cost-effectiveness test ultimately established by the Board for natural gas IRP in Ontario) and, if determined to be viable IRPAs, may apply to the Board for approval to invest in such projects.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Question:

a) Please provide a summary of all external stakeholder feedback received by Enbridge on its IRP Proposal prior to it being filed and explain how the feedback was incorporated into the IRP Proposal.

Response

Enbridge Gas did not seek direct external stakeholder feedback on its IRP Proposal prior to it being filed with the Board. However, Enbridge Gas's IRP Proposal was informed by Natural Gas IRP practices in other jurisdictions, Ontario developments and by the IRP Studies that Enbridge Gas has commissioned ICF to conduct.

The May 2018 IRP Study conducted by ICF was informed by external stakeholder feedback. A summary of the external stakeholder feedback received for the May 2018 IRP Study can be found in EGD's January 15, 2018 DSM Mid-Term Review (EB-2017-0127/EB-2017-0128) Submission at paragraphs 119 to 129.[1]

[1] https://www.rds.oeb.ca/CMWebDrawer/Record/596649/File/document

ENBRIDGE GAS INC.

Undertaking Response to ED

To provide a forecast for annual consumption by new additional customers 2020-2030.

Response:

Please see the forecast annual consumption by new additional general service customers for the period of 2021-2030 set out in Table 1 below. 2020 Actual consumption will be submitted as part of Enbridge Gas's 2020 Utility Earnings and Disposition of Deferral & Variance Account Balances Application and evidence to be filed with the OEB in coming months.

Table 1

Volumes by new additional customers (in 10^6 m^3)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	167.0	165.7	162.3	156.4	151.2	147.8	144.2	140.6	136.6	132.8

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit B / p. 14 of 46; Exhibit A, Tab 13, Page 11 of 24 (load forecast as a screening criterion); Exhibit A, Tab 13, Page 19 of 24 (AMI)

Additional Public Documents: Enbridge Gas Inc. 5 Year Gas Supply Plan, May 1, 2019 (EB-2019-0137); Enbridge Gas Inc. 2021-2025 Utility System Plan and Asset Management Plan (filed October 15, 2020; EB-2020-0181, Exhibit C, Tab 1, Schedule 1 (Utility System Plan), Exhibit C, Tab 2, Schedule 1 (Asset Management Plan)).

Preamble:

Enbridge Gas notes that "when Enbridge Gas determines that its current facilities cannot balance the peak demand forecast with existing system facilities that can deliver the forecasted volumes safely and reliably, a system need is identified."

Question:

a) The demand forecasts in Enbridge Gas's 5 Year Gas Supply Plan are for the EGD, Union North West, Union North East, and Union South rate zones in their entirety. Please describe how these high-level demand forecasts in Enbridge Gas's 5 Year Gas Supply Plan are refined to produce more granular demand forecasts of smaller geographic areas to inform the "Needs Identification" phase of Enbridge Gas's IRP Process Plan. Please clarify how, if at all, the inputs from the 5-Year Gas Supply Plan are supplemented with more detailed local information (metering data, knowledge of customer numbers/energy trends, etc.).
b) Is the Asset Management Planning process that is described in Enbridge Gas's 2021-2025 Asset Management Plan the primary tool that Enbridge Gas will use for the "Needs Identification" phase of the IRP Process Plan? Please list and briefly describe any other tools or processes that play a material role in the "Needs Identification" phase.
c) Does Enbridge Gas believe that most, if not all, system needs where IRPAs could potentially be a solution would be identified and described through the Asset

Management Plan? If not, please identify circumstances where a system need may not be identified and described through the Asset Management Plan

d) Enbridge Gas's 2021-2025 Asset Management Plan (section 5.1.6 for distribution system reinforcement and section 5.1.7 for transmission system reinforcement) describes how Enbridge Gas uses demand forecasts as an input to identify specific needs for system reinforcements. Does this document provide the best overview of how Enbridge Gas identifies needs for system reinforcement, and do the processes described regarding needs identification remain accurate? If not, please describe any changes or additional information regarding Enbridge Gas's process for needs identification.

e) What level of geographic specificity is Enbridge Gas's needs identification process conducted at?

f) Enbridge Gas notes that "the deployment of an AMI system…will allow for the collection of the hourly data that Enbridge Gas requires to…target IRPAs effectively". Does this refer to improving the accuracy of the needs identification phase (better data on peak demand and capabilities of existing infrastructure to meet this demand), improving the ability of Enbridge Gas to identify potential IRPAs (e.g. customer or measure-specific information on possible peak demand reductions) or both? Please describe as needed.

Response

a) The Gas Supply Plan does not require the same level of granularity required by the Asset Management Plan. The Gas Supply Plan focuses on upstream transportation requirements and utility needs on the Dawn-Parkway system. Accordingly, the Plan contains the needs of only a sub-set of Enbridge Gas customers. For example, customers who contract for their own transportation to the Company are not included in the Gas Supply Plan. The Company creates detailed bottom up forecasts for use in the Asset Management Plan and these forecasts are also used to inform the forecasts used for the Gas Supply Plan (please also see the response at Exhibit I.STAFF.2).

Enbridge Gas uses a robust, bottom up approach to obtain the granularity of demand growth, location and timing required for the detailed reinforcement plans identified in the Asset Management Plan. This information includes economic forecast data, public policy information, municipal planning data, individual customer data, tacit knowledge, and historical growth rates in geographic areas. This information is included in Enbridge Gas's planning processes which then identifies areas of system constraint/need where the timing and scope of potential reinforcement projects will be

identified. The plans to serve the need, along with alternatives identified are set out in the Asset Management Plan.

b) Yes. The Asset Management Plan and underlying process are anticipated to be the primary tool that Enbridge Gas will use for "Needs identification". Enbridge Gas also expects additional needs/constraints will be identified through ongoing dialogue with customers and stakeholders, and Gas Supply Planning.

c) Yes, the Asset Management Plan will identify and describe most anticipated system constraints/needs on Enbridge Gas's system and the facilities or IRPAs required to resolve those constraints/needs.

d) Yes, this information remains accurate. Similar to all processes, any changes will be reflected in the updates to the Asset Management Plan in the future. Exhibit I.STAFF.4 Attachment 1, provides a system criteria document specifically created for the Dawn Parkway system, however, the planning methodologies laid out therein are generally consistent with those used for all Enbridge Gas pipeline systems.[1]

e) Needs Identification is performed at a robust level of granularity for the distribution system evaluation potentially down to the customer level (i.e for commercial/industrial customers) and is aggregated up to the municipal and or regional level to inform the transmission system evaluation. Ex-franchise customer needs are obtained from Open Season requests for transmission system capacity. These Open Seasons are held every few years to solicit interest.

f) Both. By investing in AMI, Enbridge Gas can vastly improve the granularity of customer consumption data that it gathers, allowing for more precise IRPA design, more accurate forecasts of associated energy savings, and higher quality monitoring and reporting on the effectiveness of IRPAs. This improved information will allow for more informed decisions regarding whether to continue, adjust, increase or cease IRPA activities. AMI is expected to also enable demand response program impacts to be reliably included in system demand forecasts.

[1] Note that Exhibit I.STAFF.4 Attachment 1 is intended to be illustrative and is consistent with the processes used within the AMP.

Dawn Parkway Transmission System

Review of System Design

21 January 2021

Transmission System Planning Department

ENBRIDGE

1. Purpose of This Document

This document provides detail on the criteria used to review the Enbridge Gas Dawn Parkway transmission system to determine if the existing facilities are adequate from a capacity and reliability standpoint to service forecast Design Day demands of the in-franchise and ex-franchise customers. This report is updated using the available customer growth forecasts, and will be used to properly select the preferred option which best meets the current and forecast system demands. The option may include construction of new facilities or contracting of commercial services.

The system review process is comprised of a number of distinct sections including the following:

- Review of the Physical System
- Forecast of Design Day Demand
- System Operating Criteria
- System Capacity
- Selection of Future Facilities

The creation of this report results in the selection of the best solution for meeting forecast Design Day demands, both in the short and long-term, with a focus on minimizing cost to ratepayers and maximizing system reliability.

2. Review of the Physical System

The physical system is composed of pipelines, regulation and meter stations and compressor stations. The physical system moves gas to delivery locations along the pipeline to meet the volumetric demands and pressure requirements of Enbridge Gas' customers. The pipeline system forms the foundation for future development as customer's needs grow.

Enbridge Gas has three transmission[1] systems 1) Dawn Parkway, 2) Panhandle and 3) Sarnia Industrial. A map showing the location of the transmission systems is shown in Schedule 1. The remainder of this document will focus exclusively on the Dawn Parkway transmission system.

2.1. DAWN PARKWAY

The Dawn Parkway system is comprised of a series of parallel pipelines, compressor stations and regulation and meter stations. The system starts at the Dawn compressor station near Sarnia and extends to the Parkway compressor station and Lisgar regulation and meter station in Mississauga. For clarity, this section is split into the major physical components; Pipelines, Compressor Stations, Supply and Delivery Locations.

2.2. PIPELINES

The Dawn Parkway system consists of 4 parallel pipelines; 26, 34, 42, and 48-inch diameter. The 26, 34- and 48-inch diameter pipelines run the entire distance between Dawn and Parkway. The 42 inch runs from Dawn to Kirkwall. A second 48 inch has been constructed between Hamilton and Milton.

[1] Other Enbridge Gas departments including Pipeline Engineering and Plant Accounting have different definitions of what is considered a transmission pipeline. In this document the Transmission systems or pipelines refer to the pipelines modelled by the Transmission Optimization & Engineering Department.

The Dawn Parkway system continues downstream of Parkway with a 42 inch diameter pipeline that runs between Parkway and Albion Road Station in Toronto[2]

Details of the existing pipeline sections are shown below.

SECTION	NOMINAL PIPE SIZE (IN)	LENGTH (KM)	OUTSIDE DIAMETER (MM)
Dawn to Lisgar	26	229	660
Dawn to Lisgar	34	229	864
Dawn to Kirkwall	42	189	1067
Dawn to Parkway	48	229	1219
Hamilton to Milton	48	19.5	1219
Parkway to Albion	42	27	1067

The remaining "4th Loop" sections to be constructed in the future are:

SECTION	NOMINAL PIPE SIZE (IN)	LENGTH (KM)	OUTSIDE DIAMETER (MM)
Kirkwall to Hamilton	48	10	1219
Milton to Parkway	48	9	1219

Enbridge Gas will perform a 5th line study to determine options for future pipeline sections to meet increasing system market demands.

The flow of gas on the Dawn Parkway system, on Design Day, is easterly from Dawn towards Parkway.

2.3. COMPRESSOR STATIONS

Compressor stations are integral to the operation of the Dawn Parkway system. The compressor stations are located at specific points on the system to increase the overall transmission system capacity. In addition to the Dawn compressor station, which provides supply to the Dawn Parkway system, there are three mainline compressor stations located at Lobo, Bright, and Parkway.

[2] Although the GTA Line which connects Albion Road Station is a component of the contiguous Dawn Parkway System, EGI has not yet incorporated this facility into its Dawn Parkway System operations or capacity models. EGI expects that future Dawn Parkway System Leave To Construct applications will include further consideration of these facilities.

Details of the mainline compressor stations are shown below:

COMPRESSOR STATION	KILOMETER POST	UNIT	ISO RATING (MW)
Lobo	73	A1	16.5
		A2	15.3
		B	26.1
		C	33.2
		D	33.2
		TOTAL	**124.3**
Bright	141	A1	28.0
		A2	28.0
		B	26.1
		C	33.2
		TOTAL	**115.3**
Parkway	229	A1	16.5
		B	32.9
		C	33.2
		D	33.2
		TOTAL	**115.8**

Notes:

- *Kilometer post denotes the distance from Dawn to the specific delivery location in kilometers*
- *ISO (International Standards Organization) rating refers to available power of a unit at specific standard conditions (an intake air temperature of 15 ℃, barometric pressure of 101.325 kPa and no inlet or outlet losses). These ratings are provided by the Original Equipment Manufacturer.*

The compressor stations at Dawn, Lobo, Bright and Parkway have Loss of Critical Unit (LCU) coverage. Please see section 4.3 for additional information.

2.4. SUPPLY AND DELIVERY LOCATIONS

There are specific delivery locations along the system between Dawn and Lisgar which are connected to downstream Enbridge Gas distribution systems in Union South and EGD Rate Zones[3] or ex-franchise customers' pipeline systems. At these locations gas is delivered to Enbridge Gas's in-franchise and ex-

[3] *Other Enbridge Gas departments including Pipeline Engineering and Plant Accounting have different definitions of what is considered a distribution pipeline. In this document the distribution systems or pipelines refer to the systems planned and modelled by the Network Analysis Department and fed from the Transmission systems as modelled by the Transmission Optimization & Engineering Department.*

franchise (M12) customers. The following table summarizes the delivery locations, distance from Dawn and the in-franchise area or ex-franchise customer supplied for each location.

LATERAL	KILOMETER POST	AREA / SYSTEM SERVED
Forest	44.01	Forest, Thedford, Parkhill
Strathroy	54.93	Strathroy
London West / Byron	73.05	London, St Thomas
Hensall	85.74	London, Lucan, Exeter, Hensall
London North	90.35	London
St Mary's	103.93	St Mary's
Stratford	121.45	Stratford, Mitchell, Wingham, Goderich
Beachville	121.45	Ingersoll, Woodstock, Tillsonburg
Oxford	142.92	Woodstock, Paris
Owen Sound	159.39	Waterloo, Kitchener, Owen Sound
Cambridge	175.14	Cambridge
Brantford	175.14	Brantford
Guelph	183.67	Guelph
Kirkwall	188.67	Niagara (Enbridge CDA), M12 (TC Energy and others)
Kirkwall Dominion	188.67	Caledonia, Hagersville, Nanticoke
Hamilton 3	188.67	Hamilton, Stoney Creek
Hamilton 1 & 2	199.25	Hamilton, Burlington
Milton	218.09	Milton, Burlington
Halton Hills	221.61	Halton Hills, Milton
Burlington Oakville	228.94	Burlington, Oakville
Greenbelt	228.94	Georgetown, Acton, Oakville
Parkway Cons / Lisgar	228.94	Toronto GTA (Enbridge CDA)
Parkway Discharge	228.94	Union North (Union NDA/EDA), GTA West & Niagara and GTA EAST (Enbridge CDA), and M12 (TC Energy & others)
Albion	255.94	Toronto GTA (Enbridge CDA)

Note: Kilometer post denotes the distance from Dawn to the specific delivery location in kilometers.

The Dawn Compressor Station is the main source of supply to the Dawn Parkway system. Supply is also received at Parkway and Kirkwall, which reduces the need for Dawn supply. There is also a small amount of storage and production gas which feeds into the system.

3. Forecast of Design Day Demand

Enbridge Gas has a requirement to provide safe and reliable service to its customers on a very cold day called the Design Day. The Design Day demand is the firm volumetric amount of natural gas that is consumed by the in-franchise and ex-franchise customers on the Design Day.

The majority of the customers, both in-franchise and ex-franchise, served by the transmission systems are heat sensitive and their maximum demands occur during a very cold winter day. Enbridge Gas plans its facilities to meet the demands on this very cold day, defined to be the Design Day.

Calculating the Design Day demand requires customer consumption and weather history.

3.1. WEATHER CONDITION

The Design Day weather condition for the Union South Rate Zone is 43.1 Degree Days (43.1 DD), which represents an average daily temperature of -25.1 degrees centigrade. This temperature is the coldest historical based upon the weather data for the London Airport which consists of recorded temperature and wind speeds from 1953 to current. From this data, Enbridge Gas has found the likelihood of a 43.1 DD occurring over the course of a winter is a reasonable assumption, with the highest probability of occurrence in mid-January to mid-February. Using the 43.1DD ensures Enbridge Gas's Union South Rate Zone customers can continue to be safely and reliably served during the coldest winters.

The Union North and EGD Rate Zones can be reliably served based on the Degree Days selected for those regions. For additional information regarding Degree Day values for Union North and EGD Rate Zones, refer to EB-2019-0137 Enbridge Gas Inc. – 5 Year Gas Supply Plan on pages 34-35 and 74-75.

3.2. DESIGN DAY DEMAND

The Design Day demand is defined as the amount of firm demand that Enbridge Gas is committed to supply through its systems on a Design Day. The total Design Day demands for the transmission systems are the sum of the firm demands of Enbridge Gas's in-franchise customers connected to the transmission systems in the Union South Rate Zone, plus the demands transported to serve the EGD and Union North Rate Zones, as well as any firm easterly ex-franchise Dawn Parkway system customer demands. Interruptible demand is curtailed on Design Day. Ex-franchise demand flowing counter to the flow direction of the transmission systems are not included for Design Day analysis.

3.2.1. In-franchise Demand (Union South) – Transmission System

Union South Rate Zone in-franchise customers are served by laterals connected to and located along the transmission systems.

Enbridge Gas has a process to develop the Design Day demand which provides a reliable, repeatable and predictable way to generate base customer consumption for the transmission system. Once the demand has been determined it is assigned to the customer location. The base demand is calculated once the winter heating season is completed at the end of March. Corporate forecasts are added to the base demands to predict future customer consumption.

The transmission system in-franchise Design Day demand for Union South Rate Zone is the sum of the Design Day general service demand plus the Design Day demand of the firm contract customers. All interruptible in-franchise contract customers are curtailed for the Design Day condition and not included in the Design Day demand.

Schedule 2 outlines the process that Enbridge Gas uses to develop the Transmission Load Forecast for Design Day demand for its Union South Rate Zone in-franchise customers.

3.2.1.1. General Service

Enbridge Gas develops its base year general service Design Day demands from a regression analysis of actual daily measured demands and degree days from the previous winter season. These regression analyses are segmented based on geography and downstream distribution systems.

Based on further analysis of the general service customer's demands, Enbridge Gas has found a gradual downward trend in the Design Day use per general service customer. A regression line has been calculated from this data and the base year Design Day demands are adjusted to fit the line.

Growth rates for the general service customers are developed by the Distribution Optimization & Engineering department to account for the forecast addition of new customers, as part of their Facilities Business Plans. General Service volumes are analyzed by operating region over a 20-year period, identifying when and where system load is increasing. The growth rates are applied to the base year Design Day demands for each lateral.

3.2.1.2. Contract Rate

Enbridge Gas develops its base year contract rate Design Day demands from a regression analysis of actual daily measured demands and degree days from the previous season and daily contracted demand. These regression analyses are segmented based on rate class, heat sensitivity, geography and downstream distribution systems. Contract rate customer contracted demands (CD) are used to guide the selection of appropriate design volumes for these customers.

Growth rates for the contract rate customers are developed by the Utility Revenue department to account for the addition of new customers and changes to the requirements of existing customers. The growth rates are customer specific and assigned to specific customer locations on the transmission systems.

3.2.2. In-franchise Demand (Union North)

Enbridge's Gas Supply Plan determines the Design Day transportation requirement on the Dawn Parkway system for Union North Rate Zone in-franchise customers. The design day demands are calculated using a similar process to the Union South Rate Zone and is described in EB-2019-0137 Enbridge Gas Inc. – 5 Year Gas Supply Plan.

3.2.3. In-franchise Demand (EGD)

Enbridge's Gas Supply Plan determines the Design Day transportation requirement on the Dawn Parkway system for EGD Rate Zone in-franchise customers. Legacy Enbridge contracted for Dawn Parkway system transportation through M12 contracting services and the volume equivalent of these contracts is being transported for EGD Rate Zone customers on Design Day. The design day demands for EGD rate zone is described in EB-2019-0137 Enbridge Gas Inc. – 5 Year Gas Supply Plan.

3.2.4. Ex-franchise Design Day Demand

The ex-franchise customers also have a Design Day demand. This group of customers has made a conscious decision to contract for a specific level of transportation service on Enbridge Gas's Dawn-Parkway system. Enbridge Gas has the contractual commitment and the customer has the contractual right to full contract demand on any day, including the Design Day. As a result, Enbridge Gas considers the Design Day demands for these customers to be equivalent to their full contact demand. Only easterly flowing contracts are considered for Design Day purposes as counter-flow (westerly) contracts are not guaranteed to flow on Design Day.

Enbridge Gas may require facilities to accommodate customer required counter-flow contracts to deliver their supply from the receipt point to Dawn during all times of the year.

Growth forecasts for ex-franchise customers are provided by the Business Development Department and are customer and path specific (for example: Dawn to Kirkwall, Dawn to Parkway and Kirkwall to Parkway).

3.2.5. System Supply

The main source of supply to all of Enbridge Gas's in-franchise and ex-franchise customer demand is Dawn Hub ("Dawn"). Dawn is a world class natural gas trading hub and the largest underground storage facility in Canada with 281 Bcfd of high deliverability storage. Multiple pipelines converge at Dawn from all the major gas producing regions in North America.

At Dawn, near Sarnia, the Dawn Parkway System connects to a number of pipelines, including: Vector, Panhandle Eastern via the Enbridge Gas Panhandle system, the TC Energy Great Lakes Gas Transmission Pipeline ("GLGT"), DTE (formerly Michigan Consolidated), Bluewater Gas Storage and ANR via Niagara Gas Transmission (Niagara Link).

Enbridge Gas can also receive gas into the Dawn to Parkway system from third party pipeline systems at Kirkwall, Parkway, Enbridge Gas Inc. (EGI") storage facilities directly connected to its transmission systems, and local producers.

At Kirkwall, Near Hamilton, the Dawn Parkway System connects to the TC Energy Canadian Mainline ("TC Energy Mainline") at Enbridge Gas's Kirkwall Custody Transfer Station ("Kirkwall"). This portion of the TC Energy Mainline, known as the Niagara Export Line, connects to the import/export points at Niagara and Chippewa at the Ontario/New York border.

At Parkway, the Dawn Parkway System connects to the TC Energy Mainline, at the Parkway compressor site at a delivery point referred to as Parkway (TCPL).[4]

Location of these supplies in relation to the transmission system and customers can increase the system capacity.

Enbridge Gas's system supply is described in EB-2019-0137 Enbridge Gas Inc. – 5 Year Gas Supply Plan.

[4] The TC Energy Domestic Line runs between Niagara interconnect point at Parkway (TC Energy). This pipeline can also be used to supply gas into the EGD and Union South Rate Zones.

3.2.6. Obligated Deliveries at Parkway

In the Gas Supply Plan, there are obligated deliveries (DCQ) delivered to Enbridge Gas for the Union South Rate Zone system supply and direct purchase customers. A portion of these volumes are required to be delivered at Parkway (Parkway Delivery Obligation or PDO) on the downstream side of the compressors (the other portion is obligated at Dawn (Dawn Obligation). Enbridge Gas considers the PDO in the Design Day analysis of the Dawn-Parkway system to reduce the physical transportation needs from Dawn to Parkway.

The PDO reduction available as a result of Dawn to Kirkwall turn back volume was reduced to zero effective in Winter 2018/2019 consistent with the OEB-approved settlement agreement (EB-2013-0365). There is no additional PDO reduction available as there is no future Dawn to Kirkwall turn back forecast.

3.2.6.1. Parkway Delivery Obligation Benefit to Dawn Parkway System

Historically, the majority of Union South Rate Zone in-franchise and direct purchase customers and Enbridge Gas purchased their gas supply in the Western Canadian Sedimentary basin, with transportation contracted on TC Energy Mainline from Empress to Parkway. At the time the cost to transport gas to Parkway was less expensive than transporting gas to Dawn, so customers were obligated to deliver their supply gas to Parkway and thus had a PDO. Over time customers "West of Dawn" (i.e. Panhandle and Sarnia Industrial customers) were allowed to change their obligation to Dawn however customers that were "East of Dawn" or served by the Dawn Parkway system continued to have a PDO.

As the Dawn Parkway system was expanded, gas delivered to Parkway directly reduced the pipeline facilities required and as a result, the Dawn Parkway system is smaller today than if all the customers' gas was supplied from Dawn and had to be transported to Parkway.

3.2.6.2. Parkway Delivery Obligation Settlement Agreement

Due to turn back on the Dawn to Kirkwall path, Enbridge Gas used this surplus capacity to allow customers to have a higher proportion of their delivery obligation changed to Dawn. The PDO reduction available as a result of Dawn to Kirkwall turn back volume was reduced to zero effective Winter 2018/2019 consistent with the OEB-approved settlement agreement (EB-2013-0365). There is no additional PDO reduction available as there is no future Dawn to Kirkwall turn back forecast.

3.2.7. Hourly Demand Profile

Enbridge Gas develops hourly demand profiles for the delivery locations on the Dawn Parkway system for Union South Rate Zone customers plus EGD Rate Zone customers served from delivery point Parkway-Uncompressed (Consumers 1 and 2, and Lisgar stations) which reflect the expected pattern of natural gas use during the Design Day. These patterns are mainly a result of temperature sensitive demand throughout the day, with highest usage in the morning around 8 am.

Profiles are developed for heat sensitive customers who do not generally consume natural gas at a constant rate during the day. With these customers, demand varies over the period of the day with higher consumption in the morning hours, lower in the early afternoon and an increase during the early evening. Customers who consume natural gas at a constant rate do not receive a profile.

The hourly demand profiles are developed from historical gate station data. The transient or Unsteady State modeling technique used by Enbridge Gas allows simulate the ability of the pipeline system to serve the average daily demand at the critical morning uplift period which peaks around 8 am and other critical time periods as required. Transient modelling typically reduces transmission pipeline facility requirements. A sample hourly demand profile is shown in Schedule 3.

4. System Operating Criteria

The transmission systems have several operating criteria which ensures the system can operate within its constraints. The primary requirements are that the system:

- Cannot operate above its maximum operating pressure
- Must operate above minimum contractual delivery pressures
- Must operate above minimum suction pressure at the compressor stations
- Must operate within flow and pressure constraints at meter and regulating stations
- The required supply and pressure is available from Dawn and other supply sources

4.1. MAXIMUM OPERATING PRESSURE

The Maximum Operating Pressure (MOP) of the Dawn-Parkway system is 6160 kPag between Dawn and Parkway. The MOP of the NPS 42 GTA pipeline between Parkway and Albion is 6450 kPag.

4.2. MINIMUM SYSTEM PRESSURES

During analysis, it is necessary to ensure that inlet pressures to regulation and meter stations and delivery pressures to in-franchise and ex-franchise customers remain at or above the contractual guaranteed minimum pressure. Pressure must also be maintained above the minimum suction pressures at Enbridge Gas's compressor stations.

- The contractual minimum delivery pressure at Kirkwall is 4,480 kPag
- The contractual minimum delivery pressure at Parkway-Compressed (TC Energy) and Parkway-Compressed (EGT) is 6,450 kPag
- The minimum operating pressure on the Dawn Parkway system is 3450 kPag to EGD Rate Zone at Parkway-Uncompressed (Consumers 1, Consumers 2, and Lisgar stations)
- The minimum suction pressure for Dawn Parkway System compressor units is 3,450 kPag
- The required outlet pressure to Albion is maintained

4.3. LOSS OF CRITICAL UNIT (LCU) COVERAGE

Loss of critical unit coverage is included in the Design Day analysis to ensure all firm Design Day demands are served in the event of an unplanned compressor outage of the critical compressor unit at either the Lobo or Bright compressor stations. There is full LCU coverage for the Parkway and Dawn compressor stations.

The critical compressor unit is defined as the compressor unit that creates the greatest loss of system capability if it fails.

Long term compressor unit outages are evaluated to establish the critical unit outage. A Long-Term Outage (LTO) analysis considers the largest compressor unit at either Lobo or Bright is not available for the entire

day. This type of outage would occur if the unit had failed and was the unable to be repaired prior to the Design Day occurrence. Additional information regarding LCU is provided in Schedule 4.

Compressor stations without LCU coverage cannot be used to provide firm level of service to in-franchise customers.

5. System Capacity

With the demands, supplies and operating criteria set, system modeling takes place to determine if the existing facilities have enough capacity to serve the demands on Design Day.

The simulation function is preformed after the forecast Design Day demands and hourly profiles have been developed and are loaded into the model simulation software. Updates to supply, compressor behavior and new facilities are included in the analysis. System flow and pressures are assessed to ensure that all guaranteed minimum delivery pressures to customers can be maintained and all stations are operating within their design parameters. Locations that are approaching minimum system pressures are identified and reinforcement plans are created. Additional information on the simulation software is found in Schedule 5.

On a regular basis the pressure and flow information are compared to actual field data recordings and the model is adjusted to match field conditions. This verified model becomes the piping system of record that is used for all subsequent piping system analysis.

6. Selection of Future Facilities

If the existing facilities cannot deliver the forecast demands at the required delivery pressures, Enbridge Gas would consider facility options including pipeline and compressor alternatives, as well as non-facility commercial services such as Winter Peaking services. The available options are reviewed, the best solution is selected, and the Schedule of Facilities is created.

The selection of future facilities is completed by reviewing the current and forecasted future state of the system. Options are then considered for facility or non-facility growth which will meet both the short-term and long-term requirements of the system at the lowest cost. Consideration of new facilities will include system reliability and security of supply concerns. If the system review is being performed for expansion purposes, the options are considered based on lowest “cost per throughput”.

For the first year in the Schedule of Facilities, only facility alternatives that can be constructed to meet the required in service date are examined. The capacity provided by each alternative along with the capital costs are used to complete an initial ranking based on 'cost per unit of throughput'. Next, an economic evaluation is prepared for the viable facility alternatives. This economic evaluation is extended to include the available non-facility alternatives, such as Winter Peaking Service. The alternative having the highest economic benefit is selected.

Facilities needs for subsequent years are determined in a chronological sequence. For each year the facility alternatives remaining are reviewed and ranked based on 'cost per unit throughput'. The highest-ranking alternative will be the proposed facility addition for that year.

In a situation where more than one viable alternative ties for the highest rank, multiple facilities schedules will be developed, using each of the alternatives as a base. In this case, the multi-year schedule of facilities will be ranked, with the multi-year alternative with the lowest overall cost per unit throughput chosen as the proposed facility schedule.

The asset management plan provides a magnitude level estimate of future pipeline or compression facilities and does not include any non-facility alternatives or detailed economics for alternative comparisons. In the event the projects identified in the asset plan proceed, Enbridge Gas will complete a Leave to Construct application where a detailed and rigorous examination of both the facility and non-facility alternatives, including detailed costs and economics, can be completed.

6.1. SCHEDULE/FACILITY CHANGES

The schedule of facilities may change over time due to the uncertainty in the timing, volume and delivery location of the forecasted demands and supplies. As these parameters change over time, they may a change the schedule of facilities.

Specific examples of factors that may change the schedule of facilities are:

- Changes in Design Day demand
    - Decreased demand - a customer may choose not to renew their contracted demand. This could also occur during Reverse Open Seasons.
    - Increased demand – an unexpected increase in customer demand may occur.
    - Location of demand - a customer may decide to change the location of their demand. For example, an ex-franchise customer may want their demand delivered to Parkway instead of Kirkwall.
    - Introduction of new services – The creation of services that allow for multiple receipt and delivery points (i.e. M12X) or different paths (Kirkwall to Parkway) may affect the capacity of the system.
    - Timing of demand - a customer may decide to delay or accelerate the addition of demand. For instance, the conversion of power generation facilities to natural gas is dependent on government approvals.
- Changes in Supply
    - Obligated Delivery at Parkway may decrease if direct purchase customers change their firm supply level to reflect their current plant operations.
    - Enbridge's Gas Supply Plan may change volume and delivery location depending on gas price, transportation costs and new sources of supply.

The changes above cause shifts in the total system capacity with various facility alternatives. These shifts can change the relative cost effectiveness of an individual facility alternative and may change the ranking of that alternative. This could result in a change in the Schedule of Facilities.

7. Glossary

Compressor Station
A facility which adds energy into the natural gas stream to increase the system capacity by increasing the system pressure.

Contract Demand
A level of demand Union agrees to supply to a customer based on the customer's requirement.

Contract Rate
The high volume in-franchise commercial and industrial customers served under Union's contract rate schedules.

Cost per Unit Throughput
An analysis to determining the relative value of a facility addition. It is calculated by dividing the capital cost of the facility by the amount of capacity it provides.

Daily Demand Profile
The pattern of customer gas usage during a day.

Design Day
The degree day and demand conditions under which the capacity of the system is determined.

Design Day Demand
The volume of natural gas the customers (in-franchise and M12) are forecast to use on the Design Day.

Design Day Operating Criteria
The set of boundary conditions which must operate within to provide required volume at contractual pressure to customers.

Degree Day
The temperature defined as the design weather condition.

Facility
A physical piece of equipment which increases the capacity of the system. This can include pipelines, compressor stations or metering / regulating stations.

General Service
The residential, small commercial and small industrial customer served under Union's general service schedules.

Growth Factors
The ratio of the forecast winter season divided by the base year winter season volume. Multiplying the base year general service Design Day demand by this ratio gives the future year Design Day demand.

M12 Rate
A rate class used to serve ex-franchise customers wanting firm service on the Dawn Parkway system.

Metering and Regulating Facilities
The facilities used to control pressures on a system and measure the amount of natural gas moving from one system to another.

Non-Facility
A commercial service contracted as a means of providing capacity alternatives without the addition of facilities.

Parkway Obligated Deliveries
The volume of natural gas which is to be supplied to Union at Parkway on behalf of direct purchase and system supply customers.

Pipeline
A number of pipe sections joined together for the purpose of carrying natural gas from one location to another.

Schedule of Facilities
A schedule of additional pipelines or compressor stations required to serve forecast demand.

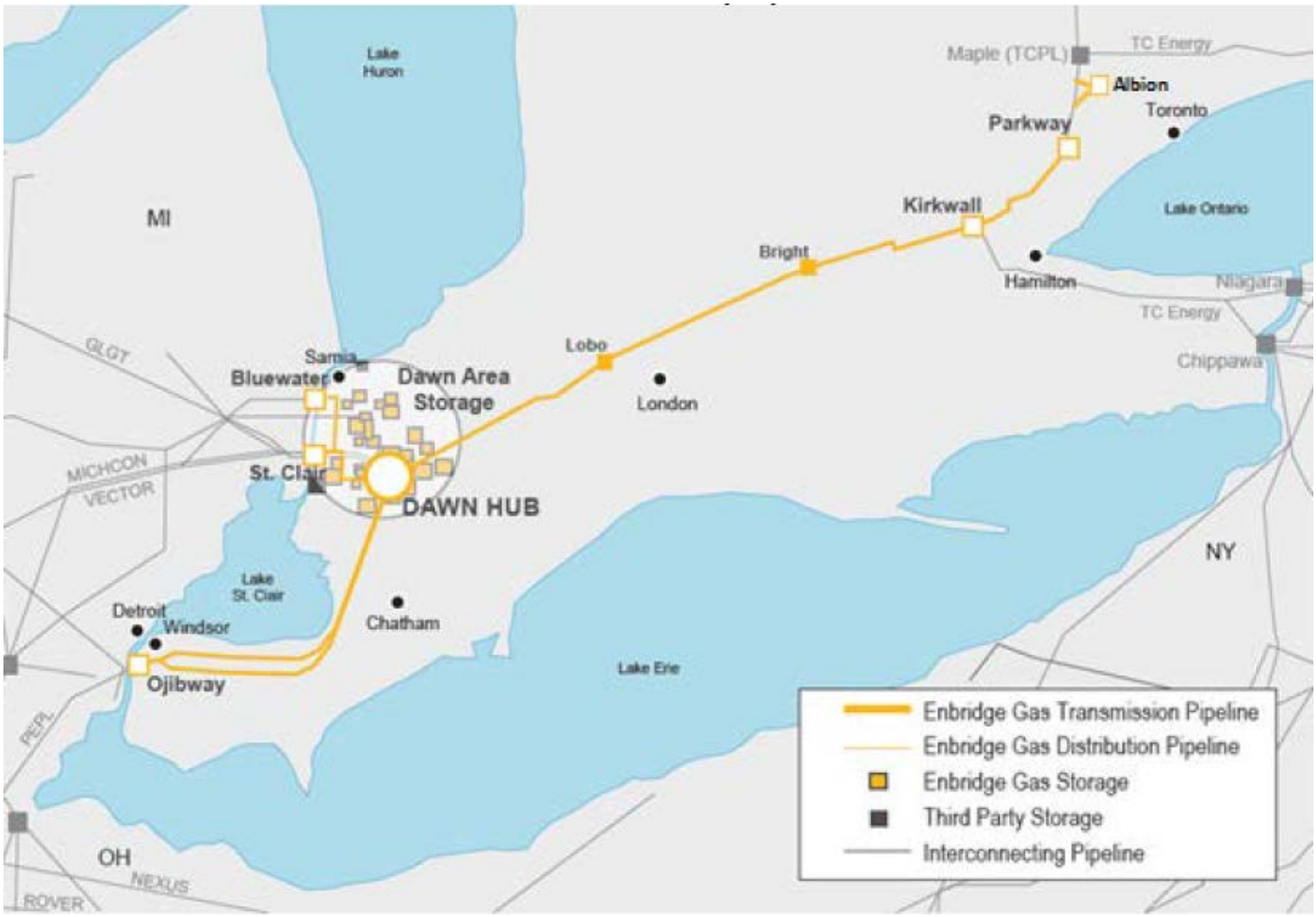
System
The transmission system including the pipelines, compressor stations and the metering and regulating facilities

Winter Peaking Service
A non-facility alternative service which delivers a specified amount of gas to Parkway for a specified number of days.

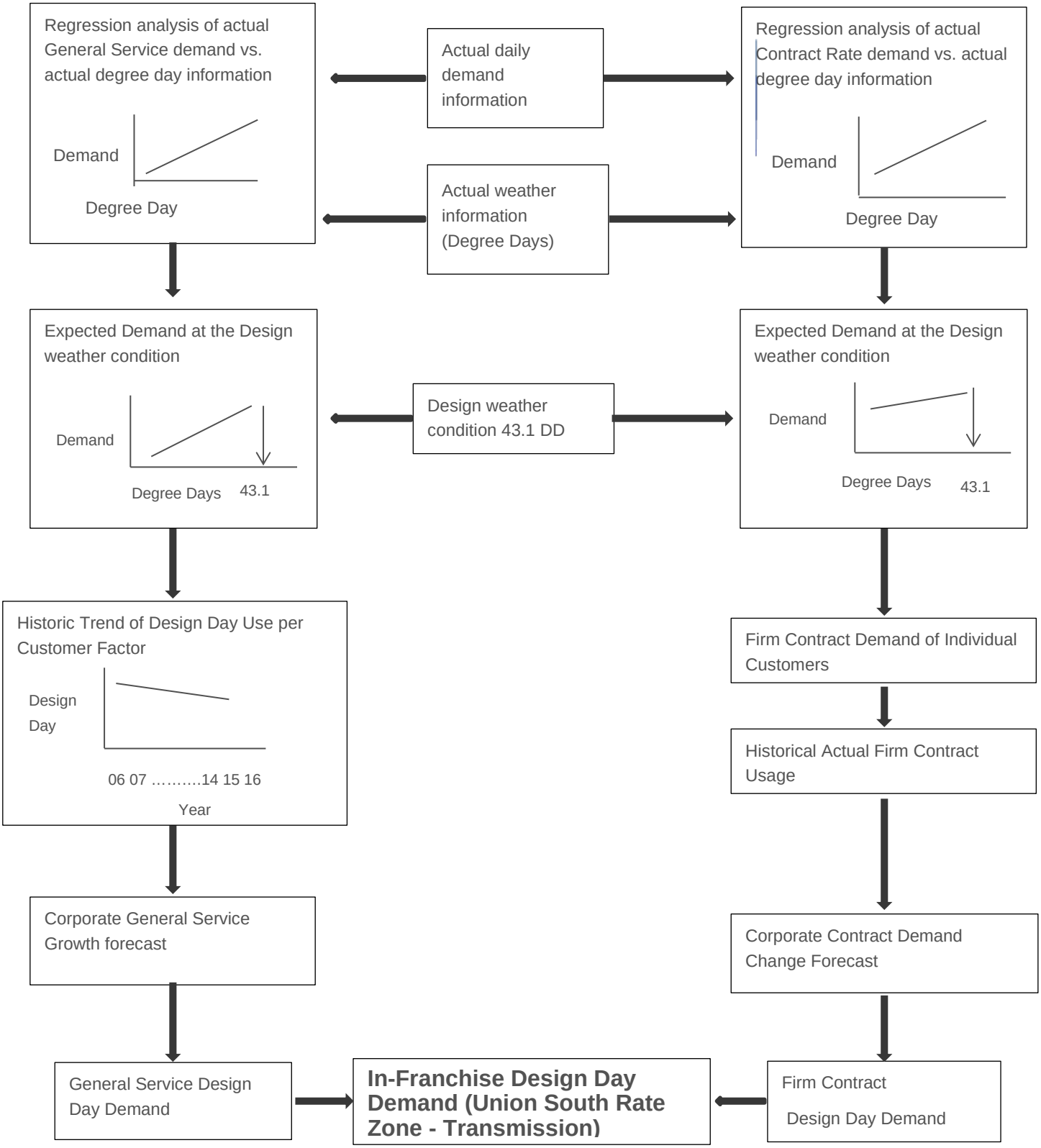
8. Appendix

Schedule 1	Map of Dawn-Parkway System
Schedule 2	Union South Rate Zone In-franchise Design Day Demand Development
Schedule 3	Sample Design Day Demand Profile
Schedule 4	Loss of Critical Unit Coverage
Schedule 5	Simulation Information

SCHEDULE 1 – MAP OF DAWN PARKWAY SYSTEM

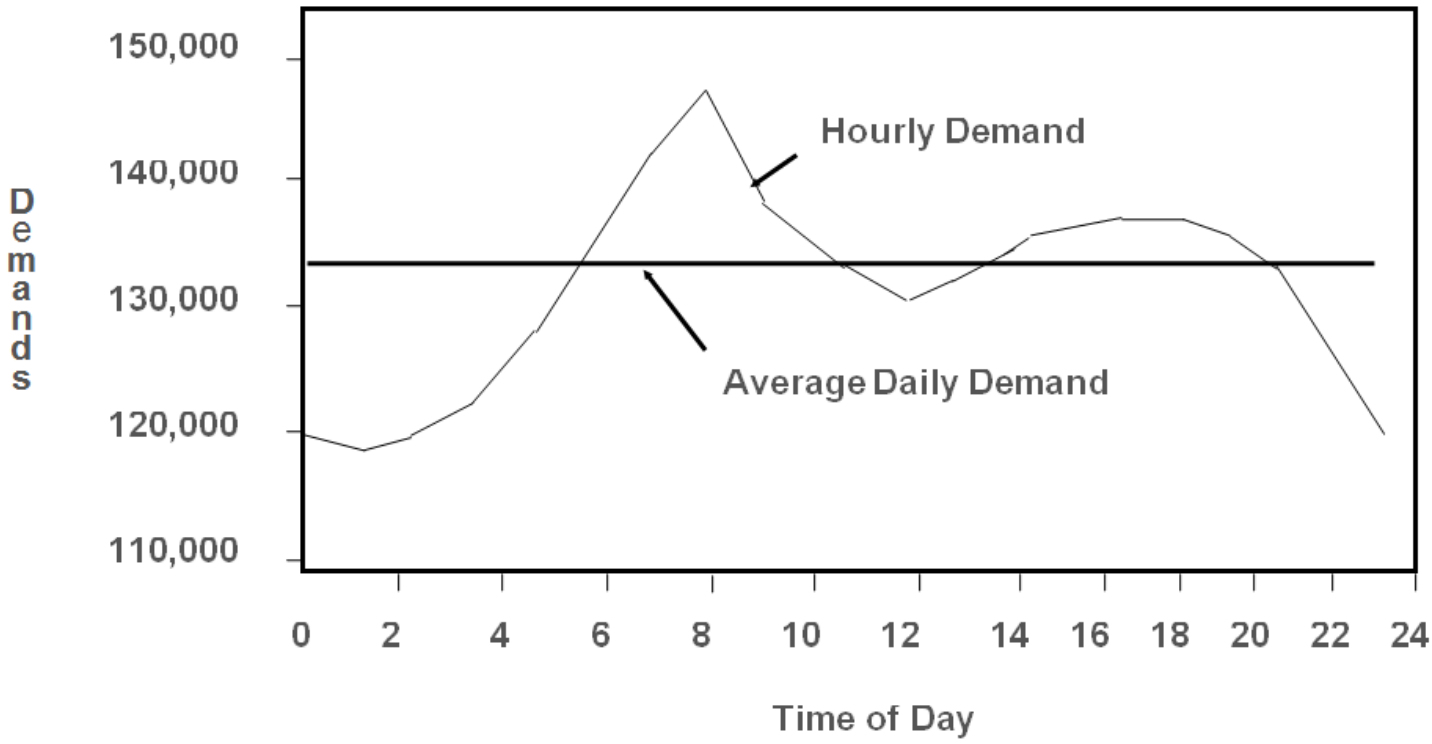


SCHEDULE 2 – UNION SOUTH RATE ZONE IN-FRANCHISE DESIGN DAY DEMAND DEVELOPMENT



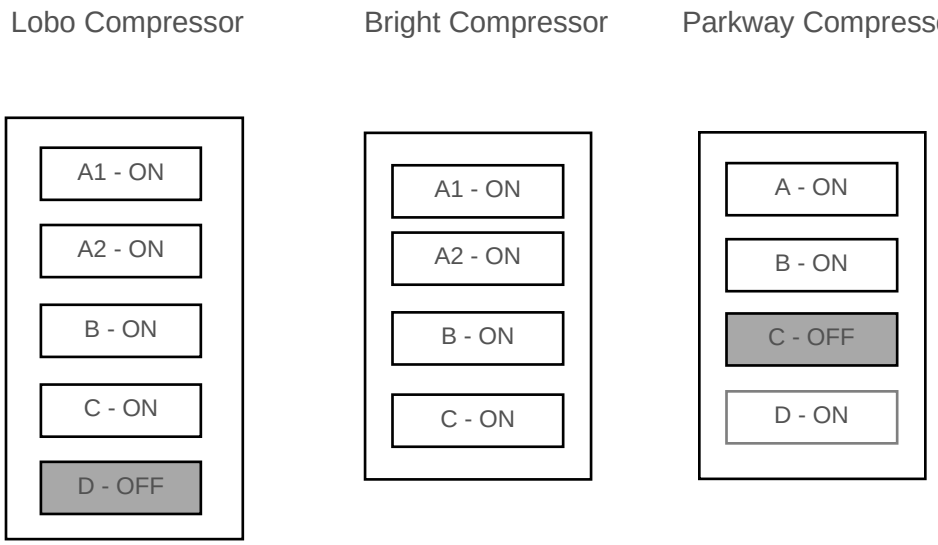
Note: Forecasts provided by Demand Forecasting Department

SCHEDULE 3 – SAMPLE DESIGN DAY DEMAND PROFILE (HOURLY PROFILE)



SCHEDULE 4 LOSS OF CRITICAL UNIT COVERAGE

Long Term Outage – The Critical compressor unit unavailable for entire day.



SCHEDULE 5 –SIMULATION INFORMATION

Union uses a proprietary software package (Synergi) by DNV-GL to complete hydraulic simulation of the transmission systems for Design Day conditions. This model incorporates all of the physical components of the system, Design Day demands and hourly demand profiles.

The Synergi software uses the following engineering fluid flow equations to model the system:

Pipeline Flow Equation:

Flow calculations are based on the fundamental flow equation described below:

$$Q = 77.54 \frac{T_b}{P_b} \cdot D^{2.5} E \cdot \left[\frac{P_1^2 - P_2^2 - \frac{0.0375 G (h_2 - h_1) P_a^2}{Z T_a}}{G \cdot T_a \cdot L \cdot Z \cdot f} \right]^{\frac{1}{2}}$$ **fined.**

Where:

Q = flow rate at standard conditions (standard cubic feet/day)

T_b = base temperature at standard gas state (°R)

P_b = base pressure of the standard gas state (Psia)

D = internal pipeline diameter (inches)

E = pipeline efficiency (dimensionless)

P_1 = upstream pressure (psig)

P_2 = downstream pressure (psig)

G = gas specific gravity (dimensionless)

L = pipe length (miles)

Z = gas compressibility factor (dimensionless)

f = pipeline friction factor (dimensionless)

h_1 = upstream node elevation (feet)

h_2 = downstream node elevation (feet)

P_a = average pipeline pressure (psig)

T_a = average gas flowing temperature (°R)

Compressor Equation:

$$HP = 3.0303 \frac{QZ_s P_b T_s}{E_c T_b} \frac{k}{k-1} \left[\left(\frac{P_d}{P_s} \right)^{\frac{k-1}{k}} - 1 \right]$$

Error! Bookmark not defined. Where:

Q = flow rate at standard conditions (standard cubic feet/day)

HP = horsepower

T_b = base temperature at standard gas state (°R)

P_b = base pressure of the standard gas state (Psia)

T_s = gas suction temperature (°R)

P_s = suction pressure (Psia)

P_d = discharge pressure (Psia)

Z_s = gas compressibility factor at suction conditions (dimensionless)

k = gas coefficient (dimensionless)

E_c = compression efficiency (dimensionless)

ENBRIDGE GAS INC.

Undertaking Response to GEC

To advise the carbon cost included in ICF's application of the 2016 conservation potential to its study.

Response:

As noted on page 10 of the 2016 OEB Conservation Potential Study ("CPS"):[1]

> "The economic screen that was used in the economic potential scenario was the TRC-plus cost effectiveness test"

and

> "The TRC-plus test includes a 15% adder that accounts for the non-energy benefits associated with DSM programs, such as environmental, economic and social benefits".

Further, at page 11 of the 2016 CPS, ICF notes that:

> "Achievable Potential is defined as the portion of the economic conservation potential that takes into account realistic market penetration rates of cost-effective measures over the study period."

However, as noted on p. 7,

> "Measure TRC-plus results do not include program costs such as program administrative (non-incentive) costs and adjustments for free ridership, spillover effects, and persistence".

As such, some of the measures that are included in the achievable potential savings would not meet the TRC-plus cost-effectiveness screen if they were considered on a stand-alone basis as part of a DSM program offering.

Furthermore, Section 7.2 of the 2016 CPS summarizes the results of a sensitivity analysis that was completed as part of this study. A sensitivity analysis scenario that

[1] ICF Natural Gas Conservation Potential Study: Final Report, July 7, 2016; https://secure-web.cisco.com/1n-DLpH-5mKa3qm6T_EGD_pbD3EL2km-PCQM6ABBCg2eV3NLCkIZbka_TwcVMNkkK12eSgrjIaDWddKIY0OY-Pera2vgATQ4VFAKLpQTUM5DP34Eu45y9Ua2yoG7vAychfKyj40jkgl9w_8FE7PIM9YHt4tlj0vQTMzPi0TeOtF9aRNxsr2_9a8B4a6zI28Vxn-dUccQf59w4wGxitRVRBNk7ZyMxTuc1Ro_lXRH3svboahcQDC53Q3-T8BfNheBY-WyE0x55erFxQuxnJYus1y-zAVelLjlizrJVfO1R045xM--4YG40A1MwbtT1V1XY/https%3A%2F%2Fwww.oeb.ca%2Fsites%2Fdefault%2Ffiles%2Fuploads%2FICF_Report_Gas_Conservation_Potential_Study.pdf

investigated the impacts of increasing the avoided costs by 50% in order to account for the possibility of higher commodity prices, natural gas price suppression effects, and a price on carbon in the future estimated that the unconstrained achievable potential would increase by 15% by 2030.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Green Energy Coalition (GEC)

INTERROGATORY

Question:

With regard to ICF's initial May 2018 report, filed by the Company on July 22, 2020, Exhibits ES-9 through ES-12 (pp. ES-29 through ES-33):

a. What do the costs on the vertical axis represent? What are they the present value of?
b. In determining where the lines that define whether DSM is cost-effective, what cost-effectiveness test was used? Are other system benefits, such as avoided energy costs and avoided carbon taxes, treated as benefits (or negative costs)?

Response

a) The vertical axis represents the present values of DSM program costs and system reinforcement investment costs.

b) A cost-effectiveness test was not used for this comparison. Rather, these exhibits provide a graphical comparison of reinforcement investment costs and DSM program costs. Other benefits and costs were not considered as part of this comparison.

ENBRIDGE GAS INC.

Undertaking Response to EP

To provide an illustrative example of the evaluation process that Enbridge would use to compare a hypothetical transmission project with an alternative where a demand response program is implemented that decreases the size of the transmission project by 20 percent.

Response:

Please see Attachment 1 for the requested illustrative example.

Illustrative Demand Response vs Pipeline Example

	Pipeline				IRPA					
	Pipeline NPV	Capacity Created (m3/hr)	NPV per Unit ($/m3/hr)	Stage 1 PI	Demand Response NPV	80% Pipeline NPV	Net IRPA NPV	Capacity Created (m3/hr)	NPV per Unit ($/m3/hr)	Stage 1 PI
	(a)	(b)	(c) = (a) / (b)		(d)	(e)	(f) = (d) + (e)	(g)	(h) = (f) / (g)	
Stage 1	AAA	100	A.AA	PI	XXX	AAA	AXA	100	A.XA	PI
Stage 2	BBB	100	B.BB	n/a	YYY	BBB	YBY	100	Y.BY	n/a
Stage 3	CCC	100	C.CC	n/a	ZZZ	CCC	ZCZ	100	Z.CZ	n/a
Total	ABC	100	A.BC	n/a	XYZ	ABC	XYC	100	X.YC	n/a

Notes:

1 DCF analysis that would be used to evaluate the NPV of a typical Demand Response program that decreases the size of a transmission project by 20 percent.
2 Evaluation horizon of 40 years.
3 Calculated NPV is divided by capacity created to determine the cost per unit of capacity.
4 The test will be evaluated at each stage as well as the total of all stages.

Stage 1 DCF Analysis

Illustrative Demand Response Example

Project Year ($000's)	Notes / Examples	Project Total	1	2	3	…..	40
Operating Cash Flow							
Benefits:							
Incremental Revenues	Incremental transmission revenue received by Utility accounting for IRPA impact. Does not include gas commodity revenue.	XXX	XXX	XXX	XXX	XXX	XXX
Avoided Commodity/Fuel Costs		-	-	-	-	-	-
Avoided O&M & Municipal Tax	Lower municipal taxes from decreased size of transmission project.	XXX	XXX	XXX	XXX	XXX	XXX
Total Benefits		XXX	XXX	XXX	XXX	XXX	XXX
Costs:							
Incremental O&M	Includes Demand Response program costs (e.g. enrollment rebates, customer incentives).	XXX	XXX	XXX	XXX	XXX	XXX
Incremental Municipal Tax		-	-	-	-	-	-
Incremental Commodity/ Fuel Costs		-	-	-	-	-	-
Incremental Income Tax	Income tax effect from avoided municipal taxes and incremental O&M.	XXX	XXX	XXX	XXX	XXX	XXX
Total Costs		XXX	XXX	XXX	XXX	XXX	XXX
Net Operating Benefit/Cost		XXX	XXX	XXX	XXX	XXX	XXX
Capital							
Avoided Infrastructure Costs	Lower capital costs from decreased size of transmission project.	(XXX)	(XXX)	-	-	-	-
Change in Working Capital		-	-	-	-	-	-
Total Capital		(XXX)	(XXX)	-	-	-	-
CCA Tax Shield							
CCA Tax Shield	Lower CCA tax shield resulting from avoided infrastructure costs.	XXX	XXX	-	-	-	-
Net Present Value							
PV of Operating Cash Flow		XXX	XXX	XXX	XXX	XXX	XXX
PV of Capital		XXX	XXX	-	-	-	-
PV of CCA Tax Shield		(XXX)	(XXX)	(XXX)	(XXX)	(XXX)	(XXX)
Total NPV by Year		XXX	XXX	XXX	XXX	XXX	XXX
Project NPV	Discounted using a discount rate equal to the Utility's incremental after-tax cost of capital.	**XXX**					

Stage 2 DCF Analysis

Illustrative Demand Response Example

Project Year ($000's)	Notes / Examples	Project Total	1	2	3	…..	40
Operating Cash Flow							
Benefits:							
Avoided Infrastructure Costs		-	-	-	-	-	-
Avoided Commodity/Fuel Costs	Reduced costs incurred by customer due to annual reduction in consumption. Would not include load shifting (i.e. lower peak day consumption offset by higher consumption during off peak periods).	YYY	YYY	YYY	YYY	YYY	YYY
Avoided GHG Emission	Reduced Federal Carbon Charge associated with Avoided Commodity/Fuel Costs identified above.	YYY	YYY	YYY	YYY	YYY	YYY
Total Benefits		YYY	YYY	YYY	YYY	YYY	YYY
Costs:							
Incremental Customer Costs	Costs incurred by customer net of any rebates/incentives received from the Utility.	YYY	YYY	YYY	YYY	YYY	YYY
Incremental Commodity/ Fuel Costs	Costs incurred by customer due to the use of an alternative fuel to mitigate reduced use of natural gas.	YYY	YYY	YYY	YYY	YYY	YYY
Incremental GHG Emissions	Federal Carbon Charge associated with use of an alternative fuel identified above if applicable.	YYY	YYY	YYY	YYY	YYY	YYY
Total Costs		YYY	YYY	YYY	YYY	YYY	YYY
Net Operating Benefit/Cost		YYY	YYY	YYY	YYY	YYY	YYY
Net Present Value							
Total NPV by Year		YYY	YYY	YYY	YYY	YYY	YYY
Project NPV	Discounted using a societal discount rate (currently 4%).	**YYY**					

Stage 3 DCF Analysis

Illustrative Demand Response Example

Project Year ($000's)	**Notes / Examples**	**Project Total**	**1**	**2**	**3**	**…..**	**40**
Operating Cash Flow							
Benefits:							
Other External Non-Energy Benefits	Quantifiable benefits such as GDP impact and jobs created to be included. Current DSM assumption is that the societal benefit is 15% of identified customer benefits.	ZZZ	ZZZ	ZZZ	ZZZ	ZZZ	ZZZ
Total Benefits		ZZZ	ZZZ	ZZZ	ZZZ	ZZZ	ZZZ
Costs:							
Other External Non-Energy Costs	Unlikely to identify quantifiable societal costs associated with a Demand Response program.	-	-	-	-	-	-
Total Costs		-	-	-	-	-	-
Net Operating Benefit/Cost		ZZZ	ZZZ	ZZZ	ZZZ	ZZZ	ZZZ
Net Present Value							
Total NPV by Year		ZZZ	ZZZ	ZZZ	ZZZ	ZZZ	ZZZ
Project NPV	Discounted using a societal discount rate (currently 4%).	**ZZZ**					

Stage 1 DCF Analysis

Illustrative Pipeline Example

Project Year ($000's)	Notes / Examples	Project Total	1	2	3	…..	40
Operating Cash Flow							
Benefits:							
Incremental Revenues	Incremental transmission revenue received by Utility. Does not include gas commodity revenue.	AAA	AAA	AAA	AAA	AAA	AAA
Avoided Commodity/Fuel Costs		-	-	-	-	-	-
Avoided O&M & Municipal Tax		-	-	-	-	-	-
Total Benefits		-	-	-	-	-	-
Costs:							
Incremental O&M	Incremental O&M to maintain pipeline.	AAA	AAA	AAA	AAA	AAA	AAA
Incremental Municipal Tax	Incremental municipal tax paid for pipeline.	AAA	AAA	AAA	AAA	AAA	AAA
Incremental Commodity/ Fuel Costs		-	-	-	-	-	-
Incremental Income Tax	Income tax effect from incremental revenue, municipal taxes, and O&M.	AAA	AAA	AAA	AAA	AAA	AAA
Total Costs		AAA	AAA	AAA	AAA	AAA	AAA
Net Operating Benefit/Cost		AAA	AAA	AAA	AAA	AAA	AAA
Capital							
Incremental Infrastructure Costs	Capital costs for new pipeline.	AAA	AAA	-	-	-	-
Change in Working Capital		-	-	-	-	-	-
Total Capital		AAA	AAA	-	-	-	-
CCA Tax Shield							
CCA Tax Shield	CCA tax shield associated with capital costs for new pipeline	AAA	AAA	-	-	-	-
Net Present Value							
PV of Operating Cash Flow		AAA	AAA	AAA	AAA	AAA	AAA
PV of Capital		AAA	AAA	-	-	-	-
PV of CCA Tax Shield		AAA	AAA	AAA	AAA	AAA	AAA
Total NPV by Year		AAA	AAA	AAA	AAA	AAA	AAA
Project NPV	Discounted using a discount rate equal to the Utility's incremental after-tax cost of capital.	**AAA**					

Stage 2 DCF Analysis

Illustrative Pipeline Example

Project Year ($000's)	**Notes / Examples**	**Project Total**	**1**	**2**	**3**	**…..**	**40**
Operating Cash Flow							
Benefits:							
Avoided Infrastructure Costs		-	-	-	-	-	-
Avoided Commodity/Fuel Costs	Reduced costs incurred by customer associated with non-use of alternative fuels such as fuel oil, propane, electricity.	BBB	BBB	BBB	BBB	BBB	BBB
Avoided GHG Emission	Reduced Federal Carbon Charge associated with Avoided Commodity/Fuel Costs identified above if applicable.	BBB	BBB	BBB	BBB	BBB	BBB
Total Benefits		BBB	BBB	BBB	BBB	BBB	BBB
Costs:							
Incremental Customer Costs		-	-	-	-	-	-
Incremental Commodity/ Fuel Costs	Incremental natural gas costs incurred by customer.	BBB	BBB	BBB	BBB	BBB	BBB
Incremental GHG Emissions	Federal Carbon Charge associated with use of incremental natural gas identified above.	BBB	BBB	BBB	BBB	BBB	BBB
Total Costs		BBB	BBB	BBB	BBB	BBB	BBB
Net Operating Benefit/Cost		BBB	BBB	BBB	BBB	BBB	BBB
Net Present Value							
Total NPV by Year		BBB	BBB	BBB	BBB	BBB	BBB
Project NPV	Discounted using a societal discount rate (currently 4%).	**BBB**					

Stage 3 DCF Analysis

Illustrative Pipeline Example

Project Year ($000's)	**Notes / Examples**	**Project Total**	**1**	**2**	**3**	**…..**	**40**
Operating Cash Flow							
Benefits:							
Other External Non-Energy Benefits	Benefits such as GDP impact, jobs created, and resiliency as back up energy source during power outages may be included.	CCC	CCC	CCC	CCC	CCC	CCC
Total Benefits		CCC	CCC	CCC	CCC	CCC	CCC
Costs:							
Other External Non-Energy Costs	No quantifiable societal costs have been included to date.	-	-	-	-	-	-
Total Costs		-	-	-	-	-	-
Net Operating Benefit/Cost		CCC	CCC	CCC	CCC	CCC	CCC
Net Present Value							
Total NPV by Year		CCC	CCC	CCC	CCC	CCC	CCC
Project NPV	Discounted using a societal discount rate (currently 4%).	**CCC**					

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

INTERROGATORY

Reference:

Exhibit B / p.31 of 46; Exhibit C / pp. 8-13 of 46

Additional Public Documents: Consolidated Edison Company of New York, Inc, Gas Benefit-Cost Analysis Handbook (filed as part of Con Ed's NPA Framework Proposal filing), September 14, 2020, p. 9

Preamble:

Enbridge Gas discusses the economic evaluation that should be used to compare IRPAs and facility projects, and proposes that the OEB establish a staged economic evaluation standard for IRPAs through this proceeding that ultimately resembles a modified version of the OEB's E.B.O. 134 guidelines or a Discounted Cash Flow + (DCF+) test. Enbridge Gas compares its proposed approach to Consolidated Edison's Benefit-Cost Analysis Handbook used for its analysis of non-pipes alternatives in New York State.

Question:

a) Enbridge Gas proposes that "the economic feasibility for IRPAs will be assessed using a Discounted Cash Flow ("DCF") methodology consistent with principles underpinning the Board's E.B.O. 134 and E.B.O. 188." These methodologies were originally developed to assess potential expansions of the natural gas distribution and transmission system. If the OEB determines that IRP should be considered for other categories of infrastructure projects, does Enbridge Gas believe that this methodology remains appropriate to assessing and comparing the economic feasibility of IRPAs and facility projects, and if so, would any key modifications be required?
b) Enbridge Gas proposes that the OEB develop a staged economic evaluation, noting the three potential stages of cost-benefit analysis in the E.B.O. 134 process (economic, customer, and societal).
    a. Can Enbridge Gas provide a table identifying which categories of costs and benefits it would propose to include in the different stages of its proposed

cost-benefit evaluation, similar in nature to Table 3-1 (p. 9) in Con Edison's Gas-Benefit Cost Analysis Handbook? In particular, please clarify how impacts on commodity costs paid by Enbridge Gas customers would be treated.

Table 3-1: Summary of Cost-Effectiveness Tests by Benefit and Cost

Benefit/Cost	SCT	UCT	RIM
Benefits			
Avoided Peaking Services	✓	✓	✓
Avoided Pipeline & Storage Costs	✓	✓	✓
Avoided Commodity Costs	✓	✓	✓
Avoided On-System Capacity Infrastructure	✓	✓	✓
Avoided O&M	✓	✓	✓
Reliability/Resiliency	✓	✓	✓
Avoided CO2 Emissions	✓		
Other Avoided Emissions	✓		
Non-Energy Benefits*	✓	✓	✓
Other External Benefits	✓		
Costs			
Program Administration Costs	✓	✓	✓
Incremental On-System Investments	✓	✓	✓
Lost Utility Revenue			✓
Shareholder Incentives			✓
Incremental Participant Costs	✓		
Alt. Fuel Costs	✓	✓	✓
Alt. Fuel CO_2 Emissions	✓		
Alt. Fuel Other Emissions	✓		
Net Non-Energy Costs*	✓	✓	✓
Other External Costs	✓		

*It is necessary to identify which cost-effectiveness test should include the benefit or cost in the Net Non-Energy Benefit or Net Non-Energy Cost as it may apply to the SCT, UCT, and/or RIM.

b. Is Enbridge Gas proposing that all three stages of the cost-benefit analysis would always be conducted?
c. Does Enbridge Gas have a position as to how the results of the different tests would be used together, and which test, if any, would be given primacy in determining the preferred project?

Response

a) Enbridge believes using a Discounted Cash Flow ("DCF") methodology consistent with the principles underpinning the Board's E.B.O. 134 and E.B.O. 188 is an appropriate methodology to assess and compare economic feasibility of IRPAs and facility alternatives. Enbridge is not seeking to make any changes to E.B.O. 134. Enbridge proposes to use the DCF methodology of E.B.O. 134 and E.B.O. 188 to assess IRPAs without any modifications. However, as stated in Enbridge Gas's Reply Evidence at Exhibit C, Page 9, Enbridge is open to discussing additional costs and/or benefits that could be incorporated in the economic assessment of IRPAs. If additional costs or benefits are included in the economic evaluation of IRPAs, the additions need to evaluate facility alternatives and IRPAs equitably and fairly. For example, if the avoided commodity and delivery costs (benefits) of natural gas are included in the evaluation of an IRPA, then any additional costs such as electricity charges should also be included.

b)

a. Please see Table 1 below:

Table 1

Benefit/Cost	Stage 1	Stage 2	Stage 3
Benefits			
Incremental Revenues	x		
Avoided Infrastructure Costs	x	x	
Avoided Commodity/Fuel Costs	x	x	
Avoided O&M	x		
Avoided GHG Emissions		x	
Other External Non-Energy Benefits			x
Costs			
Incremental Capital Expenditure	x		
Incremental O&M	x		
Incremental Taxes	x		
Incremental Commodity/Fuel Costs	x	x	
Incremental GHG Emissions		x	
Incremental Customer Costs		x	
Other External Non-Energy Costs			x

Note: Capital & O&M is inclusive of program administrative costs

b. Enbridge Gas expects that all three stages of the cost-benefit analysis will be conducted assuming that the necessary data and information to do so is available.

c. Enbridge Gas believes that the results of the three stages should be evaluated in totality with primacy to a specific stage determined based on factors such as reliability of data on a case by case basis.

ENBRIDGE GAS INC.

Undertaking Response to GEC

To itemize the areas where Ontario might be seen as lagging in comparison with New York state with respect to DER's, energy efficiency, and decarbonization.

Response:

ICF's 2020 Jurisdictional Review Report, which was filed by Enbridge Gas as part of its Additional Evidence at Exhibit B, Appendix A, provides additional details of areas where Ontario is lagging in comparison with that of New York State with regard to:

- **Distributed energy resources (DERs):** A comparison of Ontario and New York in the context of non-wires solutions (NWS) and DERs is provided at pages 55-63.
- **Energy efficiency:** A comparison of Ontario and New York in the context of natural gas energy efficiency is provided at pages 49-54.
- **Decarbonization:** A comparison of Ontario and New York in the context of carbon policy is provided at pages 54-55.

These sections and other parts of ICF's 2020 Jurisdictional Review Report (see pages 4-5) also highlight structural differences between Ontario and New York State that have contributed to the latter's progress with regards to the advancement of DERs, energy efficiency, and decarbonization, such as:

(i) Fundamentally higher energy costs in New York State;
(ii) Higher natural gas and power distribution infrastructure costs (particularly in Downstate New York);
(iii) A lower proportion of industrial demand;
(iv) The presence of joint natural gas and electric utilities; and
(v) Clear, consistent top-down policy direction from the New York State government related to transitioning to a decarbonized economy and prioritizing DSM and other demand-side options.

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Exhibit B, page 13

At point iii Public Policy, EGI states that IRP will be considered in a manner to ensure that it is supportive of and aligned with public policy, where appropriate.

Question:

a) Does public policy include those of federal, provincial and municipal governments? If not please explain which government public policies may not be considered and why.

b) What does EGI mean by "where appropriate"? Please provide examples of where the alignment with public policy may not be appropriate.

Response

a) Yes, public policy includes federal, provincial and municipal governments.

b) For instance, the governments of Ontario and Canada have set targets to reduce greenhouse gas emissions and are at various stages of developing and implementing plans intended to achieve these targets. These plans typically include a variety of measures, some of which may see an increased use of existing natural gas infrastructure such as through the increase in blending of clean fuels such as RNG and hydrogen, and increased throughput of natural gas and blended clean fuels for electricity production and compressed natural gas refueling stations. Only where the information concerning such initiatives is known to be reasonably certain are these items considered in Enbridge Gas's IRP planning.

ENBRIDGE GAS INC.

Undertaking Response to ED

To provide a proposed formula to determine additional incentives for Enbridge where the IRPA is significantly cheaper than the facility solution.

Response:

Enbridge Gas has not completed an exhaustive analysis of potential incremental IRP incentive mechanisms beyond its proposal for the ability to rate base the costs of investments in IRPAs, which the Company believes incentivizes it sufficiently to consider such investments equitably compared to facility alternatives.

Should the OEB deem it important to ensure a focus on IRPAs at the outset of the IRP Framework, or, should experience with natural gas IRP over time lead the Board to conclude that the Company's consideration of IRPAs is insufficient and additional incentives are required, then Enbridge Gas's preference is to have an opportunity to provide informed recommendations to the Board on additional incentives. To this end the Company expects that it would propose to complete a separate study as part of an upcoming Rates setting proceeding, at time of Rate Rebasing, or as otherwise directed by the Board.

Further, consideration of an appropriate incremental incentive mechanism may benefit from the experience gleaned from one or more IRP Pilot Projects that the Company intends to pursue following the establishment of an IRP Framework.

ONTARIO ENERGY BOARD

FILE NO.: **EB-2020-0091** **Enbridge Gas Inc.**

VOLUME: **Technical Conference**

DATE: **February 10, 2021**

understood this from your evidence, Adam, but just to make it clear -- that Enbridge -- Enbridge's IRP proposal is that you will be the gatekeeper, you, Enbridge, not you personally, will be the gatekeeper of what options will be considered and how much consideration will be done with them? You will listen to what other people have to say, but in the end you will decide what options you considered and you will decide how you consider them; is that right?

MR. STEIRS: I would say -- I wouldn't use the term "gatekeeper", Jay. I think you're right in that the utility will continue doing what it's historically done in assessing the needs of its system as it has -- as it is best placed to do so, and going forward will consider IRPAs relative to the facilities it has historically assessed and through the various stakeholder channels and windows that I described at the outset of today would be seeking input and would record all of the feedback and ultimately the Board would continue in its role to determine whether or not the selected alternative that Enbridge put forward is in the best interest of ratepayers.

MR. SHEPHERD: Okay, thank you.

MS. DeMARCO: Can I ask a follow-up on that specifically? When Jay said "options" you responded "IRPAs", so would it be fair to substitute, you will consider what IRPAs you will consider and the process for consideration of that IRPA?

MR. STEIRS: I think again we are getting -- and this is natural to try and drive to specifics. What we have put

forward is a high-level proposal that's supposed to leave the definition of "IRPAs" and "options" and "alternatives" fairly broad so that we can explore as many as possible. So I am not sure that I am leaving the right impression necessarily. We have already set out some examples of alternatives that might be included in IRPA assessment.

Earlier I tried to articulate that we are not saying that that list is set in stone or that it -- it reflects everything possible going forward. I think we are trying to express that we expect we'll be flexible to receiving feedback and input from parties at each of the windows I described, and if additional IRPAs or novel concepts are introduced, we would consider them and potentially compare them to the baseline facilities associated within an underlying or identified system constraint. Is that helpful?

MS. DeMARCO: Just so I am clear on that point, you will determine that process to receive the feedback that you just spoke of?

MR. STEIRS: I described it earlier, yes.

MS. DeMARCO: Okay. So you're determining an initial set of IRPAs that you will consider, and the process that you will use to potentially receive feedback on those IRPAs. Fair?

MR. STEIRS: I don't think it's potentially. I think we are saying the stakeholder day, the AMP as well as our annual IRP report which we have committed to, are all windows that we're looking for feedback through.

MS. DeMARCO: So I didn't read into that process that there would be the ability for stakeholders to provide express feedback on alternative IRPAs that were not raised in the context of the annual report. Is that part of the annual report process and I've just missed it?

MR. STEIRS: It may not have been articulated exactly that way. You may not have missed something per se. But I am letting you know our intentions going forward are to also hear at the -- for example, at the stakeholder day -- from stakeholders, from people in affected geographic locations where a system constraint has been identified, and from parties, whether or not they think there are other viable IRPAs that the utility should consider.

Now, some of those we may have already assessed and considered and we may be prepared to speak to on the day or to provide follow-up on in fairly short order. I do foresee that there might be an instance where new IRPAs that were not necessarily considered could also surface, and we would give those consideration as well.

That's the purpose of the stakeholdering.

MS. DeMARCO: Dave, I wonder -- I didn't read that directly into the evidence and thank you for the answer; that's very helpful.

I am wondering if you can undertake to actually stipulate or direct me exactly to the evidence that stipulates exactly what Adam just said in terms of the elaborate exhaustive process in around that annual report and stakeholder day, and the opportunities for feedback of

stakeholders on that IRPA.

MR. STEVENS: I believe, Lisa, that the evidence does speak to stakeholdering in each of the three times that the evidence was filed. There's a number of interrogatories that speak to stakeholdering, including a Board Staff interrogatory which speaks to it at some length.

MS. DeMARCO: I have got 8 and 9, but I haven't heard in any of that --

MR. STEVENS: Sorry, I haven't finished. And the purpose of today is to fill out the record where people have clarifying questions. And I think when you review the transcript of the evidence that Adam has given today, and in particular the lengthy answers that he gave at the beginning of Dwayne's questions, it should provide you with the information that you're looking for.

MS. DeMARCO: Thanks, David. I didn't get the process that Adam just elaborated in any of that, the transcript earlier. So I think it would be very helpful and could eliminate the need for some time -- Michael Millar, to your point -- if we had that down in writing.

MR. LUSNEY: It's Travis from OSEA. I would like to second what Lisa is asking for, and just a clear indication of how through the feedback or alternative views of how IRPAs could be addressed, just very clear how it's supposed to be fitting with the stakeholder feedback process and would provide some time savings. It would reduce some of my questions later.

MR. STEVENS: To be clear, is the question to

articulate or set out the opportunities stakeholders will have to provide alternate views around IRPAs during the various stakeholder processes?

MS. DeMARCO: Yeah, the question was in relation to Adam's stipulation that the annual report and stakeholdering day would provide a process for stakeholders to raise alternate IRPAs and have them considered and addressed.

And I don't see anywhere in the evidence or the response to the IRs to date that the process --

MR. STEVENS: As I said, Lisa, I believe that Adam did speak to that. But we can provide an undertaking just to either point to where it is on the transcript, or if it turns out that it's not clear on the transcript, to provide further detail.

MS. DeMARCO: That would be very helpful. Thank you so much, David.

MR. MILLAR: JT1.3.

UNDERTAKING NO. JT1.3: TO PROVIDE THE EVIDENTIARY OR TRANSCRIPT REFERENCE TO A PROCESS FOR STAEKHOLDERS TO RAISE ALTERNATE IRPAS AND HAVE THEM CONSIDERED AND ADDRESSED

MR. QUINN: Okay. If we could turn up FRPO 15, please.

MS. DeMARCO: I am sorry for the interruption, Dwayne.

MR. QUINN: Not at all, Lisa, that in itself will be helpful, thank you.

So in FRPO 15, we asked whether the current manuals or

MS. DeMARCO: Can I just potentially add to that because it's relevant to us as well, and it flows from Board Staff No. 2 in relation to the IRPA consideration in asset management. And in that response, I read the Enbridge -- I read Enbridge to indicate that IRPAs are only considered an asset management in relation to constraints.

And so looking at that overarching process in relation to both asset management strictly relating to constraints, or is there a broader process that goes on? And is that adjudicated at any point in time, i.e. if you come forward with an asset management plan that has not or has identified a constraint and has therefore the ability to consider an IRPA, is there adjudication and review, a thorough review of that asset management plan including any potential IRPAs?

MR. STEVENS: I think in general, Lisa, the asset management plan is produced and will become the subject of a lot of discussion in any rebasing proceeding, if that's what you're asking. And particular specifics of the asset management plan may come into scope in an annual rate adjustment proceeding in a case where there's an ICM request.

MS. DeMARCO: Just what I am hearing and what I would like the undertaking to extend to very specifically is if there is a constraint identified, are questions on IRPAs fair game in the context of that rebasing proceeding?

MR. STEVENS: My understanding of a rebasing proceeding is it typically will look at the utility's plans

over the relevant period of time and stretching forward.

MS. DeMARCO: Yeah, I don't think that's responsive, David, to the question. Are IRPAs fair game for questions if a constraint has been identified?

MR. STEVENS: And what I am trying to is writ large, the companies future plans over the next incentive period are in scope and are relevant within a rebasing proceeding.

MS. DeMARCO: And I am asking are IRPAs in scope within a rebasing proceeding.

MR. STEVENS: Okay. Well, why don't I take that away? I don't think it's really additive to the last undertaking, but I could take that away as a separate undertaking.

MS. DeMARCO: Thank you.

MR. MILLAR: That's JT1.6.

UNDERTAKING NO. JT1.6: TO ADVISE WHETHER IRPAS ARE IN SCOPE WITHIN A REBASING PROCEEDING

MR. POCH: Guys, it's David here. Just to interject briefly and maybe to help clarify, if we could go back to JT1.5 and the discussion, I am a little confused as to whether you're talking about information pertaining to the screening of need situations, the sort of -- I think it's paragraph 38 of Exhibit B step, or elimination of alternatives when you're into the assessment of alternatives where you have gotten past that first preliminary screening.

So I am just wondering in terms of language and jargon, if we can come up with some things that it's clear and if you could clarify what you were getting at there at

differing impacts to be accounted for and considered when you're making the call as to whether to pick an IRPA or a facility project?

MR. STEVENS: I think, Michael, that perhaps that's a question that the second panel will be better able to answer when they are talking about the IRP proposal and, in part, about the evaluation approach that Enbridge proposes.

MR. PARKES: Okay.

MS. DeMARCO: Can I just pursue that? Because I understand we won't have Mr. Gillett with us in relation to gas supply planning; is that right, David?

MR. STEVENS: That's correct.

MS. DeMARCO: So very specifically in relation to gas supply planning, as I understand it, any consideration of IRPs in relation to gas supply planning is ex post determination of the IRPA, not ex ante or proactive in the formation of the gas supply plan; is that right?

MR. GILLETT: So the gas supply plan does not recognize if there's going to be a facilities constraint when doing the planning. Right? So the gas supply plan is very much done at a high, high level, right? An aggregate level. It's about delivering supply to these broader delivery areas. So the northern delivery areas, the south, the legacy EGD delivery areas. These are very broad delivery areas.

So the gas supply plan is simply landing enough supply into those delivery areas to meet annual and peak day needs. It does not look at specific local facilities and

whether we can distribute the gas around the delivery areas. That analysis comes in the facilities planning process in Figure 1.

And so it's not until we get into facilities planning -- because again, gas supply planning is not all-encompassing, all-planning for all the utility. Right? It's one piece. It feeds into the facilities planning where those local constraints are identified.

If an IRPA is chosen that is a new requirement of the gas supply plan proactively, right, because we do a five-year plan horizon, then that will feed back into the next iteration of the gas supply plan, so the intention is that if an IRPA requires us to make changes in the gas supply plan, it will be done and it will be recognized in the next planning process.

MS. DeMARCO: So just so that I am crystal clear on this, if you were to draw on the feedback loop on that Figure 1 in Board Staff 2, it would be after the AMP? There would be consideration of the proposed IRPA or approved, which is the IRPA in the GSP?

MR. GILLETT: That's right. If an IRPA is chosen as the IRPA that we want to move forward with and it's something that needs to be implemented in the gas supply plan, it would then feed into the gas supply plan.

MS. DeMARCO: But not before that?

MR. GILLETT: Right. I think that's right because the gas supply plan is an annual process, so it would -- the idea is that we're being proactive enough we feed it into

the next annual plan and it will be reflected there.

MS. DeMARCO: Sorry, David, thanks. That's helpful.

MR. POCH: All right, thank you. In Staff 6, actually in the beginning of Staff 6, you refer to the asset management plan, and I just went in there and pulled up page 457 -- I don't know if it's available to you on the screen -- as just a sample of the kind of things we see -- actually, there's a couple of pages that show up, the one that was just on the screen and this one.

These are the kinds of -- am I correct that this is the kind of information you filing currently under the -- without IRP as the asset management plan, and I am wondering if you could provide us with a mock-up of what we will see in your annual filings for, I guess, the two areas where you have selected an IRPA, or are proposing one, or where you've gone and decided to go with the facilities option, so we can see what the Board will see and what the intervenors will see at the AMP, which I take it is the first opportunity we are going to have to have notice of an IRPA.

MR. STEVENS: David, it's David Stevens speaking. I don't know if we can provide a mock-up, but we can provide an indication of what additional information would be in this type of document once -- assuming that Enbridge's IRP proposal was implemented.

MR. POCH: Right, and I'd like to see -- yeah, well, I guess we are talking about an undertaking here. I'd like to see if you could provide what additional information

historically is to not build into forecasts things such as the federal carbon price beyond 2022 based solely on an announcement by the government.

MR. SHEPHERD: Okay. All right. Let me move on then --

MS. DeMARCO: Jay, can I cut in with a quick one there?

MR. SHEPHERD: Sure.

MS. DeMARCO: So for example, the draft regulation on the clean fuel standard is not incorporated, but the moment it's passed it will be incorporated?

MR. STEIRS: So I don't have the background on that -- is it Lisa speaking right now? Yes. I don't know that that has been incorporated or not. My suspicion is that, based on the past two or three statements that I have made, that if it has not passed, it has not been enacted into law, it has not been fully incorporated into forecasts, yes.

MS. DeMARCO: Can we get some definitive answers on that by way of undertaking: Has this clean fuel regulation been incorporated or not been incorporated?

MR. STEVENS: Again, I am not sure that we're focused on the minutiae of the demand forecasts at this point, so we are not prepared to provide that.

MS. DeMARCO: I don't know that that's minutiae, Dave. I think that's macro Gestalt going to the overarching gas supply plan and costs associated with the asset management plan as well.

MR. STEVENS: I heard a fairly clear back and forth that things get reflected once they're enacted, once they are the law. If there's something that's out there as a draft, then it's not enacted, it's not the law.

MS. DeMARCO: So is the answer then that the clean fuel regulations are not in the proposal?

MR. STEVENS: I -- I -- the proposal certainly doesn't get to the level of granularity of having any particular regulations in or out. The proposal is as to how Enbridge will adopt and implement IRP in its processes.

MS. DeMARCO: With a very significant section indicating that it reflects current policy and regulatory requirements. I believe in response to CCC 3, there are indications around existing policy drivers. In addition, Anwaatin 3; the IRP analysis is driven by policy. So my question is very specifically is this policy that now takes the form of a draft regulation in or out.

MR. STEVENS: Based on everything I have heard, Lisa, it's out. If we need to correct the transcript, we will.

MS. DeMARCO: Thank you.

MR. STEVENS: But Adam's testimony has been clear. When something is not enacted, it's not -- it forms a charge for carbon or something similar, then it's not reflected.

MS. DeMARCO: Thank you.

MR. SHEPHERD: Okay. So I want to turn to -- your proposal is that you identify a system constraint; that's step 1, right?

MS. McCOWAN: Right. So the typical process we've spoken to is a system constraint in the sense of a need or reinforcement, but in an effort to broaden the potential application of IRPAs and to recognize that there could be some replacement type projects where it might be appropriate, that's where we've identified that potentially condition-driven projects could be suitable for IRPA.

MR. SHEPHERD: Okay. Thank you.

I am going to Staff 8, and I am looking at page 4. And you talk there in (d) about -- about your long-range planning processes. So I guess my first part of this is, when you talk about your long-range planning forecasts -- processes, are you talking about your ten-year AMP process? Is that what you mean? Or is it something different?

MS. McCOWAN: That's right. And the processes that underpin it, so the network analysis type work that would identify those needs.

MR. SHEPHERD: All right. Now, the AMP itself is public. Are the -- are those underlying processes, the analysis you go through, that sort of thing, is that also filed on the public record at some point?

MS. McCOWAN: I don't believe so.

MR. SHEPHERD: No? Good, thank you.

MS. DeMARCO: Jay, before you move on to another interrogatory, I have a question on it.

MR. SHEPHERD: Yeah.

MS. DeMARCO: Sorry. So Board Staff 8(a) on page 4 indicates that an IRPA will only be considered in areas of

projected load growth. And you're measuring that not by any specific number; do I have that right? No specific amount of growth?

MS. THOMPSON: It would be relative to the system capacity and the capacity required going forward in that scenario.

MS. DeMARCO: So no specific threshold of growth, just year-over-year growth; do I have that right?

MS. THOMPSON: It would be engaged on the --

MR. CLARK: Sorry, I was just going to say a growth that would cause a constraint.

MS. DeMARCO: What is that? What is a growth that would cause a constraint?

MR. CLARK: A growth projection that exceeds the capacity of the current system and results in the identification of a need.

MS. DeMARCO: So the threshold cut-off is load growth, year-over-year growth, and no excess pipe capacity?

MR. STEVENS: Sorry, to be clear, Lisa -- this is David Stevens speaking -- you are say the threshold for what?

MS. DeMARCO: For consideration of an IRPA. In Board Staff 8(a) on page 4, very specifically -- and it speaks to --

MR. STEVENS: The answer to Board Staff 8(a) isn't on page 4?

MS. DeMARCO: Sorry, it's page 4 of Board Staff 8.

MR. STEVENS: Right, but page 4 answers parts (d)

through (g).

MS. DeMARCO: Then I might be off in my response, but it's definitely page 4. I understand the threshold being only -- IRPAs will only be considered in areas of projected load growth. And you're moving away from the 1.4 percent figure to a simple determination of year-over-year growth. Do I have that right?

MR. STEVENS: I think perhaps you are talking about the discussion at the bottom of page 3. I am just trying to make sure we are all grounded in the same premise.

MS. DeMARCO: It starts there. It goes on to page 4.

MR. CLARK: Are you specifically referencing the 1.4 percent in the second-to-last paragraph on page 3?

MS. DeMARCO: Yeah, what I am trying to understand -- and I thought it was a fairly simple question -- was what are the threshold criteria for considering an IRPA? And from this response I understood -- let's do them one at a time -- there has to be projected load growth; is that fair?

MR. CLARK: Yes.

MS. DeMARCO: It has to be year-over-year growth; is that fair?

MR. CLARK: Yes.

MS. DeMARCO: It has to be in an area where there is no excess pipeline capacity; is that fair?

MR. CLARK: Yes.

MS. DeMARCO: It can't be a safety project; is that fair?

MR. CLARK: Generally speaking, yes.

MS. DeMARCO: And it can't be an integrity project; is that fair?

MR. CLARK: Also generally speaking, yes.

MS. DeMARCO: So what's left? What circumstances are left?

MR. CLARK: Well, I think as Catherine was mentioning, it could be considered in scenarios where you had, even if it wasn't growth-related, but the forecast of it was sufficient, we had sufficient time to consider it, but it would really depend on the purpose, need, and timing of such a project, so if it was safety-related, for example, is it the entire pipeline from a transmission or distribution perspective, is it a portion, what are the timelines surrounding that, does it align with the three to five years that we set out in the evidence?

MS. DeMARCO: So can you provide me with a type of general project that would fall and meet all those criteria, fall within and meet all those criteria?

MS. McCOWAN: The easiest type to identify that meets all of those criteria would be the longer-range reinforcement projects that we have identified in the asset management plan. Is that what you are asking?

MS. DeMARCO: So a longer-range reinforcement project wouldn't be a safety project?

MR. CLARK: No --

MS. McCOWAN: Sorry, it would be a growth -- perhaps I am misunderstanding your question.

MS. DeMARCO: I'm just -- we are trying to understand the categorizations of what could possibly meet that threshold, and I would have thought that a reinforcement project would have been a safety or an integrity project. Am I wrong in that record?

MS. McCOWAN: No, we would regard a reinforcement project as a growth project, growth-driven.

MS. DeMARCO: And it would have no impact on safety or integrity.

MS. McCOWAN: Often there are intersecting reasons for doing a pipeline reinforcement, but typically we would be talking about growth. As Brad said, this is year-over-year demand on the system where there isn't excess capacity to meet it.

MS. DeMARCO: I think you see what we are struggling with in terms of the multiple competing potential purposes and how you could classify it for the potential excluding an IRPA. And Jay, I am sorry, I didn't mean to take that long. I thought it was a straightforward question.

MR. SHEPHERD: That's okay. It's your time, not mine.

Okay. I wonder if I could turn to Staff 17, and I am looking at page 2 of 2, section (b).

Am I right that what Enbridge is saying is that at the beginning of your IRP proposal, your expectation is that you'll directly invest in IRPAs. But that in the future, as you say, as the market for IRPAs matures, you could then go to competitive procurement. But you are not proposing you would do that at the outset; you want to walk before

work can be a challenge as well because again by the time -- especially in that subdivision example, by the time they approach us, they are looking for installations within, you know, a year to 18 months. So it would make it challenging to source out IRPAs.

MR. PARKES: Yeah, I get that an IRPA from Enbridge's perspective might not work there, but it was more if the correct cost inputs were in place, then customers would, would see the accurate connection costs that are required to upgrade the system and that may influence their choice in whether to connect, I guess, theoretically.

MR. MILLAR: Okay, thank you very much, Mike. Lisa, let's turn it over to you.

EXAMINATION BY MS. DEMARCO:

MS. DeMARCO: Thanks very much, Michael and Michael. I am going to follow up on one of Michael's questions just to make sure we are doing an apples and apples comparison here, and it's really around the distinction between non-pipeline alternatives, which is the (inaudible) that's used in the ConEd experience versus an IRPA. I have just heard in addition to the screening criteria that I went through with Mr. Gillett, we have now got a temporal aspect screening criteria as well. Is that right, Mr. Clark?

MR. CLARK: Yes, and I believe that's in the evidence, that we are looking at projects in the three to five or beyond time period for screening. Anything sooner than that, we wouldn't have the time to respond and those are being considered as emergent.

MS. DeMARCO: So those are the threshold screening criteria, not the two-staged evaluation criteria, fair?

MR. STEIRS: Yes, I think that's fair, Lisa. We have got the list of five binaries, yes, and timing is one of them. So we are looking to identify these things as early as we can, once a need is identified ten years out, and to start pursuing IRPA investment wherever we can as quickly as possible, so that we can give IRPAs time to be rolled out, implemented and so on, and understand whether or not they have sufficiently resolved the underlying constraint identified and give ourselves enough time to ensure that we have time to pivot or adjust. I think that's important to note, which may also include adjusting to the base on facility alternative if absolutely necessary to ensure that we continue to meet the firm obligation to our customers.

MS. DeMARCO: So, in fact, as I understand what you're calling that category of IRPAs and how it's different than what ConEd is calling an NPA, a non-pipeline alternative, in my discussions with Mr. Gillett and Ms. McCowan, pipeline reinforcements would fall within an IRPA. Is that right?

MS. McCOWAN: Subject to the timing I think that we talked about.

MR. CLARK: That's correct.

MS. DeMARCO: Pipeline reinforcements could fall within an IRPA, is that right?

MS. McCOWAN: That's right.

MS. DeMARCO: And what about energy storage, power to

gas project? Could that be an IRPA?

MR. STEIRS: We'd have to take that back and look at it. We tried to give a good list of illustrative examples to give you a sense of which ones we have in mind, Lisa, to start, but we were --

MS. DeMARCO: But theoretically --

MR. STEIRS: I am not saying no. Yes, I am not saying no to that either. I just -- I specifically don't have confirmation that that is, you know, contested and people think that it's a highly viable alternative or option.

MS. DeMARCO: Okay. Not in terms of a specific, this is viable, but theoretically, energy storage power to gas, could that be an IRPA? Could that fall within your definition of IRPA?

MR. STEIRS: I think questions relating to what is an IRPA and what isn't, especially as it relates to low-carbon technologies, are better for panel 2, tomorrow. We will have an expert on that panel to speak to those.

MS. DeMARCO: Happy to bring that forward to panel number 2. Let's focus on the pipeline reinforcement IRPAs that you have spoken of already. This is not new. You have done pipeline reinforcements before; that's fair?

MR. CLARK: Yes, that's fair.

MS. DeMARCO: And currently they're dealt with -- pipeline reinforcements specifically are approved as part of a regular rate application or a leave-to-construct application; is that fair?

MR. CLARK: One of the two, yes.

MS. DeMARCO: And so there's a known procedure where there's stakeholder input and ability to test evidence and look at that around any one of those section 36 or section 90, 91 procedures; is that fair? The leave to construct or regular rate application?

MR. STEIRS: Yes, that's fair, and that's why we have asked and proposed to largely mimic that structure for IRP.

MS. DeMARCO: And so what I understand here is that this proposed framework is effectively a process that restricts how and when IRPAs that may take the form of pipeline reinforcement can be considered and adjudicated; is that right?

MR. STEIRS: No, I don't. I don't think that this is meant to be restrictive at all. I think we are intending instead to do the opposite to set out a framework that allows us to broadly consider any number of IRPA solutions going forward and to do so sufficiently in advance of realizing an identified system constraint.

So perhaps I am not directly answering your question, but I am not sure I can agree to the fact that -- or the idea that the proposal is meant to restrict in any way consideration of alternatives.

MS. DeMARCO: So that's helpful, because I have confusion on this point. If it's an IRPA, even if it's a pipeline reinforcement, will we look at it? Will we have full stakeholder consultation and full ability to review it in the context of a regular rate case? Because I understood some of your IR responses to say no.

MR. STEIRS: Well, that depends, I suppose, on what the context is that you're speaking of. Is it relevant to the specific rates case?

MS. DeMARCO: If it's an IRPA and it's a pipeline reinforcement, are you looking at it in the rate case or are you waiting until a specific -- I guess is it a leave to construct or is it a leave not to construct --

MR. STEVENS: Sorry to interject, Lisa. I think maybe there is a bit of confusion in terms here. I don't believe Enbridge would refer to a pipeline reinforcement as an IRPA. Pipeline reinforcement I think Enbridge would look at as a facilities solution. An IRPA or collection of IRPAs would be non-pipeline alternatives that would be aimed at meeting the same need or solving the same constraint.

MS. DeMARCO: Well, that's really interesting, because when I asked Mr. Gillett and Ms. McCowan very specifically what would fall in that category of an IRPA, they both told me a pipeline reinforcement would fall in that definition within IRPA, so what is it? Is it your definition, David, or is it Ms. McCowan's?

MR. STEVENS: I don't think it's anything worth getting heated about, Lisa. I think there's been crossed wires here. I will leave it to the witnesses.

MS. McCOWAN: I apologize. I think what I meant when I said that, I understood your question to be what would be an example of a project where IRPAs would be appropriate, and so Mr. Stevens has clarified the language, and he is

correct that an IRPA is an alternative to the pipeline solution that would also meet the need, so a pipeline reinforcement would be an example of a pipeline solution to meet a need. The IRPAs would be alternatives to that.

MS. DeMARCO: So when you answered my first --

MR. GILLETT: Yeah. Sorry, Lisa, I was just going to say you have mentioned me a couple times. I don't know that I have defined an IRPA in any other way than what Catherine just described. An IRPA is to defer or delay or eliminate the need for a pipeline. So I am not sure that I would have defined it the way that you had described.

MS. DeMARCO: So I genuinely ask -- and if I come off as heated, David, I don't mean to, it's just the Italian coming out. I am genuinely confused as to whether a non-pipeline alternative is exactly the same as an IRPA? There will never be an IRPA that includes a pipeline or reinforcement solution.

MR. STEIRS: If I could just offer, Lisa, what we are ascribing to the definitions have been established by the Board in Procedural Order No. 2. So they have defined what an IRPA is and an IRPA framework is, and an IRPA plan is for the purposes of this proceeding, and I think we all agree with those definitions. Just in case that's helpful.

So would you like me to describe what the IRPA is from PO2?

MS. DeMARCO: I am still quite confused as to what you as Enbridge view as falling within that IRPA, and I heard earlier that pipeline reinforcements would meet the

screening criterion and would fall within it, and now I'm hearing that looking at alternatives to pipeline reinforcements would fall within the definition of the --

MR. STEIRS: I may be able to offer clarification here briefly, and Ms. McCowan can correct me if I am wrong.

I think that what Ms. McCowan -- and again, I'd have to check the transcript to see exactly what was said, but I think that your impression of the definition of pipeline reinforcement as being an IRPA is really confused by just the nature of Ms. McCowan's response. She was referring, I believe, to the types of existing projects or historical projects that the company has done, and that would be identified within the asset management plan, the nature of those projects that could potentially be viable or be high potential in nature for future IRPA consideration.

Catherine, please correct me if I am wrong.

MS. McCOWAN: No, you are right on the money.

MS. DeMARCO: So -- so looking at the potential for an IRPA, we are talking about -- and I am going to ask the question very pointedly -- a non-pipeline alternative in every circumstance.

MR. STEIRS: Yes. Because --

MS. DeMARCO: That's helpful.

MR. STEIRS: And I will just add that because, Lisa, what we have proposed is that we still have a role to understand what the baseline facility would be required in comparison to that NPA or the terminology in this proceeding being used is IRPA. So we will look at those

IRPAs and seek to pursue those and to invest in those, but in parallel we would also look to understand what the baseline facility project that would be directly comparable to that would need to be as well so that we have a contingency.

MS. DeMARCO: Just for ease of reference -- I think a lot of -- several of us were dealing with that confusion -- I am going to use the term non-pipeline alternatives, and what I understand procedurally is that you're going to seek approval of that non-pipeline alternative through a pipeline leave-to-construct process traditionally under section 90 or 91, so it's effectively you are seeking approval of a leave not to construct a pipeline; do I have that right?

MR. STEIRS: So I think -- so you're not entirely wrong, absolutely not. The nature of what we expect those approvals would look like would be similar -- we expect they would be similar in nature to what we do for LTC applications. I think we've responded in Exhibit I-Staff 11, to provide some clarification on this.

MS. DeMARCO: I was looking at Board Staff 10(b).

MR. STEIRS: So I guess maybe we need to parse this into two then, because this is a different scenario described in (b).

If you want to discuss the original or the underlying IRPA application that we would make to the Board, then that's discussed in 11. And if you would like to discuss any subsequent application that might need to be made if we

find that the vestment in the IRPA, that the underlying IRPA or portfolio or gather grouping of IRPAs that are approved by the Board are found to be under performing, that's what part (b) in Staff 10 is discussing.

MS. DeMARCO: I do find the two connected but a little bit confusing. So if you could undertake to provide a discrete exact nature of the leave not to construct approval that you will look for when you come forward with a non-pipeline alternative, and what authority you propose to go under that would be very helpful.

MR. STEIRS: Okay, just before we agree to that, Stephanie, could you bring up Staff 11, please? Keep going.

MR. STEVENS: I believe it's maybe Staff 10.

MR. STEIRS: Maybe it is Staff 10. I apologize, Lisa.

MS. DeMARCO: I think it's 10(a) was where the sections are laid out, and then 10(b) was the financial threshold.

MR. STEIRS: Yes, so the financial threshold only relates to instances where the IRPA is under performing. Stephanie, if you scroll up to part (a) -- you are absolutely right, Lisa, that we've included quotes from our additional evidence I believe there as well.

So we said we are seeking to establish similar assurances under similar thresholds and parameters for investments in natural gas IRPAs, as the OEB Act sets out in section 90 and 91, and that affords us -- which is obviously for leave-to-construct facilities.

And so we expect that applications for IRPA would be similar within the quote below it states, would be similar to those applications for LTC facilities would include an explanation of the system constraints and so on.

I guess if that doesn't help resolve your question, then perhaps we would have to take a look --

MS. DeMARCO: I would like the undertaking because this is what led to the confusion, if you could, Mr. Stiers. It's really the exact authority and exactly what approval you would seek for that leave not to construct the pipeline for a non-pipeline alternative, and this seems to be more akin to a pipeline leave-to-construct approval, so this is where I was and --

MR. STEVENS: Lisa, we will review what's in Staff 10(a) and determine what additional information we can provide that's responsive to your two related questions.

MS. DeMARCO: Thank you so much. Can I get an undertaking number for that, please?

MR. MILLAR: The undertaking number is JT1.17. We have been having a bit of difficulties in tying down what the undertakings are, so can I get in 16 words or less what the undertaking is for?

MS. DeMARCO: The exact nature of the leave not to construct, the non-pipeline alternative that they will be seeking and the legislative authority.

UNDERTAKING NO. JT1.17: TO DESCRIBE THE EXACT NATURE OF THE LEAVE TO NOT CONSTRUCT, THE NON-PIPELINE ALTERNATIVE TO BE SOUGHT AND THE LEGISLATIVE AUTHORITY

MR. MILLAR: Great, thanks. Lisa, we are right up against the edge of our time here and I know Dwayne still has some brief follow-ups. How are you doing?

MS. DeMARCO: I am very nearly done, I have one quick one. In relation to the evidence, I understand that you have the ability to unilaterally cease an IRP. Do I have that right?

MR. STEIRS: No, not quite, Lisa. So what we've proposed, and this is discussed in part (b), is that in instances where -- Stephanie, if you could scroll down to part (b) of this response. Thank you.

In instances where through our -- well, our proposed monitoring and reporting framework in annual IRP report, we identify through the EMB process that we have described that if an IRPA is under performing relative to what we forecasted, then we would -- we would seek the guidance from the Board in instances where we need to make adjustments that it exceed a certain threshold.

But we do intend that on an annual basis, we would be reporting to the Board and parties on the relative success or lack thereof of individual IRPAs. And that's set out within our additional evidence.

So even in instances where we wouldn't, you know, surpass this 25 percent threshold discussed in part (b), the parties would still understand if there was under performance and what actions, if any, the utility was taking to adjust the IRPA in question.

Now, the decision to -- sorry, let me restart that.

There could be instances where the utility decides that we need to spend more, we need to seek approval, let's say for additional IRPAs targeting the same area to resolve the same constraint, and in those scenarios, if it surpassed the 25 percent threshold discussed in part (b), we expect we would go the Board and seek the Board's approval to do so. Does that help answer the question?

MS. DeMARCO: That last line, "and may consider ceasing investment in existing IRPAs", you are going to seek Board approval to do that?

MR. STEIRS: I don't think we have been that explicit, but I certainly believe that to the extent that it triggers the first line, Enbridge Gas proposes that the Board establish a threshold for adjustment to IRPA investment of 25 percent or greater, total OEB approved costs of each IRPA investment in order to ensure that we're not overly burdened by the need to prepare and consider countless applications and so on, I would suppose that a complete cessation of the investment would have to be made known to the Board.

We have not contemplated seeking an approval to cease that investment, but we certainly would need or may need to apply to the Board shortly afterwards for approval of either an alternative IRPA or the baseline facility alternative that has been prepared all the way along.

MS. DeMARCO: So if I've got that correctly, you can unilaterally cease an IRPA with notice to the Board and a subsequent application for an alternative?

MR. STEIRS: Yes, I don't think we've committed at any time to come to the Board to ask permission to cease an investment.

Rather, what we've said is we would be reporting to the Board and parties on an annual basis as to the effectiveness of each of these IRPAs and any resolution or action that we were taking.

MS. DeMARCO: Great. Last question, Michael, if I might. You've indicated in Anwaatin 2 (a) that greenhouse gas impacts are not the drivers of your non-RPs or non-pipeline alternatives, I am going to say, just lower cost. And I am wondering how you reconcile that with Enbridge Inc's November 6th, 2020, commitment to achieve net zero greenhouse gas emissions by 2050 and a 35 percent decrease by 2030?

MR. STEIRS: And so, sorry, Lisa, what is not consistent with that commitment that we made?

MS. DeMARCO: You've indicated that greenhouse gas impacts are not the drivers of your IRPs. That's at Anwaatin 2(a). And I am asking just how you reconcile that, and it might be you have a logical way of reconciling that with Enbridge's net carbon zero commitment by 2050 and 35 percent reduction by 2030.

MR. STEIRS: Right. I am just trying to find the statement that we don't -- you said we don't consider that to be a driver, and I don't see that here.

MS. DeMARCO: I believe it's Anwaatin 2(a). I can try and pull it up if you want.

MR. STEIRS: It's up on the screen.

MS. DeMARCO: If you go down -- sorry, (c), sorry:

> "However, to be clear, although IRP alternatives should not create a higher greenhouse gas profile, reduction of such is not the primary goal of the IRP. For this reason not all blended or non-gas solutions may be considered during IRP planning."

MR. STEIRS: Right, so again, your question, if you could pose it again now.

MS. DeMARCO: My understanding is that greenhouse gas impacts are not the driver of your IRP, and I am wondering how you reconcile that with Enbridge Inc.'s November 6th, 2020 announcement, committing to achieve net zero by 2050 and a decrease in greenhouse gas of 35 percent by 2030.

MR. STEIRS: So I think if we just go back to the original definition of IRP set out in our additional evidence it might help clarify, so:

> "IRP is a planning strategy underpinned by Enbridge Gas's guiding principles to consider facility and non-facility alternatives in tandem which are meant to address long-term system constraints and needs such that an optimized and economic solution is proposed."

That is how we are defining IRP. And I can't -- I am not sure if I have answered your question, but I think the purpose of IRP is very clearly to allow for the consideration of IRP alternatives relative to facility --

traditional facility alternatives to resolve future forecasted system constraints.

MS. DeMARCO: This is very related to Jay's question of stranded assets. I am trying to understand how you're using your definition of IRPAs and the IRP process that you have defined and how you're reconciling that with the clear commitment by your own company, not by external forces, to net zero.

MR. STEVENS: And I think Adam has given you his answer and the information that we have.

MS. DeMARCO: Noted with thanks. Then I will remain -- leave the remainder of my questions for tomorrow's panel, thank you.

MR. MILLAR: Thank you, Lisa. Dwayne, did you have a couple of quick follow-ups on the undertaking response you received?

MR. QUINN: Yes, I do, Michael, thank you. I just -- the FRPO -- if we can put up FRPO 27. This should be quick, and I will only have FRPO 28 to go through.

So at page 3 of FRPO 27, Enbridge acknowledges that to the extent that PDO is available it is used to offset additional Dawn-Parkway system infrastructure. Please confirm that the OEB can require Enbridge to make additional PDO available.

MS. THOMPSON: So PDO is -- it's going to be a little bit of a longer answer. Power delivery option as part of the [voice cuts out] move away from PDO to be --

THE REPORTER: Sorry, this is the reporter --

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MS. VAN DER PAELT: I don't think there's anyone on this panel, Kent, that was part of the North Bay proceeding.

MR. ELSON: Got it. So in the North Bay proceeding, the conclusion was heat pumps, when you are accounting for the surcharge, are cheaper than natural gas. I think that's pretty relevant, and we would like to not only have those calculations as set out in the natural gas conversion savings estimate, but an update to that evidence incorporating the federal government's announced carbon price increase. Can you undertake to provide that?

MR. STEVENS: No, no, we can't. I think, again, that -- similar to the discussions that I had with Dwayne yesterday, Enbridge doesn't view this proceeding as being aimed at determining all of the parameters of specific IRPAs that might apply in the future.

MR. ELSON: Well, with respect, David, one of the things it is determining is whether or not government policy such as the carbon price increase should be included, and this evidence directly goes to that, because it would provide information on how important that information is, and we think it is critically important, and on that basis can you reconsider your answer?

MR. STEVENS: No, I can't -- or, no, I won't.

MR. ELSON: Well, then we will have to take that up at the hearing, and those are my questions. Thank you.

MS. DeMARCO: Actually, can I just follow in on that one? It's Lisa. In relation to the screening criteria --

and I am looking very specifically at Exhibit B, I think it's page 21, paragraph 39 -- there is express mention of residential natural gas heat pumps as a specific, I am going to say non-pipeline alternative that you are considering.

In relation to your criteria, the screening criteria, the binary screening criteria, I understand that you've screened those out if they're in the realm of community expansion. And so there must have been some assessment done on why it was appropriate and least efficient in terms of your guiding least cost principles to screen those out, so I'd find that information very useful as well.

MR. STEVENS: Right. My understanding of the evidence yesterday and the pre-filed evidence is that Enbridge isn't saying that it's screening out particular potential IRPAs in relation to community expansion. Instead, what Enbridge is saying is that where a community expansion project is underpinned by dedicated funding, then Enbridge will proceed with that project, and Enbridge does not, given that the funding and the government direction to complete the project, Enbridge doesn't believe that IRP alternatives are appropriate to consider. But that exercise is not directed at any one particular IRPA being screened out, but rather the entirety of IRPA being inapplicable.

MS. DeMARCO: I am just a little confused with that, because if I read paragraph 39 in the context of paragraph 38, it appears as though you are entering into an either/or determination, strictly pipe and community exemption and no

residential natural gas heat pumps from the screening criteria that you are now asking us -- asking this Board to approve, not a potential community expansion with pipe as per the grant scenario that you just outlined and residential natural gas pumps. You have eliminated that possible efficiency, as I understand it.

So I think the underpinning economic analysis for the elimination of that non-pipeline alternative in coordination with the grant would be very useful to both the Board and to the intervenors in assessing that.

MR. STEIRS: I can offer up, Lisa, clarification that based on yesterday's discussion we are not eliminating consideration of any form of IRPA, whether that be a form of heat pump or other IRPA, at this stage, and the community expansion screening criteria that we discussed yesterday, I believe it's the fifth one, community expansion and economic development that we discussed, was only a restriction in situations where funding is dedicated, and in this case we were speaking to funding dedicated by law to specific communities in order to connect them to natural gas systems. That is the only restriction we are speaking of.

MS. DeMARCO: That's my understanding, but in terms of the actual elimination of the non-pipeline alternative in coordination with that community expansion funding, so pipe plus residential natural gas heat pumps, could clearly fall within the grant funding intention and the efficiency that the Board is seeking, and so I assume -- and tell me if I'm

wrong -- that you've done economic analysis to say where we do have grant funding it is not efficient to do both pipe expansion and non-pipe alternative residential natural gas heat pumps to those communities.

MR. STEIRS: I am not aware of any such economic analysis, but I will put it to the panel to find out if anybody else is.

MR. KITCHEN: Lisa, it's Mark Kitchen here. The communities that receive the grant funding are communities that do not have natural gas.

MS. DeMARCO: Yes, they're most of my --

MR. KITCHEN: So grant funding provides the community with the natural gas. Once the community is piped, and to the extent that there is potentially more expansion, then IRPAs will be available.

MS. DeMARCO: So that's the issue, Mark. If you are looking at one of my very vulnerable First Nations communities that would benefit financially and otherwise from having natural gas facilities expansion, and you're sizing the nature and substance of the pipeline going to those communities, it would be very helpful to have the informed basis of whether or not those houses on or off reserve would be supported by natural gas heat pumps.

So you would want, notionally, I would think, to have an analysis of what is the end use and how will those facilities be used in the community.

So as I see your criteria -- correct me if I am wrong -- you must have done economic analysis to determine that

it is not efficient to have natural gas heat pumps supported in those community expansion situations.

MR. KITCHEN: I don't believe there was analysis done. But why don't we do this. Why don't we take an undertaking and address your issue through that.

MS. DeMARCO: I think that would be very helpful. Kent, is that sportive of where you wanted to get to?

MR. ELSON: I was talking about electric heat pumps, but go for it. It doesn't answer my question, but it does answer your question, so --

MS. DeMARCO: Yes, it's helpful for me, thank you, Mark. I appreciate that.

MR. MILLAR: So the undertaking is JT2.7. Is it to provide whatever economic analysis may have been done with respect to heat pumps for community expansion projects?

MS. DeMARCO: To exclude natural gas heat pumps for community expansion projects.

MR. MILLAR: The economic -- Lisa, why don't you tell me what the undertaking is, because I got it wrong.

MS. DeMARCO: To provide any and all economic analysis that was used to support the binary screening exclusion of non-pipeline alternatives in community expansion situations.

MS. SIGURDSON: I do want to step in here for a moment, just because I feel like there may be a bit of a misunderstanding. So I am hearing you say, Lisa, non-gas and then natural-gas heat pumps. So in the world of heat pumps -- I hope this will help folks understand, but you

have got geothermal and air-source heat pumps. Those are --

MS. DeMARCO: Could I just correct there? I didn't say non-gas -- I said non-pipeline.

MS. SIGURDSON: Okay. So natural gas heat pumps, though, so they are commercially ready on the commercial sector, so not from a residential basis at this point. So I want to make sure that that was clear here.

MS. DeMARCO: Well, you speak to residential natural gas heat pumps in your section 39 of the evidence, in fact you have an application where you were offering them.

MS. SIGURDSON: Right. So on the natural gas heat pumps, they exist commercially on the commercial sector, but not on the residential sector. That type of technology is currently under development. So there is a distinction.

So when you are talking about a residential community, you wouldn't have -- there isn't a product that exists today that could serve that coming, forthcoming, but not today.

On a commercial sector, yes, they would exist. But I just want to make that bit of a difference.

MS. DeMARCO: I am just confused by that response because, correct me if I am wrong, you did have an application coordinated with your original renewable natural gas application where you were offering residential natural gas heat pumps. Is that correct?

MR. STEVENS: I believe, Lisa, that initial application contemplated geothermal systems.

MS. SIGURDSON: That's right.

MR. MILLAR: Okay. I thought we had an undertaking but I am not sure we do. What is the undertaking?

MS. DeMARCO: The undertaking is to provide any and all economic analysis to support the exclusion of non-pipeline alternatives or IRPAs in community expansion projects.

MR. MILLAR: Okay, that is JT2.7 -- unless I am hearing objections. Okay. Can we move on?

UNDERTAKING NO. JT2.7: TO PROVIDE ANY AND ALL ECONOMIC ANALYSIS TO SUPPORT THE EXCLUSION OF NON-PIPELINE ALTERNATIVES OR IRPAS IN COMMUNITY EXPANSION PROJECTS.

MS. DeMARCO: Sorry for interrupting.

MR. MILLAR: Okay. Thank you, Lisa, and thank you, Kent, for your services in furtherance of regulatory efficiency; it is appreciated.

David, I think you're up next. But why don't we take our break. We are at 10:42, so let's break for 15 minutes, and then, David, you are up.

MR. POCH: That's good.

MR. MILLAR: Okay, thanks everyone.

--- Recess taken at 10:42 a.m.

--- On resuming at 10:57 a.m.

MR. MILLAR: Okay. We are at 10:57. David, you have 90 minutes. Go.

EXAMINATION BY MR. POCH:

MR. POCH: Okay. And Kent, I think, donated me an

those respective approaches.

MR. STEVENS: We can do that, Dwayne.

MR. QUINN: Okay.

MR. STEVENS: So in the scenario where the IRPA has a 10-million-dollar revenue requirement and it's avoiding a 20-million-dollar capital cost.

MR. QUINN: A 20-million-dollar revenue requirement.

MR. STEVENS: Sorry, revenue requirement, what would Enbridge seek recovery on?

MR. QUINN: Yes.

MR. MILLAR: Okay, I will mark that as JT2.13.

UNDERTAKING NO. JT2.13: TO PROVIDE ENBRIDGE'S POSITION ON WHAT CAPITAL COST TREATMENT OR CAPITAL COST TREATMENT WOULD BE APPLIED TO SUPPLY SIDE IRPAS THAT DELAY INFRASTRUCTURE PROJECTS, ON THE SIMPLE BASIS OF A 10-MILLION-DOLLAR REVENUE REQUIREMENT IRPA OR A 20-MILLION-DOLLAR REVENUE REQUIREMENT CAPITAL COST.

MS. DeMARCO: I think I have a logical add-on to that JT2.13.

MR. QUINN: Go ahead, Lisa.

MS. DeMARCO: So at Exhibit B, page 32, at paragraph 74 you indicate that you're intending to include for IRPAs administrative costs, implementing costs, planning costs, measurement and verification costs as capital and not O&M. Can you just confirm how the IRPA costs will be treated in that 10 million and 20 million assessment.

MR. STEIRS: I wonder if, Lisa, we could go Staff 22 and have a look at the breakdown of costs that we included there.

So we talked about administrative costs, so staffing and resources required to meet increased workload, propose -- we propose to incremental IRP admin cost would be included in the O&M costs of the company's revenue requirement, and we talk about the project cost which includes planning, implementing, administering and measuring, and verifying the specific investments in IRPAs, and we propose that those costs be capitalized to rate base. And then ongoing operating and maintenance costs, similar to admin costs, we propose that those costs be included in Enbridge Gas's own end costs, so the company's revenue requirement. So what we propose is that following approval of the project, these costs, once a project is in service, would go into the IRP deferral account that we have requested be established, and we would come forward on an annual basis together with other deferral and variance accounts clearances and request recovery.

MS. DeMARCO: Yes, this was cause manager a little bit of concern because it seems to be at odds with Exhibit B, page 32, paragraph 74. So if you could do it in chart format, that would be very helpful because there seems to be different evidence on those points.

MR. STEVENS: Sorry, do what in chart format?

MS. DeMARCO: Each of the costs that are listed, planning, implementation, admin, measurements, the

application, O&M, IRPA project costs, IRP admin costs and say what is intended to be capitalized and what is intended to be treated otherwise, O&M or deferral account.

MR. STEIRS: That's exactly what we describe in Staff 22.

MS. DeMARCO: I will take another read to make sure I haven't missed that. It just seemed that 22 was at odds with the evidence in paragraph 74.

MR. STEIRS: It may be. It certainly -- it may be -- it may be slightly confusing in terms of the terminology used. But I can assure you that Staff 22 represents our position on each of the -- how each of these costs should be treated.

MS. DeMARCO: Is it worth a correction, then, of paragraph 74?

MR. STEIRS: I am not sure -- let me have a quick look at 74.

MR. STEVENS: Perhaps, Lisa, we can take as an undertaking to advise as to whether any changes need to be made to paragraph 74 of Exhibit B to reflect what's set out in -- I am sorry, what was the Staff undertaking, Adam?

MR. STEIRS: It would be Staff 22.

MR. STEVENS: If not, then we will advise accordingly and if an update needs to be made, then we will advise accordingly and make the update.

MS. DeMARCO: Or a clarification. I wouldn't want to limit you to having to do an update. If it's simply a clarification, I am happy with that, too.

MR. STEVENS: Thank you.

MR. MILLAR: The undertaking is JT2.14.

MS. DeMARCO: Thanks very much.

UNDERTAKING NO. JT2.14: TO ADVISE AS TO WHETHER ANY CHANGES NEED TO BE MADE TO PARAGRAPH 74 OF EXHIBIT B TO REFLECT WHAT'S SET OUT IN IR STAFF 22; TO CLARIFY AS NECESSARY

MR. QUINN: Okay, if I can proceed? I am assuming I can proceed. I am going to proceed and somebody tell me if I need to stop.

MS. DeMARCO: I am sorry.

MR. QUINN: Okay. I just want to make sure everybody was finished with that.

So moving forward -- and actually a step back. In talking with Mr. Poch, he was contemplating or discussing with you the costs associated with ex-franchising of franchise customers. And of course, I certainly understand that.

But something you said, Mr. Stiers, I think warrants clarification because he was talking about the costs of the pipeline paid over 40 years and the phrasing that I think you used -- and you can clarify for me if I am wrong -- is that the ex-franchise customers would pay their fair share.

I assume it was a presumption that it was their fair share over the 40 years, but they would pay the fair share over the 15 years of the minimum contract that they would have to underpin the build?

MR. STEIRS: That's the standard for contracting on

ONTARIO ENERGY BOARD

FILE NO.: **EB-2020-0091** **Enbridge Gas Inc.**

VOLUME: **Technical Conference**

DATE: **February 12, 2021**

Friday, February 12, 2021

--- On commencing at 9:30 a.m.

MR. MILLAR: Good morning, everyone. This is day 3 of the technical conference in EB-2020-0091. We are nearing the end of our journey. I understand there are no preliminary matters, so without further ado I will hand it over to Lisa, who has about an hour for this panel, and then just for folks monitoring, we'll be -- ICF will be up immediately after this panel, probably before a morning break, and Pollution Probe is up first.

Over to you, Lisa.

ENBRIDGE GAS INC. – PANEL 2, IRP, RESUMED

Sarah Van Der Paelt

Ravi Sigurdson

Suzette Mills

Stuart Murray

Hilary Thompson

Adam Steirs

Rich Szymanski

EXAMINATION BY MS. DEMARCO:

MS. DeMARCO: Thanks very much, and thanks very much, panel. I appreciate your time. I have three areas which I think are largely matters of clarification that I would like to canvass with you. They are in and around the process, the public policy and corporate policy consistency, and then the gas electric optimization, just so you can organize your thinking.

Let me start first with process issues in and around

both the formation of this IRP framework and proposal and then in its application, just so I have got that right.

So in discussing things with panel 1, they confirm that the general process -- you've had some non-pipeline alternatives come forward before, and that the general process was under the rates application and the leave-to-construct application process. Do I have that right?

MR. STEIRS: I think so, Lisa. I am not sure which ones would have fallen under the rates category specifically, I can't recall that part of the discussion, but certainly as part of LTC, if as part of rates you're referring to what we have done historically with regard to establishing interruptible rates and/or DSM, then that's correct.

MS. DeMARCO: Great, thanks. And so what's new here, it's basically a change in how you're doing things, a procedural change; is that right?

MR. STEIRS: In part, yes, we see this as a procedural change consistent with the response at OSEA 1(c), where we acknowledge that some planning processes and other internal processes will need to be modified, and there will need to be some integration of this IRP proposal into those existing processes.

MS. DeMARCO: Looking at CCC 3 and the approvals that you're looking for, it's effectively an operational change, is that right, how you go through the process and operate in relation to non-pipeline alternatives?

MR. STEIRS: I am not sure I'd necessarily

characterize it as an operational change. I think we're adding more, and the potential for more consideration of IRPAs, through this proceeding. So a broader, broader consideration of perhaps what we would have done in the past, and some more rigour around the specific processes that will be used, the criteria that will be applied, the economic testing that should be applied going forward.

And again, most of this is being driven by the clarity and guidance that we need from the Board with regard to how to proceed with IRP which it's encouraging us to proceed with.

MS. DeMARCO: Right. And that seems like a change in how you operationally intend to consider these things; is that fair?

MR. STEIRS: I think it's a change in -- certainly a change in how we consider these things, yes.

MS. DeMARCO: So there's a process, there's an operational process that you intend to follow, and it's dictated by this framework.

MR. STEIRS: It is not specifically dictated per se by this framework. It -- I guess the only nuance I am trying to clarify, Lisa, is that there's still, as we said in OSEA 1, a lot of work to be done to identify the exact process changes and finalize the processes that will lead out of this framework. This framework will give us the guidance we need to make those changes, if that's helpful.

MS. DeMARCO: It is. It sounds like there's an operational process in play to help you change how you have

operated traditionally.

MR. STEIRS: Sure. Yes.

MS. DeMARCO: Great, thanks. I want to talk about two things: The process of developing this new framework and what you did in relation to that, and then how it's applied. So let me start first with the process of developing the framework.

From your response to Anwaatin 2(d), I understand that historically in 2018 you consulted on targeted energy efficiency in the DSM proceeding; is that right?

MR. STEIRS: It actually even predates 2018. I think that coming out of the Board's multi-year DSM framework and planning proceeding, it encouraged the utilities -- utilities, at the time EGD and Union Gas, to pursue -- to establish a transition plan and to work jointly to commission a study on how integrated resource planning might be integrated into our processes at the legacy utilities. And then there were subsequent expectations set out for the multi -- or the midterm review of that framework, the DSM framework, and then subsequent encouragement and direction that followed.

MS. DeMARCO: So there were elements that you consulted on in and around the DSM policy. I am following that. But in terms of this specific IRP proposal, did you consult on that?

MR. STEIRS: I am sorry, so I think in our response -- I will have to have a look here -- we discuss the consultation that was done as part of ICF's work

specifically. So the underlying study that was completed May 2018 by ICF included quite a bit of consultation by ICF --

MS. DeMARCO: And I understood that consultation to be in relation to targeted energy efficiency and in DSM. That's what the ICF report says; is that fair?

MR. STEIRS: I believe so. I think ICF will be able to give you a clearer definition in the next panel, but much at the time of the multi-year DSM plan proceeding, the mid-term review and so on, much of the focus of IRP in general was on energy efficiency programming and as ICF's study was completed and thinking evolved beyond the traditional thinking of IRP based on what we were seeing in other jurisdictions which were not limited to energy efficiency, it became more than targeted DSM or targeted energy efficiency.

MS. DeMARCO: So let's focus on that specific 2018 targeted energy efficiency DSM consultation or whatever ICF did. Do you have a list of the First Nations that you consulted with?

MR. STEIRS: I am not aware of any such list, Lisa. Sue may have an idea of whether or not there was consultation of First Nations.

MS. DeMARCO: Can we ask Sue to respond to that?

MS. MILLS: Sure. Can you hear me okay?

MS. DeMARCO: Very, very poorly, actually.

MS. MILLS: Okay. Hold on. I will try to turn up my microphone here too. How's that?

MS. DeMARCO: Still quiet, but --

MS. MILLS: Okay. Sorry. Is that a little bit better?

MS. DeMARCO: Yes.

MS. MILLS: Okay. No, there was no consultation with First Nations group during the formation of that study.

MS. DeMARCO: Thank you. In terms of this package that we see before us, this application itself, safe to say there was no consultation with First Nations groups in relation to that as well?

MS. MILLS: There would have -- sorry, go ahead, Adam.

MR. STEIRS: Go ahead, Sue.

MS. MILLS: There was no consultation, no.

MS. DeMARCO: Okay. Can I ask -- sure.

MR. STEIRS: Sorry, I was just going to add that really quickly, Lisa, that the focus of this proposal was to address the outstanding issues and guidance that were identified by ICF in its original study and to enable us to pursue natural gas IRP. So we have set out a stakeholdering section and I know you're well ware of this, but I would just make sure I articulate that --

MS. DeMARCO: I am going to stop you there for a second, because I distinguish the formation of the policy to the application of the policy. We will come to your point in the application to the policy.

MR. STEVENS: Lisa, if I can stop you there, I think it's an unfair characterization to call this a policy. It's a proposal; that's why we are here. We are making a

proposal to the Board, and the Board is going to make a decision.

MS. DeMARCO: Yes, the proposal. I am happy to use the word "proposal." So the formation of this specific proposal versus its application, how it's intended to be applied. Can I ask you to turn to VECC Number 1. Do you have that up?

MR. STEIRS: Yes.

MS. DeMARCO: And at the bottom of that page, you have policies that you indicate in this proposal is consistent with -- includes three policies, one of which is Enbridge's Indigenous Peoples Policy and there is a link to that. Would you mind opening up the link?

Do are you have that open?

MR. STEIRS: I do, yes.

MS. DeMARCO: There are really five key elements of that policy reflected in the bullets. Can you tell me how, in the first bullet, the United Nations Declaration on the Rights of Indigenous Peoples was reflected or addressed in the development of this IRP? I am not going to say policy, I am going to say proposal, David.

MR. STEVENS: Lisa, are we able to wait for a moment until we can all see the Indigenous Peoples Policy on the screen?

MS. DeMARCO: Sure, sure.

MR. STEVENS: Just so we can all follow along. Thank you.

MS. DeMARCO: So I am going to ask the question again.

Are we good now?

MR. STEIRS: Yes, Stephanie, if you can just scroll down to the first bullet.

MS. DeMARCO: It's the first two bullets, actually. And can you tell me how the UN Declaration on the Rights of Indigenous Peoples was reflected or addressed in the development of this specific proposal?

MR. STEIRS: No, I cannot.

MS. DeMARCO: Okay. And then going on to the third bullet there, it says:

> "We engage in forthright and sincere consultation with Indigenous Peoples about Enbridge's projects and operations through processes that seek to achieve early and meaningful engagement, so their input can help define our projects that may occur on lands traditionally used by Indigenous Peoples."

Can you tell me how this element of the Enbridge Indigenous Peoples Policy was reflected in the formation of this proposal?

MR. STEVENS: I believe, Lisa, we have answered this already in Anwaatin 1(a).

MS. DeMARCO: No, actually there's no answer to this in Anwaatin 1(a).

MR. STEVENS: Anwaatin 1(a) starts with the statement that Enbridge does not believe that the current application triggers duty to consult the proceedings intended to establish an IRP framework.

MS. DeMARCO: Yes, this is not about the duty to consult. This is about engaging in forthright and sincere consultation with Indigenous people -- small C consultation, not capital C, David.

So I am just curious. Was this considered and, if so, how was it reflected in the formation of this proposal.

MR. STEVENS: Well, I will ask the witnesses, then, whether anybody has, you know, subject matter knowledge that they can answer these questions.

MR. STEIRS: I do not.

MR. STEVENS: I wonder if it might be efficient then, Lisa, for us to answer these questions by way of undertaking.

MS. DeMARCO: Happy to have that specific question answered by undertaking, and let me put the last two on the record to have those, if you wish, answered by undertaking as well.

MR. STEVENS: Sure, if you can just list all three for the record.

MS. DeMARCO: Yes. So the next is in relation to committing to working with Indigenous people to achieve benefits for them resulting from Enbridge's projects and operations, including opportunities and training and education, employment, procurement, business development and community development.

The next undertaking is how, if at it all, was the considered in the development of the proposal.

And the last is we foster understanding of the history

and culture of Indigenous Peoples among Enbridge's employees and contractors, in order to create better relationships between Enbridge and Indigenous communities.

And the question is, for the undertaking, how, if at all, was this considered or applied in the development of this proposal.

MR. STEVENS: Can I suggest just a general question back to you, and you can tell me if it's acceptable?

We are on page 2 of the Indigenous Peoples policy; is that right?

MS. DeMARCO: We are on the only page of the Indigenous Peoples Policy.

MR. STEVENS: Sorry. I know we scrolled down. That's why I was asking.

MS. DeMARCO: It's a one-page policy.

MR. STEVENS: Okay. Then is your question essentially how, if at all, were each of the commitments set out in the bullets in the Enbridge Indigenous Peoples Policy considered or applied in the formation of Enbridge's IRP proposal?

MS. DeMARCO: Yes. I'd like them broken out, bullet by bullet. You can combine the first two, that's fine, but then I would like them broken out bullet by bullet. And --

MR. STEVENS: Yeah, I understand, you're looking for an answer in relation to each of these separately.

MS. DeMARCO: That's right. And we can cut to the chase on this as well. This is all in relation to the formation of the proposal, and you can anticipate that my

next question will be in relation to the application, the proposed application and implementation of the proposal.

I'd like to know how all each of these bullets are reflected and/or addressed.

MR. STEVENS: Okay, if we can start with the initial question.

MR. MILLAR: Yeah, let's do that. That will be JT3.1. I think David characterized it with the understanding that the bullets will be responded to separately, although one and two could potentially be combined. But that Lisa wants an answer to all of those bullet points individually. So let's call that JT3.1.

And now let's move on to the next one, whether it's answers now from the witnesses or it's an undertaking.

UNDERTAKING NO. JT3.1: TO EXPLAIN HOW, IF AT ALL, WERE EACH OF THE COMMITMENTS SET OUT IN THE BULLETS IN THE ENBRIDGE INDIGENOUS PEOPLES POLICY CONSIDERED OR APPLIED IN THE FORMATION OF ENBRIDGE'S IRP PROPOSAL, BROKEN DOWN BY BULLET POINT

MS. DeMARCO: And that question is in relation to how each of these bullets is reflected or applied in the implementation or application of the proposed proposal.

MR. STEVENS: I guess I am having difficulty maybe just with the tense of the verb that you're using there. The policy is being put to the Board for -- or the proposal is being put to the Board for consideration, such that it might become a policy. But it hasn't been implemented yet.

MS. DeMARCO: Yes. So how are each of these bullets

intended to be reflected when the -- if the program, if the IRPP is approved, in each element of the IRPP.

MR. STEVENS: So how will Enbridge reflect --

MS. DeMARCO: Each of these bullets of the policy --

MR. STEVENS: -- each of these bullets in its IRP proposal is endorsed or included in the Board's IRP framework.

MS. DeMARCO: Yes, or how are they reflected in the proposed framework.

MR. STEVENS: Those are separate questions, though, Lisa.

MS. DeMARCO: So let's put them both down, then.

MR. STEVENS: So how are each of the bullets reflected the proposed framework, and that will be JT3.2.

UNDERTAKING NO. JT3.2: TO EXPLAIN HOW EACH BULLET IN ENBRIDGE'S IRP PROPOSAL IS REFLECTED IN THE PROPOSED FRAMEWORK.

MS. DeMARCO: And then how are they intended to be applied if the proposed framework is approved.

MR. MILLAR: And that would be JT3.3.

UNDERTAKING NO. JT3.3: TO ADVISE HOW THEY ARE INTENDED TO BE APPLIED IF THE PROPOSED FRAMEWORK IS APPROVED.

MR. STEVENS: And we accept each of those undertakings.

MR. MILLAR: Okay. Thank you.

MS. DeMARCO: Thank you. So let me just go into the current associated operation of the proposal, how it's

intended to work, and so we have got a threshold screening process, and historically, in Exhibit A, tab 3, page 13, line 12, in the old process with a numerical threshold you estimated about 14 to 17 percent of projects would make it through that screening process; is that right?

MR. STEIRS: I can offer an initial response here, and others may want to jump on to ensure I have characterized it properly.

That estimate is antiquated now, and we've withdrawn the concept of establishing such a threshold.

MS. DeMARCO: Great. Historically, though, with that antiquated, it was about 14 to 17 percent.

I am going to ask you now to go now to Board Staff 8(g). And there are some charts there of what is and isn't eligible as an IRPA. And from my review it looks like only one category of all of those elements would be conducive to IRPA through your screening process; is that right?

MR. STEIRS: So I'll again offer a thought here, Lisa, but I should caveat that's with the fact that the asset management plan was the subject of panel 1, and so Catherine McCowan was our expert witness on this content, and she's not with us today.

But looking through this, I think when you get down to compressor stations, we do also say in some instances, given the status of facilities, opportunities to reduce the sizable replacement capacity through the use of IRPAs would be considered.

So certainly distribution growth projects are

identified. I believe we also identify compressor stations as having some potential.

MS. DeMARCO: Okay. I will tell you where I am trying to understand in relation to this new screening process without the antiquated numerical threshold. What percent do you estimate of facility projects will be conducive to an IRPA? And if you can't give me an exact percent, is it higher or lower than 14 to 17 percent?

MR. STEIRS: I can't answer either of those questions for you.

MS. DeMARCO: Who can?

MR. STEIRS: I think Catherine McCowan, who was on panel 1, is the appropriate person, if anybody.

MS. DeMARCO: David, can I get an undertaking to get that answer, please?

MR. STEVENS: We can provide an undertaking to advise as to whether Enbridge has an updated expectation or forecast as to what percentage of its projects would be conducive to IRP. I can't undertake -- or I can't assure you that there is an answer, but I can undertake to ask.

MS. DeMARCO: Yeah, and directionally, if I can ask the undertaking be expanded to say directionally is it anticipated to be higher or lower than the antiquated threshold of 14 to 17 percent.

MR. STEVENS: Well, I'm not going to use the word "antiquated" in the undertaking, but --

MS. DeMARCO: That was your words, not mine. Those were Adam's words, not mine.

MR. STEVENS: In any event, I understand the question, and we'll see what information we have.

MR. MILLAR: It's JT3.4.

UNDERTAKING NO. JT3.4: TO ADVISE AS TO WHETHER ENBRIDGE HAS AN UPDATED EXPECTATION OR FORECAST AS TO WHAT PERCENTAGE OF ITS PROJECTS WOULD BE CONDUCIVE TO IRP, AND WHETHER DIRECTIONALLY IT IS ANTICIPATED TO BE HIGHER OR LOWER THAN THE 14 TO 17 PERCENT THRESHOLD.

MS. DeMARCO: Thank you. In relation to that screening process, we understood -- and I went through with panel 1 the screening-out criteria, which could include the project being characterized as safety, characterized as integrity, part of contributions in aids of construction, part of community expansion, and the project occurring in less than three years.

It's the characterized as criteria that I have a question about. Is that characterization a matter entirely at Enbridge's discretion?

MR. STEIRS: Sorry, Lisa, can I ask you to rephrase your question to me? I kind of got lost trying to follow you there.

MS. DeMARCO: So in the screening criteria --

MR. STEIRS: Yes.

MS. DeMARCO: -- two of them include -- at least two of them include if Enbridge characterizes the project as safety, in relation to safety, or characterizes it as in relation to integrity. And my question is, is that characterization entirely a matter of Enbridge discretion?

MR. STEIRS: So I'm a bit confused by the question. We have a single safety criteria set out in paragraph 38 of Exhibit B.

MS. DeMARCO: Yes, and if you determine it to be in relation to safety; right?

MR. STEIRS: Yes, and we have discussion at length around, you know, how to define safety and what the difference is between an emergent safety issue and other safety issues over the past two days.

MS. DeMARCO: And Sarah indicated that -- I believe it was Sarah -- indicated that sometimes a project could be characterized as a matter of integrity as well.

MR. STEIRS: Yes.

MS. DeMARCO: And the determination of whether it's an integrity project or a safety project is Enbridge's determination; right?

MR. STEIRS: We have standards for establishing the nature of projects.

MS. DeMARCO: And it's your determination. There's no consultation on that, there's no hard and fast criteria to determine whether this gets characterized as integrity or safety. Could be a bit of both; is that right?

MR. STEIRS: Are you asking me if the OEB has established those criteria for us?

MS. DeMARCO: Or if there's any input on anyone -- from anyone on those, the application of those criteria.

MR. STEIRS: Certainly our asset management plan goes before the Board, and as do leave-to-construct

applications.

MS. DeMARCO: But in relation to the application of the IRP framework, it is Enbridge, without the input of the Board, without the input of stakeholders, without the input of First Nations rights holders, who determines this is a safety project that's getting screened out; is that right?

MR. STEIRS: I think it's Enbridge that will categorize the nature of the projects as the operator of its systems and with the expertise it has in-house that will categorize the nature of these initiatives and projects, but all of that will be subject to the Board's review, and we have showed over the past couple of days it will also be reviewed and shared with parties and the public frequently and input received on all of that.

MS. DeMARCO: So let's go into that process. So let's start with the screening process. We have established that it's Enbridge's decision, and let's go into the determination or selection of IRPA. You discuss very briefly, and I believe it was Ravi who touched upon this menu of potential IRPAs; is that right? You will have a menu that you're choosing from of potential IRPAs to get through this process?

MS. SIGURDSON: That's correct. I think yesterday I did talk about the list that we would be maintaining, and that would be evolving over time.

MS. DeMARCO: And the initial list, is it made by Enbridge?

MS. SIGURDSON: What we put in our proposal are IRPs

under consideration, and again, once we get guidance from the Board on the framework, we are looking to consult to further enhance that list if needed.

MS. DeMARCO: My question is when does that consultation occur? Does it occur when you're making that initial menu or after you propose a specific IRPA?

MR. STEIRS: Are you speaking, Lisa, specifically to First Nations consultation?

MS. DeMARCO: All stakeholders, number one. And number two, First Nations rights holders very specifically.

MR. STEIRS: I will separate those two concepts. I think the duty to consult is something perhaps we can consider separately to some extent.

MS. DeMARCO: Let me be very clear, small C consultation, not duty to consult, capital C, section 35 constitutional consultation.

MR. STEIRS: Right. So we have set out an initial stakeholder engagement plan that describes, and it's discussed again for the last two days, the various opportunities for consultation, what we consider to be stakeholder engagement consultation of the public, the First Nations with affected communities, and that happens multiple times throughout the processes from inception of a project and, even before that, identification of constraints to inception of IRP opportunity or IRP alternative, through to OEB approval and even following initial OEB approval to any annual reporting, as well as any potential adjustments that may need to be made to the

initial OEB-approved IRPA.

MS. DeMARCO: That's -- I am trying to understand that, Adam. I am a little confused on that because I have looked at Board Staff 9 and Pollution Probe 3, and the follow on process. And I am trying to understand precisely when these defined moments of consultation will occur.

And I am asking very specifically about the generation of that menu of potential non-pipeline alternatives that Ravi spoke to yesterday.

MR. STEIRS: Yeah, I want to be careful --

MS. DeMARCO: When will you consult on that menu of non-pipeline alternatives?

MR. STEIRS: So I just want to be careful to make sure that the menu is being characterized properly. We have -- we have provided in evidence a list of the types of IRPAs that may be considered, that will be a living list, if you will. And depending on specific constraints identified and specific conditions at a specific point in time, that may differ at any time from project to project, from location to location, and would need to be specific.

So I think the consultation that's most relevant to your question is, number one, the ongoing consultation we have in general with First Nations communities that forms component 1 of our stakeholder engagement plan. And then --

MS. DeMARCO: I am going to stop you because that's not what I am asking I am asking --

MR. STEIRS: Could I just finish please?

MS. DeMARCO: Sure.

MR. STEIRS: Thank you. And then I would say from there, we identify a system constraint, and as soon as we identify that system constraint, we enter into component two, so we are building constraint into our asset management plan and we are inviting further consultation in components 2 and 3, where all of the available IRPAs that are known to us are open for discussion, as well as we invite discussion on any new IRPAs that we maybe missed or did not consider to be relevant to the immediate community.

So I think that stakeholdering day is the opportunity that we think is most relevant, and we think because IRPAs are going to evolve as we go through time, there's no value in trying to consult or to establish a fixed list that must be adhered to.

Instead, it makes more sense for us to bring forward consideration of IRPAs that are immediately relevant at a specific point in time to a specific project to a specific community within our asset management plan and to be ready to discuss those at the stakeholdering day that follows.

MS. DeMARCO: Yes, so let me go at this another way then, Adam, just to clarify.

The discussion with stakeholders, the small C consultation, occurs after you've gone through the screening process, after you have proposed specific IRPAs to address that constraint. And when you engage in that stakeholdering day, single day, is that right?

MR. STEIRS: I would characterize it slightly

differently, Lisa. I would say it happens after we understand a constraint that needs to be addressed. It happens when we have some knowledge of what IRPAs may be the most high potential to resolve that specific constraint. It happens when we as an organization have a position on what we think is the most viable to ensure the safe and reliable operation of our system, and to meet our obligations to serve the firm contractual needs of our customers, and it happens as soon as we can do those things.

MS. DeMARCO: So that's well down the screening and three-phase process? It's not initially at the front end of the process, and specifically Ravi's menu. There is no consultation on Ravi's menu?

MS. SIGURDSON: I am going to jump in here, Adam. I think I see what the concern is that we're pointing out here. But I think to clarify -- and Adam has talked about this as well -- is this is not a set menu.

So these were put forward in Exhibit B, starting at page 21, to provide examples of what we could consider as potential IRPs to help the development of this proposal.

Adam did talk about a stakeholder day, and I think we talked about it in Staff 11, where we talked about pilots for example, where we said once we have the framework and the guidance that we are looking for from the Board, one of the preliminary steps is to have that stakeholder day and one of the key pieces of conversations or topics at that that stakeholder day will be what IRPAs were considered and

have a consult and a discussion about is there other IRPs that should be included. I hope that helps.

MS. DeMARCO: So that's after the point you're coming forward with a potential set of IRPs?

MR. STEIRS: I think, Lisa, we are getting hung up on the idea that there's a set list, and that's not the case. We are open at any point in time. We are open today to hearing about IRPA opportunities. There is nothing restricting that.

And when we're -- what we are saying is we will, once we identify a constraint that needs to be resolved on our system, go through this more formalized process of receiving feedback on it. But we are not saying that we will not consider new IRPAs from this point forward, but we need some guidance from the Board.

MS. DeMARCO: I think that's very helpful because we seem to be dancing around this point. There's nothing to stop me today saying go consider battery energy storage, nothing.

But in your proposed framework, there is no procedural element before that stakeholder day that facilitates stakeholders to come forward and voice -- there is no procedure defined in that process, is that right, before stakeholder day?

MR. STEIRS: I think we are just going to have to disagree on that point, because I think what we set out is up to ten years in advance identifying a system constraint and as quickly as possible, wrapping our heads around what

that constraint is and what the appropriate means might be to resolve that constraint from both a facility and a non-facility standpoint, and as immediately as possible looking to consult on what we think makes sense with the public, with First Nations, with parties. We see that as quite timely consultation.

MS. DeMARCO: Okay, and I understand that when you're saying that you mean your stakeholder day, is that right?

MR. STEIRS: Starting with the stakeholder day, the identification in the AMP, followed by a series of other windows for input, feedback, and so on that we identified over the past two days as well.

MS. DeMARCO: That's helpful. Let's get to very specifically the nature of what you put forward as what I am going to call the menu, as you've called proposed options. This was a bring-forward from panel 1; they told me very specifically to ask you.

Very specifically, judging from Board Staff 2 in Exhibit B, paras 50 and 51 and 41 on page 23 to 25 of your evidence, we understand that power to gas energy storage would be one of the options that you would consider as a non-pipeline alternative or IRPA; is that right?

MS. SIGURDSON: That's correct.

MS. DeMARCO: I am sorry?

MS. SIGURDSON: That's correct.

MS. DeMARCO: And what about electric battery storage?

MS. SIGURDSON: That could be considered as well. That wasn't explicitly put into this list, but again, as

Adam's talking about, this is not a complete, you know, full, list. It is really just provided to provide guidance to the Board in terms of what types of IRPs could be considered.

MS. DeMARCO: And what about district energy? I am referring to CCC 9 now.

MS. SIGURDSON: That one is included as well. That starts at paragraph 47.

MS. DeMARCO: And what about hydrogen? I am referring to GEC 10 now.

MS. SIGURDSON: So in terms of power to gas, that starts at paragraph 50, and again, this is in Exhibit B.

MS. DeMARCO: Sorry, not power to gas, hydrogen, GEC 10.

MS. SIGURDSON: Let me just turn up to the IR you are referring to.

MS. DeMARCO: Hydrogen itself, as opposed to power to gas using hydrogen.

MS. SIGURDSON: I understand. Okay...

MR. STEIRS: Yeah, we have included both hydrogen and RNG.

MS. SIGURDSON: Yes.

MS. DeMARCO: Thank you. And what about direct air capture? I am referring very specifically to GEC 9(a).

MS. SIGURDSON: Again, that wasn't explicitly included in the list, but it could be under IRPs that could be considered.

MS. DeMARCO: And in terms of the breadth of this

list, often which transcends the gas electricity silos, is there anything that you need from the Board in this proceeding to facilitate that type of intersectoral optimization, gas electricity optimization?

MR. STEVENS: I think, Lisa, that parties may assert that Enbridge needs guidance or endorsement by the Board to participate in a broad range of activities that wouldn't be seen as traditional gas utility activities. Enbridge has put forward its view within undertaking responses as to how a broad interpretation of section 36 could incorporate these activities when they're being done in place of pipeline projects.

MS. DeMARCO: I wonder --

MR. STEVENS: We are fully aware of the fact that others may take a different view, and that may land the issue squarely in front of the Board.

MS. DeMARCO: And I wonder if the panel could speak to some of the potential benefits and efficiencies of being able to pursue the gas electricity optimization through non-pipeline alternatives.

MS. SIGURDSON: I think we did talk about this a bit earlier, but again, those specifics in terms of that type of deep analysis, we are not at that point yet, depending on which technology you are talking about, but that is something that will be brought forward at the time of an IRP application.

MR. STEIRS: I think the point, Lisa, we need the initial guidance here as to whether or not it's reasonable

for us to proceed with deeper investigations into each of these potential options. There are just so many of them spanning so many technologies with so many unique implications that we are seeking some guidance from the Board as to whether or not it's reasonable for us to pursue specific applications that will reflect the type of analysis that you're looking for in the future. Otherwise, we just feel like we are carrying too much risk to try and advance those things without this guidance.

MS. DeMARCO: Great. And let's apply that very specifically, Adam, to our First Nations communities that don't have gas and are subject to potential community expansion grants. As I understand it now, they would be immediately screened out from any gas/electricity optimization non-pipeline alternatives; is that right?

MR. STEIRS: Are you speaking to communities where grants have been approved for natural gas system expansion specifically within legislation naming the community?

MS. DeMARCO: Well, I'm actually asking a question generally about community expansion and those community expansions that would be subject to grants.

MR. STEIRS: So I think we clarified on the record, I can't recall which of the past two days it was, we have exchanged thoughts on community expansion and economic development a number of times. But specific funding that is set out for individual communities within legislation strictly for expansion of natural gas systems, we have said that that would not be appropriate for IRPA consideration.

That does not mean that that stands for that community forevermore. To the extent that there's further expansion that needs to happen, IRPAs may be applicable. But what we did say in, I believe it's -- we spoke a bit about this in both Anwaatin 3 and in Staff 8(f), that if additional funding was made available to Enbridge Gas to support community expansion projects but was not allocated to specific projects, then Enbridge would include consideration of IRPAs, provided that such IRPAs as district energy systems, for example, were included in scope.

MS. DeMARCO: So just so I'm crystal-clear on this, initial grant-funded community expansion cannot consider integrated gas-electricity non-pipeline alternatives or pipeline plus non-pipeline alternatives at this point under your criteria even if lower cost?

MR. STEIRS: Where the funding is set out in legislation for a specific community, a named community in legislation, we don't think that that is appropriate.

MS. DeMARCO: Okay, thank you. My last set of questions relate to public and corporate policy consistency. We have already talked about your Indigenous policy. Point of clarification. At Exhibit C, page 5, paragraph 9, you appear to be very focused on provincial policy, and I think that you clarified in LPMA 2 -- let me get the exact wording for you. It says:

> "To the extent that the OEB is providing direction that might influence or be impacted by

provincial environmental and policy goals, the OEB should clearly define the assumptions regarding provincial policy goals."

I'm assuming that extends to federal and municipal and corporate policy goals as well; is that that fair?

MR. STEIRS: Let me just -- I just want to make sure I see the section of evidence that you are speaking to, Lisa.

MR. STEVENS: To be clear, Lisa, paragraph 9 starts with a quote from Guidehouse. The word "provincial" is Guidehouse's words.

MS. DeMARCO: It's a recommendation, right. And it's all focused on provincial.

MR. STEVENS: Right. We are responding, though, to what Guidehouse said, and what Guidehouse said is what's found within the quotes.

MS. DeMARCO: So you say Enbridge Gas accepts that provincial environmental and policy goals. I am assuming you also accept that federal and municipal policy goals -- and I am referring to your answer to LPMA 2 -- and also corporate policy goals; is that right?

MR. STEIRS: If you just give me a moment. I believe it is fair to say, but I would point you, Lisa, specifically at our third guiding principle set out in Exhibit B, where we name public policy and say IRP will be considered in a manner to ensure that it is supportive and aligned with public policy where appropriate, and we do not specify, you know, one as opposed to another. We are seeking to be aligned with public policy.

MS. DeMARCO: Right. So if I read the response to (a), it's federal and provincial and municipal, and fair to say your own corporate policies as well. Is that right?

MR. STEIRS: Yes.

MS. DeMARCO: Thank you. So your own corporate policies; Enbridge has recently come forward with a corporate policy of net zero in greenhouse gas emissions by 2050, and a 35 percent reduction by 2035. The understanding is that this is intended to be consistent with that as well, is that right?

MR. STEVENS: Do you have a reference for that, Lisa, just so that we are all on the same page about exactly what the Enbridge policy says?

MS. DeMARCO: Sure. Let me pull it up. It is the Enbridge announcement dated -- it's just taking a second for it to come up. And if I have got Jonathan on the line, if you can you pull it up quicker. I have got it up; it's just take a second to load.

MR. STEIRS: Can you tell me if it's referenced in a specific interrogatory or evidence for me, Lisa?

MS. DeMARCO: I don't think you did. It was November 6th, 2020, that it came out and it's just taking a second to load on my phone. Hold on.

MR. McGILLIVRAY: I do have it here. I am not sure if you want me to bring it up.

MS. DeMARCO: Yes, please, yeah. The date.

MR. McGILLIVRAY: It's from November 6th, but I can't share my screen while someone else is sharing their screen.

MS. DeMARCO: Shall we send that to you, David, and you want to do that by way of undertaking?

MR. STEIRS: I am sorry, what's the question?

MR. STEVENS: It may be most straightforward. But as Adam says, I guess we need to know what it is that we are answering by way of undertaking.

I know that while, of course, the witnesses would be generally familiar with Enbridge's policies, this particular item hasn't been put to them before today, so it may be most fair to do this by way of undertaking. So what's the question?

MS. DeMARCO: I am assuming that your IRP proposal is consistent with this, is intended to be consistent with this. Is that fair?

MR. STEVENS: I think that would be something that we would have to take away and respond to. What I know is that the IRP proposal was first submitted in 2019, and the document you've put to us post dates any of the evidence in this proceeding.

MS. DeMARCO: Does it post-date your reply evidence?

MR. STEVENS: You're correct, actually; it's a couple weeks before the reply evidence.

MS. DeMARCO: That was my understanding. That's fine, I'm happy to take that by way of an undertaking. Can we get that marked, Michael?

MR. MILLAR: Yes, JT3.5.

MR. STEVENS: So the question being: Is Enbridge's IRP proposal intended to be consistent with Enbridge's --

MS. DeMARCO: New ESG goals.

MR. STEVENS: -- new ESG goals.

MS. SIGURDSON: I can offer something up here, David, and if we get into more detail, maybe we continue with the undertaking. But I just wanted to clarify. The first bullet says net zero target by 2050, a 35 reduction in greenhouse gas emissions intensity by 2030. I just want to be clear that doesn't include scope 3 emissions, which are customer emissions.

But again, we can provide further clarity in the undertaking, but I just wanted to make that clarification.

MR. STEVENS: Thanks, Ravi. So if we have additional things to say, we will answer them in the undertaking, which I believe would be JT3.5.

UNDERTAKING NO. JT3.5: TO CONFIRM WHETHER THE IRP PROPOSAL IS INTENDED TO BE CONSISTENT WITH THE ENBRIDGE NEW ESG GOALS

MS. DeMARCO: Thank you. I just have one last series of questions in relation to your response to GEC 8 about the forward and future carbon price that you're using.

Are you assuming zero carbon price after 2022?

MR. STEIRS: No, we are currently carrying the 2022 price forward, I believe.

MS. DeMARCO: But there's no legislation in relation to post 2022, is that right?

MR. STEIRS: No. There is not legislation enacted. There's an announcement by the federal government.

MS. DeMARCO: So you're acting on an announcement of

the federal government in the post 2022 --

MR. STEIRS: No, we are simply holding 2022 as it is.

MS. DeMARCO: I am sorry --

MR. STEIRS: Carrying 2022 forward, that's --

MS. DeMARCO: So you are assuming a flat price. You are speculating and using a $50 price for 2022 forward?

MR. STEIRS: No, we are saying that the best available information based on enacted legislation currently should hold.

MS. DeMARCO: But there's no legislation enacted for 2023.

MR. STEIRS: My understanding is no, there is not. It is an announcement only at this point, and I think over the past two days, we have discussed at length that to the extent that the announced increased federal carbon price increasing to $170 per tonne CO2E by, I believe, 2030 is put into law. Then we would reflect that fact in forecasts going forward.

MS. DeMARCO: So in the absence of legislation, you're making an assumption of a placeholder of $50. Is that right?

MR. STEIRS: I think -- no, I have already responded to say we are holding it at the level that we understand it to, according to law, stop at.

MS. DeMARCO: Sorry, we don't have any data for 2023, there is no law in relation to 2023, is that right?

MR. STEIRS: Not as of now, no.

MS. DeMARCO: And so there's no law pertaining to

2023.

MR. STEIRS: I do not know what the current Greenhouse Gas Pollution Pricing Act speaks to with regard to what happens beyond 2022. And what it says around the government's intentions with regard to federal carbon pricing, I can't speak to that specifically.

MS. DeMARCO: So without knowing what the price is or isn't, you're using a $50 price for 2023 forward. Fair?

MR. STEVENS: I think Adam has given you his answer on this, Lisa. We seem to be circling around the same question again and again, and we are going to get the same answer again and again.

MS. DeMARCO: I am still a little bit confused. I wonder if the full panel agrees with what Adam is currently saying.

MR. STEVENS: Nobody else has spoken up. I think you have our answer on this.

MS. DeMARCO: Okay, and I can confirm that everyone on the panel is not aware of what the Pollution Pricing Act says. Is that fair?

MR. STEVENS: It's just a matter of fact, Lisa, and whether particular witnesses here know or don't know what a particular piece of legislation means doesn't change its existence or not. So let's move on.

MS. DeMARCO: I am going to ask, subject to check, would you agree with me that the Greenhouse Gas Pollution Pricing Act says nothing in relation to 2023?

MR. STEVENS: If we have any different information, we

will let you know.

MS. DeMARCO: Do you want to undertake to do that?

MR. STEVENS: As I say, if we need to correct or if we need to make a clarification, we will.

MS. DeMARCO: So the answer then, David, to be precise, is yes, we agree that the Greenhouse Gas Pollution Pricing Act says nothing in relation to 2023, subject to check.

MR. STEVENS: Yes, that's the answer.

MS. DeMARCO: Thank you, those are my questions. How did I do, Michael? Close?

MR. MILLAR: You did great, Lisa, gold star. Gold star. Thank you very much. We are going to switch gears now to pull up the IFC panel. I don't want to take the morning break right now, but I think we will probably have two minutes while we switch over, if people need to stretch their legs for a moment.

David, are you IFC witnesses here and are they on the call?

MS. WALTER: Yeah, I see them here.

MR. MILLAR: Maybe I could ask that they turn on their camera just so we can confirm that they are here. I see Mr. Sloan.

MR. SLOAN: Good morning.

MR. MILLAR: Good morning. And, sorry, David, who is the other witness for ICF?

MR. STEVENS: The other witness is John Dikeos. I can see he's connected to this call. Perhaps he stepped away

MR. SLOAN: -- the first one.

MR. BROPHY: How about the IRP-related one, not the specific DSM one, but the second one? Was there any consultation conducted by ICF?

MR. SLOAN: There was no formal consultation that I'm aware of on that. We did reach out and talk with a number of other utilities about what they were doing as part of the study. So in the sense that that's consultation, I would say that we did that, but I think that's probably not exactly what you're asking.

MR. BROPHY: That's correct, yeah --

MS. DeMARCO: Michael, can I jump in with a quick follow-up question on that?

MR. BROPHY: Sure.

MS. DeMARCO: It will save me many questions. Michael Sloan or John, in terms of your study advisory group, that consisted of a number of different people, including other utilities, university professors, et cetera, but was there any First Nations on that -- First Nations representatives on that study advisory group?

MR. SLOAN: I don't recall. You would need to check with the utility on that.

MS. DeMARCO: Can I get an undertaking, please, to provide that information?

MR. STEVENS: Yes, we will advise.

MS. DeMARCO: Thank you.

MR. BROPHY: Okay. Great. So --

MR. STEVENS: Sorry, can we give that a number,

please.

MR. BROPHY: Oh, sorry, yeah, go ahead.

MR. STEVENS: I believe it will be JT3.7.

MR. BROPHY: Michael went to fill his coffee cup.

MR. STEVENS: I believe it's to advise if there were any First Nations representatives who participated in the advisory group related to ICF's 2018 IRP study; is that correct, Lisa?

MS. DeMARCO: Perfect.

UNDERTAKING NO. JT3.7: TO ADVISE IF THERE WERE ANY FIRST NATIONS REPRESENTATIVES WHO PARTICIPATED IN THE ADVISORY GROUP RELATED TO ICF'S 2018 IRP STUDY.

MR. BROPHY: Great, thank you. So in relation to the second study, I think you've indicated that there was no formal consultation done, so I had a question. Is it fair to say that no municipalities were consulted? But I think it's already wrapped up in that answer, so unless you have anything to add, I will mauve on to my next question.

MR. SLOAN: I don't have anything to add at this point.

MR. BROPHY: Okay. Great, thank you. So the next question is in relation to Pollution Probe 13, and we provided a couple of examples. One was the IESO engagement principles, and your response indicates ICF does not believe that the IESO engagements principles used to coordinate planning would necessarily be applicable to natural gas, nor should they be considered to be best practices for natural gas network planning.

MR. QUINN: So it's within the capability of the utility to define parameters in its contract for delivered services which make it comparable to contracts it would hold for its gas supply to a delivered point, correct?

MR. SLOAN: I think that's a slightly different question than what you asked me.

MR. QUINN: I asked you if it was within --

MR. SLOAN: I think that -- you asked me about third-party delivery agreements, and the difference between a peaking service and a long-term supply agreement. And from that perspective in working with third parties, the utility would have the ability to negotiate the same level of reliability, or to confirm the same level of reliability for the different parties.

That's different than the utility controlling capacity and buying the gas upstream, and being responsible for the gas that's delivered to their service territory.

MR. QUINN: That wasn't the difference that I was making. I was talking about the marketer or third party providing that service to the same delivered point. So you have changed the parameters of what I was saying, so I am going to have to do this one more time and I apologize --

MR. SLOAN: No, I have answered the question the way you phrased it. You phrased it differently on two different occasions.

There is a fundamental difference and if you change the structure of the question, my answer will change.

MR. QUINN: Okay. Well, then I am going to try it

this way. If a utility has deliveries to a delivered point for the purpose of gas supply, is it within the capability of the utility to design a third party commercial service to that same delivery point of equivalent reliability by steps in its design of its financial assurances and its ability to check upstream firm assets supporting that contract?

MR. SLOAN: I believe that -- I believe you stopped your question halfway through. I believe that the second part of the question was is it equivalent to a peaking service contract, a short-term peaking --

MR. QUINN: No, my question, Mr. Sloan --

MR. SLOAN: -- and I will agree -- and I will say yes to that question.

MR. QUINN: My question is can the utility design that same level of firmness in a third-party contract, yes or no?

MR. SLOAN: Between the two types of third-party contracts that we are talking about the answer is yes.

MR. QUINN: Okay. That's what we are talking about. Thank you very much. Sorry, Mr. Millar. I might have gone over time. I lost my clock.

MR. MILLAR: Thank you, Dwayne.

Tom, are you up next?

MR. LADANYI: Yes, I am.

MR. MILLAR: Okay. I have got you for five minutes, so off you go.

EXAMINATION BY MR. LADANYI:

MR. LADANYI: Well, Dwayne was eating into my time, so we'll see how it goes.

Good morning, panel. My name is Tom Ladanyi. I am consultant representing Energy Probe. And I am going to actually turn off my camera, because I had issues with bandwidth on Wednesday.

So can you turn to your response to Energy Probe Number 17. Yes, thank you. So in that question I asked if any utility in Canada or the U.S. had implemented a gas low (sic) electricity conversion as an IRPA, and that was my question (a), and you answered that the only utility that an existing gas electricity conversion program is Central Hudson Gas and Electric Company in New York, and you said that it is called transportation mode alternative.

So I looked it up on the website of the Public Service Commission of New York State, and I found out, for example, that ICF was a consultant for this program. So were any of you two involved in this?

MR. SLOAN: I was not.

MR. DIKEOS: I was not either.

MR. LADANYI: But you know about it? You know enough about it to discuss it with me?

MR. SLOAN: I did not know anything about ICF's involvement until I read the same report on the website. But I certainly know enough about what they were doing, and we did talk with Central Hudson in the preparation of our evidence, so we can talk about this, yes.

MR. LADANYI: So from what I could find, it seems to

me that Central Hudson's program is similar to what Enbridge is proposing, and that Central Hudson is about two years ahead of Enbridge. Would you agree with that, roughly?

MR. SLOAN: I think it's hard to say if they're ahead or behind. I think it's probably a combination of the two. They have done a couple of different types of programs, and we know now based on that document that one -- not pipeline program reduced --

MR. LADANYI: I will get to that in a minute, so -- okay.

MR. SLOAN: But -- but in general, they're ahead in some areas and probably not quite as far ahead in other areas.

MR. LADANYI: So Central Hudson Gas and Electric is a utility in the Hudson Valley, serving communities north of New York and south of Albany; is that right?

MR. SLOAN: Generally, yes.

MR. LADANYI: And it provides gas service in some communities and electricity service in some communities and both gas and electricity service in some. So it's kind of like a patchwork of services, from what I could find. This is again from the Internet and from their own website. Is that what you understand --

MR. SLOAN: I believe that's true, yes --

MR. LADANYI: Okay --

MR. SLOAN: -- that's my understanding.

MR. LADANYI: It just so happens that my brother, who

lives in one of those communities and gets electricity service from Central Hudson, but not gas service. A different company provides gas service.

MR. SLOAN: That doesn't surprise me.

MR. LADANYI: I should mention that I was a witness for TransCanada Pipelines, the New York State Public Service Commission hearing about 35 years ago, where gas supply to Central Hudson was discussed, among other matters, but I am not going to testify here.

Anyway, coming back to what I can -- from what I could find from my Internet search, Central Hudson has two programs to get its customers to convert from gas and electricity service to electricity-only service. Under one program, that is available to all customers of Central Hudson, it offers very generous rebates for conversion, and I would call that a decarbonization program.

Now, the other program, the one that you mentioned in your response to my question (a), is an IRP program targeted to few specific areas where Central Hudson pays 100 percent of the cost for conversions from gas heating to heat pumps so that Central Hudson can avoid replacing leaking pipe, and Central Hudson in its filings with the, call it the service commission, refers to it as LAPAROSCOPIC, leaking pipe program.

Do you know anything about that? This is what you're talking about, isn't it, in your answer?

MR. SLOAN: Yes, it is.

MR. LADANYI: Would you know how many customers are

involved?

MR. SLOAN: Well, it's specified in the document, but it's a very small number of customers. The only application that that's [audio dropout] so far has converted one or two customers, a very, very small number of customers.

MR. LADANYI: Yes, exactly. That's what I found out from my research as well, that they consist of several small projects, and the largest project has only 18 customers, and at the end of this, my examination here, I will ask you for an undertaking, but let's just continue to the end.

So you generally would not disagree that these are very small programs.

MR. SLOAN: That's correct.

MR. LADANYI: So when the regulator, which is the Public Service Commission in New York State, approved the program, it required that Central Hudson report annually on the success of the program. Are you aware of that?

MR. SLOAN: I -- that's what I understand from reading the introduction to the document, yes.

MR. LADANYI: Thank you. From what I could find out, the program has not been a success. Some customers, in fact I would say many customers, refused to convert from gas heat -- gas to heat pump even though Central Hudson offered to pay all of the costs of the conversion, and they actually gave them the pump -- offered to give them the heat pump itself for free, so there would be absolutely no

cost to the customer, and yet they refused to convert, they wanted to stay on gas. Can you confirm that for me?

MR. SLOAN: I -- you're stating the facts.

MR. LADANYI: Yeah.

MR. SLOAN: And they've had very limited success. I would not say no success, but I would say very limited success.

MR. LADANYI: Exactly. That's what I have found out as well. And so do you know typically how much a conversion would cost, or you don't?

MR. SLOAN: It depends on the household. John, why don't -- I know you have got some pretty standard ranges.

MR. DIKEOS: Yeah, it really depends on the type of customer that we are talking about. There isn't enough detail on this report to really characterize that, but obviously if you're talking about different sizes of homes or commercial customers, the cost would range quite a bit.

So on the residential side you might be looking at, you know, 15- to $20,000 depending on whether you're going with an air-source or ground-source heat pump, the costs would range quite a bit, and then obviously with commercial customers the costs would be significantly higher.

MR. LADANYI: Some of these costs are also discussed in an interrogatory response in this proceeding. It's LPMA 10. But don't look it up. It's basically your numbers agree with what's in that response by Enbridge.

So I would like you to give me an undertaking, and it's a bit similar to what Environmental Defence asked

earlier, and this is to provide a report on the success of the -- this IRP gas-to-electricity conversion program of Central Hudson Gas and Electric using publicly available information from the New York State Public Service Commission website, and I don't think it should take you more than an hour. It's all there. And the reason I am asking you for it is because what I say is really not evidence. I am asking you questions. I need evidence on the record so I can argue or make a submission based on your evidence and not what I am saying.

MR. STEVENS: I think, Tom, we've undertaken to provide the information that IFC has about the Central Hudson program. We are not prepared to go the next step and ask IFC to prepare a quote-unquote report about it. I would hope that the publicly available information that IFC adds to the record, which will I'm sure include the report that both you and the witnesses are talking about, should be sufficient for your purposes.

MR. LADANYI: Yeah, I didn't really -- report was probably an inappropriate word. I really mean just a response that would include the information about the program, how many customers are involved, how successful has it been, and perhaps reference or take some information from relatively short reports about the Central Hudson files with the public service commission, it should not take a long time.

MR. STEVENS: Right, I understand your question. It sounds to me, again, that both you and the witnesses are

discussing a report that already exists about this program, so hopefully it will be sufficient to put that report on to the record.

MR. LADANYI: Mr. Stevens, actually it's not a single report. They are annual reports, so I am looking for some kind of summary of the reports in the context of what we are talking about. The reports themselves must just seem like a bunch of numbers, and it may not be that.

MR. STEVENS: We will take that under advisement, Tom. We will certainly provide what we undertook to provide in terms of IFC's information about this program, and if we deem that additional commentary is appropriate, then we will add that.

MR. LADANYI: So which undertaking is this? Are we going to have a combined undertaking that was given earlier? What is the number? I am going to write it down.

MR. STEVENS: It's undertaking JT3.6.

MR. LADANYI: Thank you, panel, these are all my questions.

MR. MILLAR: Thank you, Mr. Ladanyi. Lisa, you are the last questioner for this panel.

MS. DeMARCO: Thank you. I hope to be really quick. My questions are surrounding scope and the utility corporate structure elements of the report largely. Just so I am clear -- and they are largely by way of clarification.

Just so I am clear in terms of scope, the first study you were examining targeted energy efficiency as an

alternative to pipeline infrastructure development, is that right?

MR. SLOAN: That's correct.

MS. DeMARCO: Similarly, the second study was constrained to predominantly energy efficiency options. And very specifically on page 66 of the report, there were a number of other options that were looked at, is that right? Or was it just strictly energy efficiency, or targeted energy efficiency again in the second report?

MR. SLOAN: No. The more recent report was broader than just targeted DSM.

MS. DeMARCO: So what I have got on page 66 of your report was LNG, CNG, RNG, energy efficiency, gas demand response, and electrification. Is that right? Is that the full scope?

MR. STEVENS: Sorry, Lisa, just so that everybody's at the same place, would we be able to pull up that particular page so everybody can see what we are talking about?

MS. DeMARCO: Yes, it's difficult to see the numbering because there's three different numberings. I have written down page 66 of the report, which I think is the actual report numbering.

MR. STEVENS: Is that the page that at the top it says 4.6 current status and results from NPS projects in New York?

MS. DeMARCO: It's a block with studies. Hold on, let me pull it up on my -- no, go down. Page 66 of the ICF report, so I think it's ICF's page 66.

MR. STEVENS: Of the October 2020 report?

MS. DeMARCO: Yeah, the Appendix A. I will just pull it up on my screen just to tell you exactly the full references. Hold on.

Yes, it's not page 66 in the, in the study itself or in the PDF version. I believe it's page 66 -- it's a diagram of what's in, what's out. While I am doing that, maybe we should go through this sequentially just because the time is ticking. Is that all right?

MR. SLOAN: Yes, that would be fine.

MS. DeMARCO: So you considered LNG as one of the non-pipe alternatives?

MR. SLOAN: It can be a non-pipe alternative, yes.

MS. DeMARCO: I am looking at page 66 of the PDF, which in the exhibit number is page 19 of 92. Do you have that?

MR. SLOAN: Yes.

MS. DeMARCO: Okay. So just -- this is the complete picture of what's in the second study, is that right?

MR. SLOAN: These are the areas that we focussed on. You know, we probably mentioned other options in various parts, but this is what we focussed on in the report.

MS. DeMARCO: So that's really -- when we are talking about non-pipeline alternatives in that second report, that's what you focussed on?

MR. SLOAN: This is what we focussed on.

MS. DeMARCO: And so it didn't include, for example, hydrogen.

MR. SLOAN: We didn't focus on hydrogen.

MS. DeMARCO: And it didn't include power to gas or energy storage?

MR. SLOAN: We didn't foe focus on that. I mean, generally we were looking at the activity in the market to date. It wasn't an attempt to fully define what future alternatives might be. That would be a little bit of a broader study, but the answer --

MS. DeMARCO: You're aware that Enbridge has the power to gas project in the market already?

MR. SLOAN: I would characterize that as a pilot project and at the time that we were doing it, they didn't characterize it to me as a non-pipe solution.

MS. DeMARCO: Right.

MR. SLOAN: It may have been characterized internally that way, but it was not characterized that way to me.

MS. DeMARCO: Right. So that's exactly my point. There are a lot of things that could be non-pipeline solutions or non-pipeline alternatives that weren't part of this study. Is that fair?

MR. SLOAN: Well, I think non-pipeline solutions is a really broad term, and it encompass as lot of different technologies and it's different in different locations. If you took the broadest definition of a non-gas -- or non-pipeline solution, then absolutely I would consider other options, the power to gas and hydrogen. Hydrogen I would consider a subset of power to gas, but you definitely could consider those types of options as non-pipeline solutions.

But the options do tend to get proscribed by the regulatory agencies in the different areas. When I am talking about a non-pipeline solution, I include interruptible transportation, which is the most fundamental of non-pipeline solutions.

Maybe it's not a surprise, but regulatory agencies in talking about this don't really want to take all the things that are traditional gas supply planning and put them in non-pipe solutions, so those get excluded. And when you're talking about the things that are available today, you might be excluding things that are available in the future.

MS. DeMARCO: So fair to say, then, the focus being these six elements of non-pipeline solutions is a subset of the many that are currently available in the market today?

MR. SLOAN: This is a subset of the non-pipeline solutions that are either currently or potentially in the future available.

MR. DIKEOS: I want to add a little bit of additional clarity around --

MS. DeMARCO: Just before you do, I want to nail down that last answer.

Fair to say then this is a subset of what is available today?

MR. SLOAN: I think we could have a long discussion about what's available today, and I wouldn't want you to take my answer to imply that there are technologies that will be available in the future that should be considered in a plan for implementation today. So I won't agree with

you specifically, but I will agree that this is a subset of the potential non-pipe solutions that would be available now and in the future. And I would like Mr. Dikeos to contribute his response to the question. This is not just my report, it's also his report.

MS. DeMARCO: I'm happy to go there. I just wanted to make sure we were perfectly clear that this is not an exhaustive list. Correct?

MR. SLOAN: It is not an exhaustive list of the technologies that will potentially now and in the future be considered for non-pipe solutions.

MS. DeMARCO: Thank you. And my apologies, Mr. Dikeos, for interrupting you.

MR. DIKEOS: No problem. So the additional clarity that I wanted to add was that there are several mentions of hydrogen and power to gas in the study, particularly in a jurisdictional review section. We had consultations with utilities in a variety of jurisdictions and we profiled and provide some details on their efforts in those areas.

It's probably important also to point out that power to gas and hydrogen injection is not a mature technology, it's something that's very much at the pilot stage, as Mike mentioned earlier.

MS. DeMARCO: And you two are aware of Enbridge's successful power to gas project?

MR. SLOAN: I understand that they have a pilot hydrogen project. I am not aware of the details.

MR. DIKEOS: Same here.

MS. DeMARCO: Thank you. Going to the role of decarbonization, very specific to ConEdison's non-pipeline alternatives, page 10 of your report -- and I am going to try and give you the full page references here, David, which is page 14 of 92 and page 16 of the PDF. There is a section on -- if you can go down a little bit. I believe it's -- yeah, last line:

> "Even with respect -- even with recent progress and policy direction, Ontario is still lagging in comparison with that of New York State with respect to DERs, energy efficiency, and decarbonization."

Is that your view?

MR. SLOAN: Well, I think just to say they are in different stages in different areas within that statement. So I wouldn't say that Ontario is behind entirely, but there are areas where Ontario is probably behind where New York is right now. You know, certainly public policy is changing in both New York and Ontario. It's hard to say which of those jurisdictions would be lagging or not lagging.

In terms of energy efficiency, on the gas side, Ontario may be a bit ahead of New York, although the recent changes are really accelerating, so I am not sure where they balance out. I think on the electricity side New York is clearly ahead in it, but John, do you want to elaborate on that?

MR. DIKEOS: Sure. That last sentence read just on

its own is -- may provide a bit of confusion, so it's important to include the additional context of that entire paragraph. So that particular sentence is referring to DER, where there has been quite a bit more progress in New York State.

MS. DeMARCO: And that statement doesn't appear to be qualified by you. This is your report; yes?

MR. DIKEOS: Yes, it is.

MS. DeMARCO: And there doesn't appear to be a qualification on that statement. It's with respect to DERs, energy efficiency, and decarbonization. That was your statement; correct?

MR. DIKEOS: Yeah, but the statement is -- what I am saying is that it's definitely important to read the entire paragraph. It is focusing particularly on non-wire solutions and DER.

MS. DeMARCO: So -- so --

MR. DIKEOS: And then with regards to carbon policy in general, it's definitely talking about the broader context in New York State, where there have been -- there has been some significant ramping up of efforts and targets in the last couple years.

MS. DeMARCO: And you specifically mention the cancellation of Ontario's Cap and Trade Act as well; is that correct? In that paragraph?

MR. DIKEOS: We do.

MS. DeMARCO: Right. So that's carbon, isn't it?

MR. DIKEOS: Yes, definitely.

MS. DeMARCO: And you also mention energy efficiency in that paragraph; don't you?

MR. DIKEOS: Um-hmm.

MS. DeMARCO: And you also mention DERs in that paragraph; don't you?

MR. SLOAN: Yes.

MS. DeMARCO: Okay. So perhaps -- your colleague mentioned that in some areas they are doing better than others. Do you want to itemize all the areas where Ontario is lagging to provide some further detail on that unqualified sentence?

MR. SLOAN: I think that sentence of the report stands on its own. We have qualified it. It's not a simple black and white. There's a significant activity in those areas in both jurisdictions. If you asked me specific questions about, do I think that Ontario is leading in this aspect, New York is leading in that aspect, I'd be happy to answer those in an undertaking after doing some additional thinking about it.

I think generally the statement is accurate, that there has been more activity in New York across the board than in Ontario. You can certainly pick out examples, you can, and I could, where Ontario is probably ahead of New York, but as a general statement, I think New York has been leading Ontario on these issues.

MS. DeMARCO: Thank you. What I would like you to do is itemize the areas where Ontario is lagging in DERs, energy efficiency, and decarbonization. Would you

undertake to do that?

MR. SLOAN: Again, defining leading and lagging is a bit subjective. You know, we are happy to offer our opinions, because -- as long as David agrees that it's appropriate for us to do so. They have to, of course, allocate time for us to address [audio dropout] like this, but, you know, I am happy to -- on my --

MS. DeMARCO: Just to be clear, I am using your term, not my term --

MR. STEVENS: Just -- just --

MS. DeMARCO: -- lagging.

MR. STEVENS: -- just to follow up on Michael's point, Lisa, can you just take -- I recognize that you are looking at the words in the report, but can you articulate for us how this additional information will be helpful to the Board's task?

MS. DeMARCO: I think it's very important in establishing the framework where we are seen as a laggard in Ontario. I think it would be very important for the regulator to address those areas in establishing a framework, don't you, David?

MR. STEVENS: I don't have a view. I was asking for your view, Lisa.

So to repeat, your question is to --

MS. DeMARCO: It was an undertaking request.

MR. STEVENS: -- itemize the areas where Ontario might be seen as lagging in comparison with New York State with respect to DERs, energy efficiency, and decarbonization.

MS. DeMARCO: That's right.

MR. STEVENS: We can do that.

MR. MILLAR: I think we are at JT3.9. Is that what you have as well, David?

MR. STEVENS: It is.

MR. MILLAR: Okay, great. Thank you.

UNDERTAKING NO. JT3.9: TO ITEMIZE THE AREAS WHERE ONTARIO MIGHT BE SEEN AS LAGGING IN COMPARISON WITH NEW YORK STATE WITH RESPECT TO DERS, ENERGY EFFICIENCY, AND DECARBONIZATION.

MS. DeMARCO: My last questions is in and around utility corporate structure, and I think this is page 11 of 92 of the ICF report. I've got page 61 as the alternate, but of course I am having troubles with the page references given the number of potential --

But you indicate that the in New York, the joint gas electric utility business model makes it more comfortable with gas to electric conversion incentives, or gas to electric conversions. Is that fair?

MR. SLOAN: That is.

MS. DeMARCO: And when we say electric conversions, I think Tom has read in taking out your gas heating and substituting it with electric heating. Do you mean something broader than that?

Could it include, for example, transportation, electric transportation alternatives, or heat pumps, or electric-related heat pumps, or anything of the broad suite of electric-run HVAC equipment?

MR. SLOAN: I think when you are talking about combined utilities, any time that you are switching from a gas application to electric, there are fundamental -- it's just a lot easier if you're a combined utility because you don't have to address the -- or rather you do have to address the risks. But the downside of losing the gas load is offset by the upside of increasing electric load.

So the benefits and the risks balance out much more for the utilities than they do for a gas utility.

If we are talking about specific technologies, you know, electrification can mean a lot of different things and, you know, transportation, electrification in the gas context, I think you are talking about gas compressors on pipelines and within the operations of the utility, and so it's changing the cost a little bit.

It doesn't -- in terms of customer conversions, it can be broader than gas -- or than electric heat pumps. It can be hybrid system that combines gas furnace with electric heat pump, which has some significant value for both the electric and the gas side. Converting from gas water heating to electric water heating has a different set of load impacts relative to putting in an electric heat pump, but it's another way that you can reduce a gas load through electrification.

So there are different technologies that would not just be limited to a gas -- a gas furnace to electric heat pump conversion.

MS. DeMARCO: Great, great. So fair to say that if

EGD was -- if Enbridge was given some guidance from the regulator to be able to freely and fairly undertake some electric non-pipe alternatives, it would be useful in facilitating efficiency at large?

MR. SLOAN: I think there's a role for electrification. You'd need to be pretty careful about how it's being applied. I know there was discussion yesterday about the gas utility providing an incentive to go electric in a subdivision that otherwise might go gas. And to me, that kind of incentive on the gas side never made any sense at all, because you're charging other gas customers for a benefit on the electric side and it would be much easier just to refuse to extend the distribution main to that new community. So, you know, why are you buying or providing those incentives as opposed to just saying you should be served by the electric.

But, I do think there is a role for electric technologies. It's really important when you're doing that, though, that you address the risks as well as the benefits and the costs, both on a societal basis and to the utility.

And so, you know, if you get into a cost benefit analysis, you need to be looking at costs on the electric grid side, the carbon emissions on the electric side, as well as on the gas side.

MS. DeMARCO: Excellent. So let's go to that cost point, and very specific to ConEd. In your opinion or knowledge, do the customers care whether it was the

electric side or the gas side of ConEd that was doing the efficiency or DER or non-pipe alternative measures?

MR. SLOAN: Yeah, they do --

MS. DeMARCO: Were they indifferent?

MR. SLOAN: Well, the commission in New York is pretty clear that they care and they're representing the consumers. But, you know, it becomes a rates question. If you are cross-subsidizing the electric grid by payment from the gas side or vice versa, then that's in my view a significant concern in terms of equity and you need to be really careful about those kinds of cross subsidization issues between the different sides of the utility, making sure the costs and the benefits are tied together.

MS. DeMARCO: So whoever can do it most efficiently in the context of an overarching cost benefit analysis, it doesn't have to be --

MR. SLOAN: Well, I think there's a difference between -- I think there's a difference between who can do it most efficiently and who should pay for it and, you know, you might be in a situation where the gas utility can do it more efficiently than the electric utility can, but the benefits are going primarily to the electric utility and the gas penalty is -- actually the gas utility is actually being hurt by the decline in volumes.

So, you know, I could see a construct where the most efficient way to do it is to have the gas utility do it, but have the costs go where the benefits are more on the electric side.

MS. DeMARCO: Okay, I think that's helpful. The main point is there's no hard and fast rule that the electric utility has to do that, particularly if the benefits are flowing to gas customers?

MR. SLOAN: There are often regulatory rules that I think the utilities would say are hard and fast, but they're not rules that a regulatory agency couldn't change to address these issues.

MS. DeMARCO: That's helpful. Thank you, those are my questions.

MR. MILLAR: Great, thank you very much, Lisa. We are at 12:25, so that concludes the questions for this panel and you're excused with all of our thanks.

We are going to take our lunch break now and we will be back.

David, your witness, I think you're in charge of the witnesses this afternoon. Are they here and ready to go, or they will be ready to go in an hour?

MR. STEVENS: I am here and Chris is here.

MR. MILLAR: Great. So we will come back at 12:25 and first up with the questioning will be Mr. Brophy.

MR. BROPHY: You meant 1:25.

MR. MILLAR: I did mean 1:25, I apologize. Okay, see you in an hour.

--- Luncheon recess taken at 12:25 p.m.

--- On resuming at 1:27 p.m.

MR. MILLAR: David or David or anyone else, are there any preliminary matters we need to address?