Ontario Energy Board | Commission de l'énergie de l'Ontario

BY EMAIL

February 2, 2021

Ms. Christine E. Long
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Registrar@oeb.ca

Dear Ms. Long:

Re: Interrogatory Responses to Ontario Energy Board (OEB) Staff Evidence
Enbridge Gas Inc. – Integrated Resource Planning Proposal
OEB File Number: EB-2020-0091

In accordance with Procedural Order No. 7, please find attached interrogatory responses from Guidehouse Canada Ltd., in regards to interrogatories submitted by parties regarding the report "Natural Gas Integrated Resource Planning in New York State and Ontario", which OEB staff filed as expert evidence in this proceeding.

The attached document has been forwarded to Enbridge Gas Inc. and to all other parties to this proceeding.

Yours truly,

Original Signed By

Michael Parkes
Project Advisor, Application Policy & Conservation

Encl.

Guidehouse

Natural Gas Integrated Resource Planning in New York State and Ontario

Responses to Interrogatories

Prepared for:

Ontario Energy Board

Submitted by:

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Reference No.: 214637
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Table of Contents

Introduction

The Ontario Energy Board staff (the OEB staff) contracted Guidehouse Canada Ltd. (Guidehouse) to provide expert support to contribute to the OEB's review of integrated resource planning (IRP) for Enbridge Gas in the regulatory proceeding EB-2020-0091. Guidehouse prepared a report "Natural Gas Integrated Resource Planning in New York State and Ontario" to provide a summary of key IRP activities in New York State, a side-by-side comparison with each of the IRP issues in the Issues List for the EB-2020-0091 proceeding (Issues List) and Enbridge Gas's original IRP proposal in that proceeding (Enbridge Gas IRP Proposal), as well as Enbridge Gas's Additional Evidence filed with the OEB on October 15, 2020.

The original report was filed as OEB staff evidence on November 12, 2020 (OEB File Number: EB-2020-0091). In January 2021, the following organizations filed interrogatories directed towards the Guidehouse report:

- The Building Owners and Managers Association (BOMA)
- Environmental Defence
- Enbridge Gas Inc. (Enbridge Gas)
- Energy Probe Research Foundation (Energy Probe)
- Green Energy Coalition
- Pollution Probe

This document contains Guidehouse's responses to the interrogatories, and these are presented for each organization in the order listed above. In many responses, Guidehouse provides reference to our original report by section or page number. In select cases, we provide direct web links to reference materials within the response.

1.0 BOMA

The section contains the interrogatories submitted by BOMA and Guidehouse's responses.

1.1 1-BOMA-1

Reference: Guidehouse, 2020, Section 8.2, Key Findings and Recommendations

Question(s):

(a) The major reason that DSM became a function of the natural gas utilities in Ontario, even before the OEB legislation was revised to include it as an integral part of their business operations, was because of their direct relationship with customers. However, many of the recommendations suggest that the OEB and the IESO should working with stakeholders and customers. Please comment.

Guidehouse Response:

Guidehouse believes that stakeholder input is vital to ensuring a successful IRP framework. Guidehouse does not recommend that the OEB and IESO work with stakeholders instead of Enbridge, but rather work with stakeholders, including Enbridge, during the development of the IRP framework, and other related activities included in our recommendations.

1.2 1-BOMA-2

Ref: Guidehouse, 2020, Page 1, 2nd paragraph/Page 9, last paragraph

Preamble:

The analysis in our report focuses on the IRP experience of natural gas utilities in New York State, in particular, Consolidated Edison Inc. (Consolidated Edison Company of New York Inc. (CECONY); Orange and Rockland Utilities, Inc.; jointly referred to hereafter as "Con Edison") and National Grid (National Grid US, including KeySpan Energy Delivery New York (KEDNY), KeySpan Energy Delivery Long Island (KEDLI), and Niagara Mohawk operating areas; referred to hereafter as "National Grid"). The analysis focuses on the CECONY and KEDNY/KEDLI operating areas, which have the most experience with these topics, but also includes details on current and future IRP activities by other New York State natural gas utilities.

New York State policymakers and the PSC have a history of promoting utility-supported energy efficiency programs to support the state's environmental goals. In December 2018, the PSC adopted significantly accelerated utility energy efficiency targets under the governor's New Efficiency: New York plan, which will double utility energy efficiency achievement over 2019 to 2025. These new regulatory requirements outline energy efficiency targets in terms of total trillion British thermal Units (TBtus) in site-level natural gas and electricity energy savings, including specific targets for incremental savings over previous commitments, 3% reduction in annual electricity sales, and new heat pump deployments. Furthermore, the PSC developed a policy framework in 2015 for New York State utilities to demonstrate new technologies and test new business models under the New York Reforming the Energy Vision (NY REV) initiative. This framework for developing new utility business models has been cited as an example for how New York State utilities can explore IRP solutions such as heating electrification and

solicitations for third-party programs that could reduce the need for traditional infrastructure investment.

Question(s):

(a) How long have the New York State utilities referenced in this report been engaged in Demand Side Management?

(b) What are the annual results for each utility since that date?

(c) When did each utility add an IRP function to its organization and why?

Guidehouse Response:

Guidehouse notes that the requested information for a) and b) is outside of the scope of services requested of Guidehouse by the OEB. The information is located in different rate case documents, evaluation reports, and other materials for each New York State gas utility. For example, some of the requested information for Con Edison is provided on Page 16 of the Guidehouse report, including a comparison between the level of DSM activity for Con Edison and Enbridge Gas. Some historical DSM savings information for National Grid is provided in Table 1 of the following report:

(http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b0E60CAED-51A3-4B76-90ED-389E7FFD9CE5%7d)

c) Sections 4.0 and Appendix C of the Guidehouse report summarize natural gas demand response and other IRP-related programs that New York State utilities have developed to date. The list below highlights the earliest date and reasoning that each New York State natural gas utility applied to the pursuit of IRP activities, and where in the Guidehouse report the information can be found We do not include traditional DSM, interruptible rate programs, CNG or RNG facilities in these lists, which have been offered many years before the development of IRP programs. Because many of these utilities provide both electricity and natural gas, we do not include electricity measures (e.g., electric heat pump demonstration projects) unless their specific goal is to support natural gas IRP through heating conversions.

- **Con Edison**: On Page 14, Con Edison submitted its proposal for the Smart Solutions Program in September 2017, and it was approved in July 2018, with programs starting in 2018. Con Edison pursued IRP solutions to address peak day challenges in future years due to increased demand and uncertain capabilities to expand supplies through new pipeline capacity.
- **National Grid**: On Page 21, National Grid developed a series of programs and pilots to evaluate strategies to mitigate peak-day demand issues through supply-side and demand-side solutions, including non-firm / interruptible rates, a series of gas DR pilots, and heating electrification initiatives targeting residential, light commercial, and larger C&I customers. The first such pilot was gas DR for C&I customers and proposed in 2016.
- **Orange & Rockland Utilities (O&R)**: On Page 68, O&R is developing gas DR pilots similar to Con Edison and filed implementation plans in March 2020. O&R does not face as critical supply issues as Con Edison, and is pursuing the pilots to test measures and concepts that could contribute to future planning and implementation efforts.

- **Central Hudson Electric & Gas**: On Page 69, Central Hudson does not currently have any significant supply, transmission, or distribution constraints which would support the immediate development of non-pipeline alternatives or other specialized solutions. Nevertheless, Central Hudson is currently implementing a subset of Non-Pipeline Alternatives known as Transportation Mode Alternatives (TMA). TMAs are not designed to manage constraints, but instead to facilitate strategic abandonment of leak-prone pipe (LPP) that is not otherwise integral to the distribution system. Guidehouse was not able to determine the start date for the TMA program. In addition, Central Hudson is currently planning to implement a "kicker" incentive to promote smart thermostats to customers served by a specific gas line with the goal of providing more concentrated load relief to that system. Central Hudson currently has the flexibility to implement this within its existing programs and plans to launch the incentive kicker in advance of the 2020 heating season. In November 2020, the utility implemented the incentive kicker program for smart thermostats targeting approximately 750 residential and commercial customers in a specific area.[1]
- **National Fuel Gas Distribution Company (NFGD)**: On Page 70, because NFGD has not and likely will not experience the same supply constraints impacting LDCs in other parts of the state it has not been required to consider and implement some of the more extensive DR and/or non-pipeline alternatives initiatives as those LDCs.
- **New York State Electric & Gas (NYSEG):** On Pages 70-71, NYSEG plans to continue evaluating demand reducing measures including energy efficiency, electrification, DR, non-pipeline solutions and other measures in vulnerable areas as part of the on-going issue resolution in order to meet customer demand, while ensuring the safety and reliability of gas delivery. It is Guidehouse's understanding that NYSEG has not developed IRP solutions further than existing CNG and DSM programs.

1.3 1-BOMA-3

Ref: Guidehouse, 2020, Page 1, 3rd paragraph

Preamble:

Guidehouse prepared this report based on a document review of public reports and regulatory filings, as well as interviews with key staff at Con Edison and National Grid. The New York State Public Service Commission (PSC) has an ongoing proceeding to investigate and improve natural gas planning procedures in New York State, and may result in changes to the IRP processes in New York State. New York Department of Public Service (DPS) staff are expected to publish a whitepaper that outlines a proposal to modernize the gas system planning before November 16th, 2020.

Question(s):

(a) Has the DSP staff report published the whitepaper on the modernization of gas system planning yet? If not, when it is expected?

[1] http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B900D146C-824D-4DF0-A793-EDDC0EF2092A%7D

Guidehouse Response:

As noted in the Guidehouse report, New York Department of Public Service (DPS) staff are expected to publish a whitepaper in the near future that outlines a proposal to modernize the gas system planning. As of this writing, the whitepaper has not been published. On January 6th, 2021, New York DPS staff filed an additional extension request to file the report on February 12th, 2021. The date has been delayed several times and may be further delayed.

1.4 1-BOMA-4

Ref: Guidehouse, 2020, Page 2, 3rd Bullet

Preamble:

Deploying a diversity of IRP solutions is important to reduce risks in achieving the project goals. Smaller IRP projects may be able to achieve goals in a shorter timeline by expanding existing energy efficiency (EE) or DR programs, whereas larger IRP projects may be best suited for market solicitations and new program developments that have longer timelines.

Question(s):

(a) Please provide a list of natural gas Demand Response (DR) programs which each of the utilities have delivered and provide the results of each program in absolute numbers as well as percentage of total annual sales.

Guidehouse Response:

Sections 4.0 and Appendix C of the Guidehouse report summarize natural gas demand response and other IRP-related programs that New York State utilities have developed to date. Most of these programs or pilots are in early stages of implementation, limited to a subset of customers, and have not yet had extensive evaluation. As such, comparing the results from limited pilots to system-wide peak day throughput or total annual sales is an unfitting comparison. Where possible, we have summarized available results from these pilots and programs (e.g., Sections 4.1.3, 4.2.1).

- Con Edison (2018)[2]
    - C&I DR: 38 customers, average total reduction of 149 Dth per event
    - Residential smart thermostat: 517 devices, total reduction of 6.8 Dth during single test event
- Con Edison (2019)[3]
    - C&I DR: 309 customers, average total reduction of 1,291 Dth in the single test event

[2] Con Edison. “2019 Con Edison Gas DR Annual Report.” July 1, 2019. http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={168BE55E-62A7-456E-B874-5D53BB5F74DF}

[3] Con Edison. “2020 Con Edison Gas DR Annual Report.” July 2, 2020. http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={7FA119BD-B04D-4378-95A3-BB26697815AC}

- Residential smart thermostat: 2,804 devices, average total reduction of 56.1 Dth per two test events

- National Grid (Downstate)[4]
  - Commercial DR: 16 facilities participated in the project and reduced demand by 241 Dth/hr. This hourly reduction would be indicative of a daily reduction of 4,820 Dth

- Niagara Mohawk (Upstate)[5]
  - Commercial DR: Voluntary pilot with 8 enrolled customers that required mandatory participation. A mild 2019/2020 winter led to calling a test event that yielded 143 Dth.

1.5 1-BOMA-5

Ref: Guidehouse, 2020, Page 4, Recommendations

Question(s):

(a) Please provide definitions of the following terms relative to the New York State Utilities referenced: IRP Plans, IRP Programs, Energy Efficiency Programs, DSM Programs, DR Programs, Non Wires Alternative Programs, Non Pipeline Alternative Programs, Non-traditional Programs.

Guidehouse Response:

To respond to this question, Guidehouse reviewed the primary reference documents used to develop our report for OEB and found that New York State utilities and other stakeholders often do not develop firm definitions for key terms. The 2020 *Con Edison and O&R Demand-Reducing Programs* report[6] under Case 20-G-0131 highlights this issue:

> "The term "Non-Pipeline Alternative" has not been defined in this proceeding or in any other Commission proceeding that the Companies are aware of. For the purposes of this document and until such time as a more formal definition is established, the term "Non-Pipeline Alternative" is used in the context of the natural gas LDC system as the approximate equivalent of the Non-Wires Alternative concept that applies to New York's investor-owned electric utilities."

Furthermore, the term IRP is not commonly used in New York State proceedings.

[4] National Grid: Gas Demand Response Rev Demonstration Project - Final Report (Filed in Cases 16-G-0058 and Case 16-G-0059) http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={C1EC8F5E-B383-4664-989A-1BE90C33FDE5}

[5] Niagara Mohawk Power Corporation D/B/A National Grid: Commercial Gas Demand Response Project – FY 2020 Report. Case 17-G-0239. http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={832BC04A-BF45-4979-8A78-94724E7408BD}

[6] Consolidated Edison Company of New York, Inc., Orange and Rockland Utilities, Inc. "Report on Con Edison and O&R Demand Reducing Measures." Case 20-G-0131. August 17, 2020. http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={B0DA0BE8-F3E3-45F4-AAFB-990F703F036F}

The list below contains Guidehouse's broad definitions for the requested terms where we have not identified those in other resources for New York State. These terms are not specific for New York State and Guidehouse recognizes that different jurisdictions may have different meanings and interpretations. As noted in Page 7 of our report, "This report uses multiple terms for IRPA, which have been left in for alignment with source documents from other jurisdictions. The terms non-pipeline solutions (NPS), non-pipeline alternatives (NPA), and IRP solution are all used interchangeably with IRPA."

- **IRP Plans** – refers to Integrated Resource Plans and approaches utilized by natural gas utilities to meet their customer demand requirements.
- **IRP Programs** – defined as the programs used by utilities to execute and administer their integrated resource plans.
- **Energy Efficiency Programs** – From a 2019 NYS PSC Clean Energy Guidance document on *Gross Savings Verification Guidance*:[7] "A program designed to deploy an individual ECM [energy conservation measure] or collection of ECMs, typically organized by ratepayer sector, ECM technology, ECM end use type (e.g. industry or building type), or programmatic delivery mechanism."
- **DSM Programs** – refers to programs used to administer demand side management (DSM) programs.
- **DR Programs** – refers to programs used to administer demand response (DR) programs.
- **Non Wires Alternative Programs** – refers to programs that seek to avoid investments in electric energy delivery infrastructure through reduction in energy demand.
- **Non Pipeline Alternative Programs** – refers to programs that seek to avoid or defer investments in natural gas energy delivery infrastructure through reduction in energy demand.
- **Non-traditional Programs** – refers to the use of programs such as DSM to defer energy delivery infrastructure investments.

1.6 1-BOMA-6

Ref: Guidehouse, 2020, Page 4, Recommendations, Paragraph 2

Preamble:

The OEB should work to more closely align and sequence the planning activities for gas supply, demand, infrastructure, energy efficiency (EE)/demand-side management (DSM), IRP, Utility System Plans (USPs) and other relevant matters, wherever possible. Developing an IRP framework that describes the importance of different planning activities and how the individual activities inform the IRP planning process will allow for more consistent outcomes. For example, filings and related proceedings around gas supply, transportation planning, infrastructure maintenance, and EE/DSM will have relevance for identifying IRP needs and opportunities, and

[7] New York State Department of Public Service. "Gross Savings Verification Guidance." August 23, 2019. https://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/255ea3546df802b585257e38005460f9/$FILE/GSVG%208_23_2019.FINAL.pdf

applying a logical sequencing can lead to a more consistent, up-to-date view of these matters for IRP planning.

Question(s):

(a) What is the reasoning behind having the Board design and sequence the planning activities for gas supply, demand, infrastructure, energy efficiency, demand side management, IRP, Utility System Plans, and other relevant matters?

(b) What is the experience of New York DSP and New York gas utilities with respect to filings and related proceedings around gas supply, transportation planning, infrastructure maintenance and EE/DSM?

Guidehouse Response:

a) Guidehouse recommends that "The OEB should work to more closely ***align*** and sequence the planning activities …" rather than "***design*** and sequence the planning activities…". Enbridge Gas would still maintain responsibility for performing the system planning activities. As stated in the Guidehouse report, greater alignment and sequencing for the various planning activities will allow for more consistent outcomes. The applicable proceedings would likely be more consistent if they were aligned and sequenced in a logical order, where the filings of earlier proceedings would be directly applicable to later proceedings.

b) The Guidehouse report, as well as the ICF report filed by Enbridge Gas in October 2020, provides details on the experience of gas utilities and regulators in New York State, as well as current activities to modernize the gas system planning process.

1.7 1-BOMA-7

Ref: Guidehouse, 2020, Page 5, Recommendation 6

Preamble:

The OEB should develop the gas IRP framework to provide utilities with sufficient flexibility to quickly adjust program designs, budgets, implementation plans, and other processes to adapt the IRP programs to each situation. Furthermore, incentives such as Earnings Adjustment Mechanisms (EAMs) should be considered to incentivize innovative approaches that may lead to more targeted outcomes or greater demand reductions. The long-term effectiveness of EAMs remains to be seen due to the limited track record of these incentives.

Question(s):

(a) Please explain the similarities or differences with respect to Earning Adjustment Mechanisms and Shareholder Incentives.

(b) How does each affect utility performance?

Guidehouse Response:

a) Shareholder Incentive Mechanisms come in various forms. The incentives are typically for achieving annual or lifetime energy savings (kW, kWh, therms) or value of benefits, but may

also include other metrics such as number of program participants in program sectors of focus (e.g., low-income program), types of certain measures (e.g., heat pumps or more comprehensive retrofits), or leading indicators for future savings (market research studies or percentage of building permits influenced). A 'scorecard approach' is often used for DSM incentives, including Enbridge Gas. A pot of capped incentive dollars is set aside to fund the shareholder incentive. The utility can earn up to the maximum amount of the pot. Targets are set and incentives are awarded based on performance using a range of achievement (e.g. between 80% and 120% of the target), with a minimum and maximum amount of dollars that can be achieved. Occasionally, a tiered approach will provide a higher incentive rate for achieving greater than 100% of target. Penalties for falling below the threshold are an option, but are not frequently used. The incentives can be offered at a portfolio level, program level, grouping of programs (e.g. low-income, resource acquisition, market transformation), or other. The level of performance is determined based on the EM&V and reporting framework. The following weblink highlights the shareholder incentive scorecards within Enbridge Gas' DRAFT 2019 DSM Annual Report, including maximum available and earned DSM Shareholder Incentives for different program areas.

Enbridge Gas Inc. "DRAFT 2019 Demand Side Management Annual Report." May 29, 2020. https://www.oeb.ca/sites/default/files/EGI-2019-Draft-DSM-Annual-Report-20200529.pdf

An Earnings Adjustment Mechanism is a type of Shareholder Incentive Mechanism where a utility program administrator's efficiency program performance impacts their earnings through an adjustment to their regulated return on equity. In New York, the amount of the available incentive for DSM and other programs included in the rate case, called an earnings adjustment mechanism, is calculated as basis point adjustments to the authorized rate-of-return established through rate cases. The Guidehouse report describes Con Edison's EAMs for energy efficiency programs on page 50, "the PSC has allowed Earnings Adjustment Mechanisms (EAMs) in Con Edison's electricity and natural gas energy efficiency programs.[8] EAMs are a series of metrics that encouraged Con Edison to achieve certain energy efficiency, demand reduction, and electrification targets above required goals. The PSC determines the number of EAMs the utility has achieved and adjusts the earnings that Con Edison is allowed, through its rate case."

Con Edison's NPA proposal outlines a similar overall objective of using a performance incentive to incentivize targeted goals, but the form is different. Whereas the EAMs for DSM can adjust the rate-of-return within the rate case, the NPA Framework proposal calculates shared net benefits of the specific program using approved mechanisms for determining the net benefits of a project. Con Edison has structured the proposal to be consistent with a prior NY PSC Order (Case 17-G-0606) to eliminate potential double-incentivizing, so that the performance that is incentivized – creation of net benefits – is not incentivized either by existing energy efficiency EAMs or business as usual operation of the gas business.

The weblink below provides details for the list of specific EAMs agreed upon by Con Edison and the PSC for DSM programs, NWA programs, and the NPA Framework proposal.

[8] See Page 69 and 70 of Order Adopting Terms Of Joint Proposal And Establishing Electric And Gas Rate Plan (January 16, 2020) for more details. "The Joint Proposal's EAMs are designed to encourage energy efficiency, peak demand reduction, and beneficial electrification. The two cross-commodity program-based EAMs are referred to as "Share the Savings" and "Deeper Energy Efficiency Lifetime Savings." https://conedison.gcs-web.com/static-files/2163c1fa-d830-404d-9fa6-10f19beaf9f5

Con Edison. "Order Adopting Terms Of Joint Proposal And Establishing Electric And Gas Rate Plan." Case 19-G-0066. January 16, 2020. https://conedison.gcs-web.com/static-files/2163c1fa-d830-404d-9fa6-10f19beaf9f5

New York State Public Service Commission. "Order Implementing with Modification the Targeted Demand Management Program, Cost Recovery, and Incentives." Petition of Consolidated Edison Company of New York, Inc. for Implementation of Projects and Programs that Support Reforming the Energy Vision. Case 15-E-0229. December 17, 2015. http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b2D3D8F22-3497-46F9-82AB-20E6DCB4FCB7%7d

Con Edison "Proposal for Use of a Framework to Pursue Non-Pipeline Alternatives to Defer or Eliminate Capital Investment in Certain Traditional Natural Gas Distribution Infrastructure." Case 19-G-0066 September 15, 2020 http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={2CCB0D2A-183A-483B-9F56-87878E0471FA}

b) Both Earning Adjustment Mechanisms and Shareholder Incentives can be designed by the utility, regulator, and stakeholders to achieve specific objectives, whether it be a more targeted outcome, greater demand reductions, or other objective. The particular design of the incentive is intended to drive particular performance objectives.

For example, Con Edison's current NPA incentive proposal, as described on page 51 of the Guidehouse report is designed to drive the creation of net benefits and to further incent cost containment at the implementation stage. In its proposal, Con Edison comments that "[t]he Company's proposed performance incentive represents a reasonable distribution of benefits for the proposed NPA Framework, as it is beneficial to all gas customers who receive a majority of the net societal benefits. Additionally, the incentive encourages the Company to pursue NPA projects that maximize societal net benefits by maximizing demand and energy savings while minimizing costs."

1.8 1-BOMA-8

Ref: Guidehouse, 2020, Page 5, Recommendation 7

Preamble:

Should the OEB and the Independent Electricity System Operator (IESO) consider developing a specific electric Non-Wires Alternative (NWA) framework in the future, the OEB should consider aligning Gas IRP and Electricity IRP frameworks to share the cost and resource investments to develop operational processes, program design, benefit-cost analyses, and other aspects of either IRP proceeding.4 Within New York State, leveraging the experience of electric NWA when developing the gas Non-Pipeline Solution (NPS) programs allowed for easier understanding and launch by utility, regulatory, customers, and other stakeholders. Improved coordination across electric and gas utilities will allow for more transparent analysis of the benefits and costs to achieve future provincial policy objectives.

Question(s):

(a) Given that the Board's jurisdiction over the IESO is limited to its fees submission, how would the Board be able to ensure that IRP frameworks and programs were coordinated?

Guidehouse Response:

The OEB and IESO have coordinated on other matters such as regional electricity planning (an area in which a review is currently active) and joint studies on energy efficiency (e.g., the 2019 Conservation Potential Study). Our recommendation is to encourage OEB to coordinate with IESO, to the extent regulatory frameworks, Board proceedings and best practice permit to ensure that IRP frameworks and programs are coordinated. Given the regulatory frameworks and responsibilities of the OEB and IESO, there may be limitations on coordination between the two organizations.

1.9 1-BOMA-9

Ref: Guidehouse, 2020, Page 8, Section 3.0

Preamble:

Integrated Resource Planning in New York State Overview

Question(s):

(a) What is the current energy supply mix for each of the referenced New York Utilities compared to Ontario?

Guidehouse Response:

Identification of the energy supply mix for each of the NY Utilities is outside of the Guidehouse scope. The US Energy Information Agency (EIA) provides the following information relative to the sources of electricity consumption in New York State: Coal: 0.6%; Natural Gas: 34.6%; Petroleum 1.2%; Renewable 27.4%; Nuclear 36.3%

Source: https://www.eia.gov/beta/states/states/ny/overview

As of 2015, 91% of households in New York used fossil fuel as their primary source of space heating, with the majority consuming natural gas (65%) followed by fuel oil (23%) and propane (9%).

Source: https://www.nyserda.ny.gov/-/media/Files/Publications/Energy-Analysis/2002-2016-Patterns-and-Trends.pdf

If Guidehouse has misunderstood the intent of this question, and BOMA is instead asking for more details on the geographic sources of natural gas supply for the NY utilities, information can be found in the "supply-demand analyses" filed by Con Ed and National Grid as part of the Modernized Gas planning proceeding:

http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=20-G-0131&CaseSearch=Search "

1.10 1-BOMA-10

Ref: Guidehouse, 2020, Page 9, Paragraph 2

Preamble:

Downstate natural gas utilities, including Con Edison and National Grid, have seen significant demand growth in recent years driven by both population and economic growth in the service territory, but also by policy efforts to convert fuel oil heating customers to natural gas.

Question(s):

(a) Did New York State ever have an "Off-Oil" program similar to the Canada Oil Substitution Program of 1980?

Guidehouse Response:

Guidehouse has not analyzed heating oil conversion programs across New York State, but is aware of several programs and policies to drive heating oil conversions in New York City.

Various policies enacted in New York City since the early 2010s limited the sulfur content of heating oil supplies or restricted the use of No. 6 and No. 4 heating oils for boiler permit renewals. Building owners could switch to No. 2 heating oil, natural gas, electric, or other heating source. The following weblink from Environmental Defense Fund summarizes these actions:

https://www.edf.org/sites/default/files/newyork-laws-regulating-heating-oil.pdf

Combined with these policies, various utilities and government clean heat programs provided incentives for heating oil conversions. The following weblink highlights a 2019 incentive application for a Con Edison oil-to-gas conversion program for multi-family buildings. These programs have adjusted over time and will likely continue to do so in line with the timelines for the heating oil conversion policies.

https://www.coned.com/-/media/files/coned/documents/save-energy-money/rebates-incentives-tax-credits/rebates-incentives-tax-credits-for-residential-customers/gas-conversion-application.pdf?la=es

1.11 1-BOMA-11

Reference: Guidehouse, 2020, Page 9, 3rd Paragraph

Preamble:

It is Guidehouse's understanding that New York State policymakers have not made an explicit directive or policy announcement to date regarding the future of natural gas consumption within the state or restriction of further natural gas infrastructure. It is Guidehouse's further understanding that major stakeholders including regulatory agencies, gas and electric utilities, and real estate developers all recognize the overall policy direction and trend towards greater

electrification of buildings, transportation, and industry. Nevertheless, there has not been a coordinated effort to address questions around future gas infrastructure investment to serve new and existing customers, maintain system safety and reliability, and potentially recover costs for stranded assets in the future. Many anticipate that the CLCPA Climate Action Council as well as the PSC Future Gas Planning Proceeding (Section 3.3) will provide greater insight into these topics when completed.

Question(s):

(a) How will the differences in Ontario's policy with respect to community expansion for natural gas delivery impact IRP if New York State policy makers require no further expansion of natural gas infrastructure?

Guidehouse Response:

Section 3.1 of the Guidehouse report summarizes our understanding for the current policy context in New York State. Guidehouse does not wish to speculate on future policy actions around the future of gas infrastructure in New York State. Guidehouse recognizes that there are differences in the political, regulatory, and market landscapes between Ontario and New York State and does not suggest that actions, policies, and practices in one jurisdiction should be applied to the other jurisdiction without considering these differences.

1.12 1-BOMA-12

Reference: Guidehouse, 2020, Page 13, Section 4.0

Preamble:

In each case, the utilities initiated the development of the Gas IRP pilots and programs on an ad hoc basis in response to an urgent need to alleviate peak day capacity constraints, both today and in the near future. As detailed below, the utilities prepared funding requests, implementation plans, and other materials and submitted to the New York State (NYS) PSC for approval. This characterization includes analysis of the original petition, subsequent regulatory developments, and experience to date implementing the proposed solutions in these programs, where applicable. Described in greater detail below, most of these programs are in pilot phases, early years of deployment, or proposed ideas for future consideration.

Question(s):

(a) By definition, how could IRP pilots and programs been developed without an integrated resource plan?

Guidehouse Response:

On Page 13 of the Guidehouse report, we describe the experiences of Con Edison and National Grid to develop IRP-type pilots and programs. “In each case, the utilities initiated the development of the Gas IRP pilots and programs on an ad hoc basis in response to an urgent need to alleviate peak day capacity constraints, both today and in the near future.” Section 3 of the report describes the set of solutions, including moratoria on new customers, that the utilities have used to accommodate a rapid increase in demand while experiencing delays and cancellations of pipeline expansions.

These pilots and programs were similar to the types of solutions described in Enbridge’s IRP proposal, although the term “IRP” was not used by the New York State utilities. On page 7 of the Guidehouse report, we note "This report uses multiple terms for IRPA, which have been left in for alignment with source documents from other jurisdictions. The terms non-pipeline solutions (NPS), non-pipeline alternatives (NPA), and IRP solution are all used interchangeably with IRPA."

1.13 1-BOMA-13

Reference: Guidehouse, 2020, Pages 15/16, Table 1 and Table 2

Preamble:

Table 1 and 2 from Guidehouse report

Question(s):

(a) Please provide a combined table with 3 columns, including in the third column, the current use of benefit/costs categories required by the OEB's current requirements of Enbridge.

Guidehouse Response:

The OEB’s current requirements for benefit-cost analysis (BCA) for Enbridge Gas differ for transmission and distribution system expansion projects and DSM programs. The table below summarizes the key BCA tests and guidance documents for each.

Benefit-Cost Test	Use	Guidance Document
Total Resource Cost +	DSM programs	Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020)[9]

[9] https://www.oeb.ca/oeb/_Documents/EB-2014-0134/Filing_Guidelines_to_the_DSM_Framework_20141222.pdf

Benefit-Cost Test	Use	Guidance Document
E.B.O. 134 (three-stage analysis)	Transmission system expansion	Filing Guidelines on the Economic Tests for Transmission Pipeline Applications[10]
E.B.O. 188	Distribution system expansion	Guidelines for Assessing and Reporting on Natural Gas System Expansion in Ontario[11]

Within Section 4.1 of the Guidehouse report, we summarized the original and revised Con Edison BCA Handbook for Non-Pipeline Solutions. The 2020 BCA updates are generally consistent with the original list of benefits and cost categories and reflect further specificity of the NPS opportunities and proposed framework (e.g., addition of shareholder incentives / earnings adjustment mechanisms [EAMs]). As such, we will respond to the question with a focus on the revised version from September 2020. Con Edison proposes to use a Societal Cost Test as its primary test, with UCT and RIM tests as secondary tests. As noted in section 3.1 and Table 3.1 of the BCA Handbook, all listed costs and benefits shown in the table below with the exception of lost utility revenue and shareholder incentives would be considered in the Societal Cost Test. These two categories are not included in the Societal Cost Test as they are considered transfers between stakeholder groups that have no net impact on society as a whole. The UCT and RIM tests would be conducted, but would serve in a subsidiary role to the SCT test and would be performed only for the purpose of arriving at a preliminary assessment of the impact on utility costs and ratepayer bills of measures that pass the SCT analysis. See Green Energy Coalition-6 for further details.

The tables below provide a side-by-side comparison of the benefits and costs within the revised Con Edison BCA Handbook for Non-Pipeline Solutions and the OEB guidance documents for natural gas DSM programs (TRC+), transmission expansion projects (E.B.O. 134), and distribution expansion projects (E.B.O. 188).

Comparison of Benefit Categories between Con Edison BCA Handbook and OEB BCA Guidance Documents

Benefit Categories from Con Edison Revised BCA Handbook	Considered in EBO 134 Stage 1 / EBO 188?[12]	Considered in DSM Framework (TRC+ test)?
Avoided Peaking Services	Yes	Yes, Avoided Supply Costs (capital, operating and commodity costs)
Avoided Pipeline and Storage Capacity Costs	Yes	Yes, Avoided Supply Costs (capital, operating and commodity costs)

[10] https://www.oeb.ca/oeb/_Documents/Regulatory/Filing_Guidelines_Tx_Pipelines_Applications.pdf

[11] https://www.oeb.ca/sites/default/files/uploads/documents/regulatorycodes/2019-01/EBO-188-AppB-Guidelines-Gas-Expansion-19980130.pdf

[12] This column was based on the guidance for E.B.O. 188. Guidance for stage 1 of E.B.O. 134 is less detailed, but appears to be essentially identical in terms of the costs and benefits that should be included.

Benefit Categories from Con Edison Revised BCA Handbook	Considered in EBO 134 Stage 1 / EBO 188?[12]	Considered in DSM Framework (TRC+ test)?
Avoided Commodity Costs	No	Yes, Avoided Supply Costs (capital, operating and commodity costs)
Avoided On-System Capacity Expense	Yes	Yes, Avoided Supply Costs (capital, operating and commodity costs)
Reliability / Resiliency	Not specifically defined	Not specifically defined
External Benefits (e.g., Avoided CO2 and Other Emissions, Land and Water Impacts)	Not in stage 1, potentially in stages 2 or 3	• Avoided CO2 emissions are monetized as Avoided Supply Costs • Non-Energy Benefit Adder may also consider environmental, societal, utility and other participant benefits

Comparison of Cost Categories between Con Edison BCA Handbook and OEB BCA Guidance Documents

Cost Categories from Con Edison Revised BCA Handbook	Considered in EBO 134 Stage 1 / EBO 188?[13]	Considered in DSM Framework (TRC+ test)?
Program Administration	Yes	• Yes, Program costs (Development, promotion, delivery, EM&V, administration). • Incentives to participants are not included in program costs
Incremental On-System Capacity Expenses	Yes	Yes, Avoided Supply Costs (capital, operating and commodity costs)
Lost Utility Revenue	Yes	Not as part of TRC+ test, however, Framework includes Lost Revenue
Shareholder Incentives	Not applicable	Not as part of TRC+ test, however, Framework includes Shareholder Incentive
Incremental Participant NPS Cost	Not in stage 1, potentially in stages 2 or 3	Yes, Net Equipment Costs (Installation, O&M, fuel cost)
Alternative Fuel Cost (e.g., Electricity)	Not in stage 1 (assuming that utility is not provider of the alternative fuel), potentially in stages 2 or 3	Yes, Net Equipment Costs (Installation, O&M, fuel cost)
External Costs (e.g., Alternative Fuel CO2 and Other Emissions, Land and Water Impacts)	Not in stage 1, potentially in stages 2 or 3	Indirectly through Non-Energy Benefit Adder (which assumes net external impacts are benefits)

[13] This column was based on the guidance for E.B.O. 188. Guidance for stage 1 of E.B.O. 134 is less detailed, but appears to be essentially identical in terms of the costs and benefits that should be included.

Guidehouse notes several caveats regarding the interpretation of the EBO 134/EBO 188 economic tests. These tests are intended to assist the OEB in making determinations regarding potential transmission/distribution system expansion, by outputting a Net Present Value (NPV). They were not designed to compare alternative options to meet a system need. However, it is possible to repurpose either of these tests as an options analysis, by comparing the NPV produced by the EBO 134/188 tests for different options to meet a system need, and determining which option has the highest NPV (note that all options for meeting a system need may yield a negative NPV).

Guidehouse also notes that OEB guidance regarding stages 2 and 3 of the EBO 134 test is limited. The OEB indicates in its Filing Guidelines on the Economic Tests for Transmission Pipeline Applications that "the second stage should be designed to quantify other public interest factors not considered at stage one. All quantifiable other public interest information as to costs and benefits should be provided at this stage. The third stage should take into account all other relevant public interest factors plus the results from stage one and stage two."

1.14 1-BOMA-14

Reference: Guidehouse, 2020, Page 18, Section 4.1.2

Question(s):

(a) The AMI benefits lists are predominantly related to smart metering of electricity. What are the specific benefits to natural gas utilities and customers?

Guidehouse Response:

As described in Section 4.1.2, Con Edison is both a natural gas and electric utility, and the AMI Business plan includes implementing AMI across customer electric and gas meters. As such, the benefits and opportunities from AMI meters are described collectively for both electric and gas meters.

It is Guidehouse's opinion that natural gas AMI could provide several of the benefits listed in the AMI Business plan, including but not limited to: reduces customer energy use, increased customer control over energy usage, reduces meter readings, enhances service reliability, cost savings and avoided costs, etc.

1.15 1-BOMA-15

Reference: Guidehouse, 2020, Pages 52-58, Section 6 (Differences between Enbridge Gas and New York State Service Territories)

Question(s):

(a) This table provides an excellent comparison between the jurisdictions, but it is not clear how these differences would affect IRP. Please elaborate.

Guidehouse Response:

On Page 52 of the Guidehouse report, we state "This section summarizes key differences between the Enbridge Gas service territory and those of New York State gas utilities that may be relevant to IRP implementation and that should be taken into consideration in a comparative analysis (Table 5)." Guidehouse notes on Page 6, "an analysis of IRP in New York State is likely to provide insights as to the potential role and regulatory treatment of IRP in Ontario's natural gas sector."

The information presented in Table 5 may have the following impacts on natural gas IRP development in Ontario:

a) **Utility Types**: Single-fuel utilities may have a different set of operational, financial, and other issues related to natural gas IRP than dual-fuel utilities that may be able to shift their businesses from one fuel to another.

b) **Gas Supply Issues**: Ontario does not currently face the same natural gas supply issues present in New York State, so the underlying drivers, opportunities, and practices for natural gas IRP may look different in Ontario than New York State.

c) **Environmental Goals**: Similar to b), Ontario has a different environmental landscape that New York State that may affect the underlying drivers, opportunities, and practices for natural gas IRP in Ontario.

d) **Experience with IRP Solutions**: Enbridge Gas has DSM programs today, which was a starting point for New York State utilities to expand into IRP solution areas.

e) **IRP Regulatory Activities**: Ongoing regulatory discussions in both Ontario and New York State should be considered when developing the natural gas IRP framework for Ontario.

f) **Cost Recovery and BCA Approaches**: Due to the expanded nature of natural gas IRP programs, developing a comprehensive Benefit Cost Analysis (BCA) Handbook for Gas IRP, or supplemental guide to the approach outlined in E.B.O. 134 , that evaluates infrastructure, supply-side, and demand-side solutions with a similar set of assumptions for costs and benefits can allow for a more transparent IRP process.

g) **Lessons Learned from Pilots**: New York State utilities are still learning the extent to which natural gas IRP solutions can mitigate future capacity risks on peak days. Ontario has not conducted such pilots to date (with the exception of a small-scale pilot assessing peak reduction from geotargeted DSM) and would need to assess whether the learnings from in New York State address key questions around natural gas IRP for Ontario.

h) **Role of AMI**: AMI may play a role in IRP. Con Edison and Enbridge Gas believe there is benefit in using natural gas AMI when deploying demand-side IRP programs.

i) **Experience with Electricity NWA Programs**: New York State utilities developed frameworks and program designs for NWA programs before applying lessons learned to develop similar practices for natural gas. There is less experience with NWA in Ontario although pilots are currently underway, so there is more limited Ontario NWA experience to draw from for the natural gas IRP development in Ontario.

2.0 Environmental Defence

The section contains the interrogatories submitted by Environmental Defence and Guidehouse's responses.

2.1 Environmental Defence 1

Reference: EB-2020-0091, Exhibit C, Page 3

Preamble:

Enbridge states that it: "supports the concept of adding costs and benefits to the Board's E.B.O. 134 guidelines to create a modified E.B.O. 134 or staged Discounted Cash Flow ("DCF") Plus (DCF+) standard for the purposes of assessing IRPAs in Ontario."

Question(s):

(a) Does Guidehouse believe that the development of a comprehensive Benefit Cost Analysis Handbook should be restricted to "adding costs and benefits to the Board's E.B.O. 134 guidelines to create a modified E.B.O. 134 or staged Discounted Cash Flow ("DCF") Plus (DCF+) standard for the purposes of assessing IRPAs in Ontario"?

Guidehouse Response:

Please refer to recommendation #1 in Section 8.2 of Guidehouse's submission to the OEB. In summary, Guidehouse recommends that a BCA handbook, or supplemental guide, should be developed with input from external stakeholders. Guidehouse believes this is the best process for determining the approach to cost-benefit analysis in IRP.

2.2 Environmental Defence 2

Reference: Page 1, Recommendation 1

Preamble:

Guidehouse recommends preparing Benefit Cost Analysis (BCA) procedures. The following questions relate to Synapse Energy, Benefit-Cost Analysis for Distributed Energy Resources, September 22, 2014 - https://www.synapseenergy.com/sites/default/files/Final%20Report.pdf

Question(s):

(a) Does Guidehouse agree that the value of avoided commodity costs must be included in any analysis comparing pipe and non-pipe options, such as energy efficiency?

(b) Does Guidehouse agree that the value of avoided commodity costs is a fundamental factor that must be included in any financial comparison of pipe and non-pipe options?

(c) Does Guidehouse agree that the risk of underutilized or stranded assets may be a materials factor and should be considered and monetized?

Guidehouse Response:
Guidehouse conducted a review of pilots, frameworks, policies, and experiences with natural gas IRP topics in New York State to provide insight into the development of an IRP framework in Ontario. Despite the experiences with early pilots and programs, the landscape in New York

State is still under development and the experiences to date may or may not be sufficient for the framework moving forward. Guidehouse believes it is difficult to draw firm conclusions for Ontario from these initial pilots and proposed frameworks, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding cost and benefit categories, monetization of certain elements, discount rates, or other topics within a BCA Handbook for Natural Gas IRP in Ontario.. It is the perspective of Guidehouse that, should the OEB determine to develop a BCA Handbook or similar guide, the content should be developed by the OEB with input from key stakeholders. An OEB consultation may provide the means to accomplish this.

2.3 Environmental Defence 3

Reference: Page 1, Recommendation 1

Preamble:

Guidehouse recommends preparing Benefit Cost Analysis (BCA) procedures. The following questions relate to Synapse Energy, Benefit-Cost Analysis for Distributed Energy Resources, September 22, 2014 - https://www.synapseenergy.com/sites/default/files/Final%20Report.pdf

Question(s):

(a) Please comment on and indicate whether Guidehouse agrees with the following conclusion of the Synapse Report (p. 47):

> Distributed energy resources generally result in reduced risk to the electricity system, relative to traditional supply-side resources. DERs can increase the diversity of the portfolio of electricity resources, reduce reliance upon fossil fuels with volatile prices, reduce planning risk by reducing load growth, reduce risks associated with current and future environmental regulations, and reduce risks associated with outages caused by storms and other unexpected events. Distributed energy resources also help to reduce risk through increased optionality and system resiliency. That is, through their distributed and small-scale nature, DER investments offer greater flexibility in helping the system cope with stress and respond to unanticipated changes in the future (relative to large, capital intensive generation, transmission or distribution upgrades).

(b) Please comment on and indicate whether Guidehouse agrees with the following conclusion of the Synapse Report (p. 36):

> DER impacts should not be excluded or ignored on the grounds that they are difficult to quantify or monetize. Approximating hard-to-quantify impacts is preferable to assuming that those costs and benefits do not exist or have no value.

(c) Please comment on and indicate whether Guidehouse agrees with the following conclusion of the Synapse Report (p. 54-55):

> We recommend that the DER BCA framework use a societal discount rate. The societal discount rate is best able to reflect the value of short- versus long-term costs and benefits to all utility customers, as well as to society in general. The societal discount rate is best able to reflect the time preference associated with the state's energy policy goals, many of which are related to societal impacts.
>
> We also recommend that the societal discount rate chosen for the DER BCA framework be somewhere in the range of zero to three percent real. This range is frequently used

for societal discount rates and is also very close to the current value of risk-free discount rates.

Additional factors, particularly risk, should be considered in choosing, within this range, the exact discount rate for the DER BCA framework. To the extent that risk has been evaluated and accounted for through other methods described in Chapter 5, a discount rate at the high end of the range of societal discount rates should be chosen. If risk has not been adequately evaluated and accounted for through other methods, a discount rate at the low end of the range should be chosen.

Guidehouse Response:

See Guidehouse response to Environmental Defence 2.

2.4 Environmental Defence 4

Reference: Page 1, Recommendation 1

Preamble:

Guidehouse recommends preparing Benefit Cost Analysis (BCA) procedures. The following questions relate to Synapse Energy, Benefit-Cost Analysis for Distributed Energy Resources, September 22, 2014 - https://www.synapseenergy.com/sites/default/files/Final%20Report.pdf

Question(s):

(a) Please comment on whether each of the benefits listed in the following figure should be included in a benefit cost analysis in Ontario's IRP framework. Please separately address each. Please also comment on the appropriate valuation method. Please also summarize the answer in a table similar to the one in this figure.

Guidehouse Response:

See Guidehouse response to Environmental Defence 2.

2.5 Environmental Defence 5

Reference: Page 1, Recommendation 1

Preamble:

Guidehouse recommends preparing Benefit Cost Analysis (BCA) procedures. The following questions relate to Synapse Energy, Benefit-Cost Analysis for Distributed Energy Resources, September 22, 2014 - https://www.synapseenergy.com/sites/default/files/Final%20Report.pdf

Question(s):

(a) Please provide a table indicating which of the following benefits would be accounted for in the first stage of the Enbridge's proposed approach to benefit cost analysis.

Guidehouse Response:

The table quoted in the intervenor's question appears to be applicable for electricity utilities, as opposed to natural gas utilities. Many of these quoted benefits are not relevant to Enbridge Gas.

See 1-BOMA-13 for Guidehouse's comparison between the benefits and costs within the revised Con Edison BCA Handbook for Non-Pipeline Solutions and the OEB guidance documents for natural gas DSM programs (TRC+), transmission expansion projects (E.B.O. 134), and distribution expansion projects (E.B.O. 188).As noted in Guidehouse's report, Enbridge is proposing that a methodology similar to E.B.O. 134 would be used for IRP cost-benefit analysis.

2.6 Environmental Defence 6

Reference: Page 38

Preamble:

Guidehouse describes Enbridge's proposal as follows: The first stage is the identification of potential IRPAs and the testing of the reliability of the IRPA. The facility need and the potential for an IRPA to meet it will be analyzed based on input from the 2019 Integrated Ontario Electricity and Natural Gas Achievable Potential Study and other sets of data.

Question(s):

(a) Please comment on how the recent announcement of a carbon price increasing to $150/tonne in 2030 would directionally impact the quantity of cost-effective natural gas DSM found by the potential study prepared by Guidehouse (formerly Navigant)?

(b) Please estimate the tonnes of CO2e savings in 2030 for all achievable cost-effective DSM with the updated assumption from the recent carbon price announcement. Alternatively, please estimate the % impact on the gas savings from all achievable cost-effective DSM up to 2030. Please do so on a best efforts basis (e.g. based on the sensitivity analysis in the potential study).

Guidehouse Response:

(a) The 2019 Conservation Achievable Potential Study included Canada's federal carbon price in effect at the time, which reaches $50/tonne of CO_2e in 2022 and was assumed to stay flat throughout the rest of the forecast. The new announcement from the federal government dictates that the carbon price increase $15/tonne each year between 2022 and 2030 where it hits $170/tonne. This is a significant increase in carbon price and will have a material impact on cost effectiveness. Achievable potential is expected to increase materially due to the improved economics.

(b) This topic is outside the scope of Guidehouse's engagement with OEB.

2.7 Environmental Defence 7

Reference: Exhibit M2.GEC-ED

Question(s):

(a) Please comment on the proposed goals of IRP as set out in Mr. Neme's evidence starting on page 4. Please indicate whether Ms. Simon believes these are appropriate, and if not, why not.

(b) Please comment on the recommendation by Mr. Neme at p. 5 that "The IRP framework should require utilities to prepare and publish an annual T&D needs summary based on a rolling 10-year forecast of needs, the drivers behind those needs, whether the needs may be candidates for non-pipe solutions (and why or why not), and the status of consideration of non-pipe solutions for each identified need (see Figure 3 below for an example of this information)." Does Ms. Simon agree that this would be appropriate? If not, why not?

(c) Please comment on the recommendation by Mr. Neme at p. 5 that "there needs to be a mechanism that stakeholders and the Board can utilize to trigger formal Board review of both forecast needs and proper consideration of alternatives before potentially viable alternatives are precluded due to concerns about inadequate lead times (i.e. to preclude the potential for leave to construct applications to be filed and resolved too late to reasonably consider cost-effective alternatives)." Does Ms. Simon agree that this would be appropriate? If not, why not?

(d) Please comment on the recommendation by Mr. Neme at p. 6 that "Any criteria for screening out consideration of non-pipe solutions must be very carefully designed to ensure that they would not rule out potentially viable projects. That means erring on the side of greater latitude when there is uncertainty (e.g. about the size of load reduction that could be achieved), as what is possible in one location may be very different from the "average", particularly when multiple IRPA options are considered together." Does Ms. Simon agree that this would be appropriate? If not, why not?

(e) Please comment on the recommendation by Mr. Neme at p. 6 that "There are a range of measures that can be part of non-pipe solutions. That includes energy efficiency; demand response; electrification of gas end-uses with air source heat pumps, ground source heat pumps and other technologies; and localized injection of compressed gas. The Gas IRP framework should require that all such measures be considered – individually and in combination with each other – with the least cost mix of such measures selected for investment." Does Ms. Simon agree that this would be appropriate? If not, why not?

(f) Please comment on the recommendation by Mr. Neme at p. 7 that "Absent a government mandate that expressly excludes consideration of alternatives (either individually or under conditions that may apply to specific communities or categories of communities), gas line extensions should not be excluded from consideration. There may be cases where policy goals such as access to low-cost energy could be achieved more cost effectively and with less risk than through gas service expansion." Does Ms. Simon agree that this would be appropriate?

(g) Please comment on each of the six recommendations made by Mr. Neme at p. 8 of his report relating to benefit-cost analysis. Does Ms. Simon agree that these would be appropriate?

Guidehouse Response:

a) Yes, these goals may be reasonable under the correct circumstances. See response for Environmental Defence 2. Guidehouse believes it is difficult to draw firm conclusions for Ontario from initial pilots and proposed frameworks in New York State, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding goals or other topics for Natural Gas IRP in Ontario.

b) and c) See response for Environmental Defence 2. Guidehouse believes it is difficult to draw firm conclusions for Ontario from initial pilots and proposed frameworks in New York State, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding reporting requirements, forecasting timelines, review triggers, review timelines, or other topics for Natural Gas IRP in Ontario.

d) Yes, Guidehouse agrees that the screening criteria should allow flexibility to evaluate specific parameters for each project. Guidehouse believes it is difficult to draw firm conclusions for Ontario from initial pilots and proposed frameworks in New York State, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding screening criteria, review guidance, or other topics for Natural Gas IRP in Ontario.

e) and f) Guidehouse agrees there is a range of measures that can be considered for non-pipes solutions and provided examples in our report. Considering individual and combinations of measures is reasonable under the correct circumstances. See response for Environmental Defence 2. Guidehouse did not provide specific recommendations regarding measure inclusion or exclusion, consideration for individual measures and/or combinations, pre-screening criteria, or other topics for Natural Gas IRP in Ontario.

g) See response for Environmental Defence 2. Guidehouse believes it is difficult to draw firm conclusions for Ontario from these initial pilots and proposed frameworks, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding cost and benefit categories, monetization of certain elements, discount rates, or other topics within a BCA Handbook for Natural Gas IRP in Ontario.

It is the perspective of Guidehouse that, should the OEB determine to develop a BCA Handbook or similar guide, the content should be developed by the OEB with input from key stakeholders. An OEB consultation may provide the means to accomplish this.

3.0 Enbridge Gas

The section contains the interrogatories submitted by Enbridge Gas and Guidehouse's responses.

3.1 Enbridge Gas 4.1

Reference: Recommendations

Preamble:

The evidence states that "The OEB should encourage the development of a comprehensive Benefit Cost Analysis (BCA) Handbook for Gas IRP, or supplemental guide to the approach outlined in E.B.O. 134, that evaluates infrastructure, supply-side, and demand-side solutions with a similar set of assumptions for costs and benefits."

Question(s):

Please explain any adjustments that might be needed to E.B.O. 134 (all stages) for it to be capable of effectively comparing facility and non-facility alternatives (IRPAs or NPAs).

Guidehouse Response:

The tests to be used for comparing gas supply-side alternatives are based on a discounted cash flow analysis (DCF) set in E.B.O. 134. Gas DSM programs are compared based on cost-effectiveness tests, applying the Total Resource Cost Test and the Program Administrator Cost Test. The DCF for supply-side alternatives and the cost-effectiveness tests chosen for DSM were not selected specifically to align with each other.

See Environmental Defense-2. Guidehouse believes it is difficult to draw firm conclusions for Ontario from the initial pilots and proposed frameworks in New York State, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding cost-effectiveness tests for Natural Gas IRP in Ontario. We have indicated that developing a BCA Handbook with the appropriate tests and how to apply them may be of value. Should the OEB determine to develop a BCA Handbook, the content should be developed by the OEB with input from key stakeholders.

3.2 Enbridge Gas 5.1

Reference: Executive Summary

Preamble:

The evidence states that "New York Department of Public Service (DPS) staff are expected to publish a whitepaper that outlines a proposal to modernize the gas system planning before November 16th, 2020."

Question(s):

a) Please provide an update on the status of this paper including when it is expected to be published.

b) Please summarize what findings from the whitepaper Guidehouse anticipates will be directly applicable to the establishment of an IRP Framework for Enbridge Gas and more generally to natural gas IRP in Ontario.

Guidehouse Response:

a) See 1-BOMA-3

b) Guidehouse prepared a report summarizing the IRP experience of natural gas utilities in New York State based on document review of public reports, regulatory filings, and select interviews. Detailed on Pages 11-12 of the Guidehouse report, the New York PSC opened a new proceeding to investigate gas planning procedures to improve transparency of gas planning and investments in New York State, as well as consider the policy alignment of gas planning with state and local climate goals. The PSC calls out the risks of not developing Policy-Aligned Gas Planning:

> "Policy-Aligned Gas Planning: Recent developments have challenged conventional approaches to gas system planning. These developments include, but are not limited to, recent and current instances of supply/demand imbalance, the emergence of viable, less-traditional and increasingly cleaner alternative solutions for demand and supply, the controversy and uncertainty associated with major gas infrastructure decisions, and the CLCPA's establishment of state policy directions. All the while, continued investment in gas infrastructure has significant long-term financial implications for customers.
>
> The current approach to gas system planning poses risks of incomplete alignment with CLCPA, sub-optimal consideration of alternatives and timeframe, increased risk and cost to consumers, and unsatisfactory provision of service and solutions for those same consumers. To align with these policies and to recognize the emergence of potentially viable alternatives to gas infrastructure, gas planning must explicitly take account of the likely useful life of all alternatives, and of the resulting cost and risk implications."

The NY PSC outlined the following issues to be addressed within the original Order Instituting Proceeding on March 19, 2020:

1. Locational constraint analysis

2. Transparent and comprehensive utility planning information, including transparent gas planning, policy-aligned gas planning, and transparency regarding affiliate relationships for pipeline supply

3. Non-pipe solutions

4. Criteria for reliance on peaking services

5. Standards governing moratoria, including declarations of moratoria, treatment of applicants and customers, communications standards and practices, prioritization, and lifting of moratoria

6. Demand response and rate design

7. Criteria pollutant reduction

8. Tariff and rule revision.

The DPS staff whitepaper is expected to outline a proposal to modernize the gas system planning, which will specifically address the second issue above, while the other issues will also be addressed in this proceeding, and may result in changes to the IRP processes in New York State. The proposal and other developments in this proceeding may be valuable for the discussion of natural gas IRP in Ontario.

New York State Public Service Commission. Order Instituting Proceeding. Case 20-G-0131. March 13, 2020
http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={2BE6F1CE-5F37-4A1A-A2C0-C01740962B3C}

3.3 Enbridge Gas 5.2

Reference: Executive Summary

Preamble:

The evidence states that “Non-traditional supply-side and demand-side solutions carry greater uncertainty compared to traditional infrastructure projects, and utility program managers have overcome these risks by oversubscribing customers and diversifying the IRP solutions.”

Question(s):

To your knowledge, do utilities in New York also oversubscribe customers to firm upstream transmission and supply assets? If so, have utilities established guidelines or limits to how oversubscribed they can be and still receive pass-through treatment of costs? If not, why is it appropriate to oversubscribe customers to NPAs and not pipeline solutions?

Guidehouse Response:

Section 5.1.8 describes Guidehouse's findings related to New York State utilities' views around the supply risks of both traditional solutions (e.g., pipelines) and non-traditional supply-side and demand-side solutions.

Within the Joint LDCs’ letter within the Future Gas Planning proceeding, the group proposed a framework to assess derating factors to solutions based on Deliverability Reliability and Recontracting / Renewal Reliability when determining final capacity forecasts. These derating factors would be applied to both supply-side and demand-side solutions as applicable. Solutions with higher derating factors would need to oversubscribe to achieve the same reliability as those with lower derating factors. How these risks are to be allocated to shareholders and ratepayers is still undetermined in New York State. The DPS whitepaper expected in the near future may provide greater guidance.

3.4 Enbridge Gas 5.3

Reference: Section 1.0 Introduction

Preamble:

The evidence provides an overview of the relative size and markets served by Consolidated Edison Inc. and National Grid.

Question(s):

Please explain the unique system constraints experienced by New York State utilities that have influenced their respective natural gas IRP initiatives and planning. Please contrast these constraints to Ontario and Enbridge Gas's systems.

Guidehouse Response:

Section 3.0 of the Guidehouse report provides a summary of the policy landscape, customer moratoria, and supply capacity issues experienced by downstate gas utilities in New York State.

Section 6.0 of the Guidehouse report summarizes key differences between the Enbridge Gas service territory and those of New York State gas utilities that may be relevant to IRP implementation and that should be taken into consideration in a comparative analysis. The following excerpts the comparison of the Gas Supply Issues in Table 5 of the report:

- **Gas Supply Issues**
    - **New York State**: Delays and challenges in obtaining regulatory approval for new upstream pipeline capacity have caused near-term risks to utilities' ability to meet customer demand for natural gas, causing both Con Edison and National Grid to impose moratoria on new customer connections in parts of their service territories, driving efforts for IRP solutions.
    - **Enbridge Gas**: Ontario does not currently face the same natural gas supply issues present in New York State.

3.5 Enbridge Gas 5.4

Reference: Page 36

Preamble:

The evidence states that "Similar to Con Edison's funding request for the Smart Solutions program, the utilities requested additional NWA program funding to incorporate incremental EE/DR into their existing programs and also develop new programs covering distributed solar and gas-fired generation, battery storage, and other technologies. In the cases of EE/DR, the NWA programs adjusted incentive levels, measure offerings, and geographic scope to address the specific NWA needs, as highlighted in the example below."

Question(s):

a) Was the request for additional funding for NWA programs (existing and new) contained within one integrated budget envelope with distinct offers and different evaluation, measurement and verification protocols based on program targets?

b) Please comment on incremental funding and resources requested by utilities in New York State related to the administration and operationalization of natural gas IRP, including the

quantum and nature of funding requested (i.e., related administrative costs, system costs, incremental FTE…).

Guidehouse Response:

a) Section 5.1.5 of the Guidehouse report contains a summary of NWA best practices and lessons learned in New York State that may be applicable to gas non-pipes-alternatives (NPA) or IPA solutions. It is Guidehouse's understanding that several rounds of NWA projects, using different technologies and strategies, have been implemented over an extended period of time. This would suggest that funding sources and EM&V processes may have varied over time as well. On Page 37, Guidehouse notes "A more detailed investigation of NWA programs and electric IRP is not within the scope of this research project." The ICF report filed by Enbridge Gas as additional evidence in October 2020 provides greater detail on the timeline for NWA in New York State.

b) Guidehouse has not performed an analysis into the incremental funding and resources requested by New York State utilities for the administration and start-up of the natural gas IRP programs. In one example, Con Edison's Modified Gas DR Pilot Implementation plan (September 10, 2018) outlines the budgets for key elements of the 3 year pilot with total budget of $5,051,000: meter data collection ($579,000), customer incentives ($2,902,000), pilot administration ($1,570,000). The plan describes the administration costs: "This budget includes costs for the incremental staff that will be responsible for the management of the Gas DR Pilot, incremental marketing, outreach, and other customer engagement activities, market research efforts, settlement processes, and demand response management system (“DRMS”) integration."

Con Edison. “Modified Gas Demand Response Pilot Implementation Plan.” Case 17-G-0606. September 10, 2018. http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={35803586-10C6-4AAD-97F5-29E8DB2B2FEC}

In Section 7 of the Guidehouse report, we note that "The level of investment necessary to operationalize IRP programs will vary based on the capacity, expertise, and experience of utility staff and their current programs, as well as experiences of neighboring utilities that share similar regulatory processes."

3.6 Enbridge Gas 5.5

Question(s):

Does Guidehouse have any specific concerns with the way that ICF has described the IRP Framework and landscape in New York State in its Updated Jurisdictional Review included with Enbridge Gas’s Additional Evidence filed October 15, 2020? Please detail any such concerns.

Guidehouse Response:

Guidehouse has reviewed ICF's Updated Jurisdictional Review included with Enbridge Gas's Additional Evidence and found the analysis generally aligned with our research findings. Guidehouse was not asked to conduct a detailed point-by-point review and comment of the ICF report.

3.7 Enbridge Gas 6.1

Reference: Recommendations

Preamble:

The evidence states that "The OEB should encourage the development of a comprehensive Benefit Cost Analysis (BCA) Handbook for Gas IRP, or supplemental guide to the approach outlined in E.B.O. 134, that evaluates infrastructure, supply-side, and demand-side solutions with a similar set of assumptions for costs and benefits"

Question(s):

Please provide more specific detail regarding Guidehouse's recommendations for the content of a future BCA Handbook for Ontario natural gas IRP should the Board determine that it is appropriate to develop one.

Guidehouse Response:

It is the perspective of Guidehouse that, should the OEB determine to develop a BCA Handbook, the content should be developed by the OEB with input from key stakeholders. An OEB consultation may provide the means to accomplish this.

4.0 Energy Probe

The section contains the interrogatories submitted by Energy Probe and Guidehouse's responses.

4.1 Energy Probe 1

Reference: OEB Staff /Guidehouse Report, Page 3

Preamble:

"Enbridge Gas proposes using a traditional Discounted Cash Flow (DCF) analysis to value IRPA in order to compare these on an equal footing with traditional infrastructure. This approach is defined in the OEB's guidance from proceeding E.B.O. 134, and the environment for cost benefit analysis has evolved significantly since this methodology was originally developed."

Question(s):

a) Please Confirm the E.B.O 134 methodology is used (with modifications) for distribution projects under E.B.O. 188.

b) Please provide a table that Shows and compares the Methodology proposed by EGD (E.B.O.134) to the best practices in New York State. Provide detailed comparison of assumptions and parameters for each.

Guidehouse Response:

(a) The E.B.O. 188 methodology used for distribution projects is similar to the first stage of the E.B.O. 134 methodology that is used for transmission projects. See Guidehouse's response to 1-BOMA-13.

(b) See 1-BOMA-13 for Guidehouse's comparison between the benefits and costs within the revised Con Edison BCA Handbook for Non-Pipeline Solutions and the OEB guidance documents for natural gas DSM programs (TRC+), transmission expansion projects (E.B.O. 134), and distribution expansion projects (E.B.O. 188). A more detailed comparison is out of scope for our engagement.

4.2 Energy Probe 2

Reference: OEB Staff /Guidehouse Report, Page 3

Question(s):

Please provide a status Report on the New York DPS white paper. If available file a copy and provide relevant Guidehouse comments.

Guidehouse Response: See 1-BOMA-3

4.3 Energy Probe 3

Reference: OEB Staff /Guidehouse Report, Pages 3-4

Question(s):

Please elaborate on the Footnote 3 and indicate in more detail including why AMI is/is not required in context of peak demands on the EGI Transmission and distribution systems. Also discuss the benefit/cost of an AMI system and estimate the cost.

Guidehouse Response:

Guidehouse did not independently evaluate whether natural gas AMI should be a pre-requisite for natural gas DR or IRP solutions. Throughout the report, we have summarized Con Edison's experiences having deployed IRP solutions in areas with and without AMI installed. Con Edison has indicated that performing demand-side IRP programs without such infrastructure is feasible but carries additional challenges and costs.

Guidehouse did not independently evaluate the benefits or costs of a natural gas AMI system for either New York State or Ontario.

4.4 Energy Probe 4

Reference: OEB Staff/ Guidehouse Report, Page 3

Preamble:

"Should the OEB and the Independent Electricity System Operator (IESO) consider developing a specific electric Non-Wires Alternative (NWA) framework in the future, the OEB should consider aligning Gas IRP and Electricity IRP frameworks to share the cost and resource investments to develop operational processes, program design, benefit-cost analyses, and other aspects of either IRP proceeding."

Question(s):

Does Guidehouse have knowledge that IESO and/or the OEB is planning an NWA framework? If so, please provide more details. If not, is Guidehouse recommending/advocating that this be done. Please discuss.

Guidehouse Response:

Guidehouse does not have any inside knowledge about an NWA framework in Ontario, other than what has been published publicly. The OEB and IESO have coordinated on other matters such as regional electricity planning (an area in which a review is currently active) and joint studies on energy efficiency (e.g., the 2019 Conservation Potential Study). Our recommendation is to encourage OEB to coordinate with IESO, to the extent regulatory frameworks, Board proceedings and best practice permit to ensure that IRP frameworks and programs are coordinated. Guidehouse is aware that the OEB and IESO are undertaking a review of the regional planning process for Ontario's electricity sector[14] and that, while not being an explicit NWA framework, will include some topics that are relevant to consideration of NWAs. The topic list for these discussions can be found at the weblink below:

IESO. *Regional Planning Process Review – Implementation Plan Leads for Straw Man Design Recommendations* http://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/rpr/rprag-20200716-implementation-plan-leads-straw-man-design-recommendations.pdf?la=en

See response for 1-BOMA-8 for further discussion around Guidehouse's recommendation and consideration for the opportunities and limitations for coordination between OEB and IESO.

4.5 Energy Probe 5

Reference: OEB Staff/ Guidehouse Report, Pages 14 and 15, Table 1, and Table 2

Preamble:

"To address the increased demand and limited capacity, Con Edison developed the Smart Solutions for Natural Gas Customers Program (Smart Solutions Program), an innovative, integrated, multi-solution strategy to decrease gas usage and procure alternative resources.36

[14] https://www.oeb.ca/industry/policy-initiatives-and-consultations/regional-planning-process-review

Con Edison submitted its proposal to the PSC in September 2017, and it was approved in July 2018, with different programs beginning in 2018. The Smart Solutions Program includes four non-traditional solutions…"

Question(s):

a) Is Guidehouse recommending a similar four component solutions approach in Ontario? If so, please describe the process that will be used in terms of the current regulatory process for Leave to Construct Projects. Please specifically indicate/discuss how the Cost/benefit/BCA will work.

b) If the solution is aimed at reducing Peak Gas Demand will this be evaluated at a System level or a Local level? Please Discuss.

c) How does the evaluation framework and BCA deal with upstream supply and with storage solutions? For example, how are potential solutions evaluated and is there a common cost/benefit calculation model or models?

Guidehouse Response:

a) Section 4.1 of the Guidehouse report describes various aspects of the Con Edison Smart Solutions Program and how different program ideas were implemented or not implemented. Guidehouse does not make any statement relating to recommendations to follow a similar four component solutions approach in Ontario.

b) Section 4.0 and Appendix C of the Guidehouse report describe various natural gas DR, non-pipeline solutions, and other related programs proposed by natural gas utilities in New York State. It is our understanding that these solutions could be considered to address issues at both the System and Local level depending on the situation.

c) Section 4.1 of the Guidehouse report describes The NPS BCA Handbook developed by Con Edison. The Handbook presents applicable BCA methodologies and describes how to calculate individual benefits and costs for NPS projects as well as how to apply the necessary cost-effectiveness tests for performing a complete BCA for NPS projects (detailed in Section 4 of the Handbook). The Handbook provides several generic BCA examples for non-pipeline solutions such as RNG (Section 4.6.1 of Handbook, greater detail in previous version from 2018), local gas storage (Section 5.4 of Handbook), including CNG and LNG, environmentally advantageous fuel switching (Section 5.3 of Handbook), and DR (Section 5.2 of Handbook). The current Gas Planning proceeding may result in changes to the IRP processes in New York State.

Con Edison "Proposal for Use of a Framework to Pursue Non-Pipeline Alternatives to Defer or Eliminate Capital Investment in Certain Traditional Natural Gas Distribution Infrastructure." Case 19-G-0066 September 15, 2020
http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={2CCB0D2A-183A-483B-9F56-87878E0471FA}

The web link below contains the original BCA Handbook.

Con Edison. “Interim Benefit Cost Analysis Handbook for Non-Pipeline Solutions.“ Case 17-G-0606. September 28, 2018.
http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={812C5EFA-FA1F-43D8-BC2A-83B542EC70EF}

4.6 Energy Probe 6

Reference: OEB Staff/ Guidehouse Report, Page 34

Preamble:

“The [EGI] proposal mentions certain aspects of natural gas planning where the OEB’s policies, rules or guidelines currently exist. Enbridge Gas’s IRP proposal does not propose specific changes to these policies, rules or guidelines, but Guidehouse believes that these may potentially be impacted by the implementation of an IRP framework.”

Question(s):

a) Please discuss/ provide an opinion on what is “missing” from EGI’s IRP Proposal, for example Upstream/Storage Options, Downstream Local alternatives such as fuel switching and DSM peak load shifting.

b) Please list the additional features that Guidehouse believes will bring the EGI proposal to “state of the art”. e.g. broader consideration of options, new BCA, evaluation of electricity solutions etc.

Guidehouse Response:

(a) Guidehouse's statement "Enbridge Gas’s IRP proposal does not propose specific changes to these policies, rules or guidelines" is specifically pointing out that there are multiple rules/guidelines that are not explicitly mentioned in the EGI report. It was not a reference to the Enbridge proposal not being state of the art.

On Page 34 (Section 5.1.4) of the Guidehouse report, we detail four specific areas of natural gas planning that may be impacted by the implementation of an IRP framework:

- **Natural Gas Facilities Applications Guidance and Filing Requirements** - Leave to Construct is granted for traditional facility projects. Guidehouse believes that the set of guidelines will need to incorporate the existence of IRPA as an alternative to facility expansions.
- **DSM Frameworks** – “It is the OEB’s expectation that the DSM framework consultation will monitor the IRP framework proceeding.”81 Enbridge Gas believes that it is important to keep a distinction between IRP activities and traditional DSM programming. As such, this proposal is intended to “address IRP planning and its full complement of IRPAs separately from DSM.”

- **Rate Applications** – Enbridge Gas indicated that applications for approval to recover costs of IRPAs may done through a traditional rate application.
- **Distributor Gas Supply Plans** – Enbridge Gas indicated that "When evaluating gas supply alternatives, Enbridge Gas balances its gas supply planning principles of reliability, flexibility, diversity and cost-effectiveness, against an alternative's ability to provide the requisite capacity".

(b) Guidehouse has not developed a set of characteristics that would constitute a 'state of the art' IRP proposal as this was outside our scope of work.

4.7 Energy Probe 7

Reference: OEB Staff/ Guidehouse Report, Page 39

Preamble:

Enbridge Gas does not explicitly indicate whether it would adopt the second and third stages of the E.B.O. 134 methodology in its assessment of IRPAs.

Question(s):

a) Please provide Guidehouse's opinion on the E.B.O. 134 3 stage test and what modifications are required.

b) Please provide Guidehouse's opinion on E.B.O. 188 and modifications required.

Guidehouse Response:

(a) Please refer to Guidehouse's response to Enbridge Gas 4.1

(b) The tests to be used for comparing gas supply-side alternatives are based on a discounted cash flow analysis (DCF) set in E.B.O. 134, with further guidance for supply-side alternatives provided in E.B.O. 188. Gas DSM programs are compared based on cost-effectiveness tests, applying the Total Resource Cost Test and the Program Administrator Cost Test. The DCF for supply-side alternatives and the cost-effectiveness tests chosen for DSM were not selected specifically to align with each other. We have not investigated what the appropriate tests should be for comparing facility and non-facility alternatives as this was out of scope. We have indicated that developing a BCA Handbook with the appropriate tests and how to apply them may be of value. Should the OEB determine to develop a BCA Handbook, the content should be developed by the OEB with input from key stakeholders.

4.8 Energy Probe 8

Reference: OEB Staff/ Guidehouse Report, Page 48

Preamble:

Enbridge Gas indicates a number of requirements to ensure IRPAs function as planned, including implementation of AMI and annual monitoring and reporting. Enbridge Gas states that ratepayers should bear the costs of the successes or failures of IRPA.

Question(s):

a) In New York State how are risks, rewards and penalties related to an IRP assigned?

b) Please provide an opinion as to how this should be addressed in the new OEB IRP Framework. Please address external and internal factors and the sharing between the utility and ratepayers, including Earnings Adjustment Mechanisms and Performance Incentives.

Guidehouse Response:

a) Section 5.1.9 of the Guidehouse report summarizes how New York State utilities have incorporated (or are proposing to incorporate) incentives and EAMs in gas IRP. Described in Section 5.1.8 in the Guidehouse report, the risks, rewards, and penalties for gas IRP are still under development in New York State, and likely will be discussed in the DPS whitepaper expected in the near future.

b) In Recommendations 5 of the Guidehouse report, we provide a recommendation to establish a common understanding for how benefits, costs, risks, and other parameters will be shared by shareholders, ratepayers, and other parties. In Recommendations 6 of the Guidehouse report, we recommend that EAMs or other incentives should be considered to achieve specific goals, if the stakeholders feel that it would lead to better outcomes. Some aspects of these topics may require further discussion through a consultation process.

4.9 Energy Probe 9

Reference: OEB Staff/ Guidehouse Report, Page 53, Table 5

Question(s):

Please provide a short list of the critical differences in the New York State/ConEd and Enbridge Gas service territories that are important determinants for the appropriate form and framework for IRP in Ontario.

Guidehouse Response:

Please refer to Guidehouse’s response to 1-BOMA-15.

5.0 Green Energy Coalition

The section contains the interrogatories submitted by Green Energy Coalition and Guidehouse's responses.

5.1 Green Energy Coalition 1

Preamble:

On p. 1 of its report, Guidehouse references a New York DPS staff white paper expected to be published by November 16, 2020.

Question(s):

Was that report published? If so, please provide a copy.

Guidehouse Response:

See 1-BOMA-3

5.2 Green Energy Coalition 2

Preamble:

On p. 2 of its report, Guidehouse states that "non-traditional supply-side and demand-side solutions carry greater uncertainty compared to traditional infrastructure projects."

Question(s):

a) What is the nature of the uncertainty to which Guidehouse is referring? Is it principally about "reliability uncertainty" – i.e., whether the solutions can meet the reliability need?

b) Would Guidehouse agree that demand-side solutions can also reduce risk of unnecessarily building new infrastructure that may not have been needed by allowing load forecasts to be refined during the time that supply-side investments are being deferred and because demand-side solutions can often be ramped up or down to conform to needs as forecasts evolve? If not, why not?

c) Would Guidehouse agree that some demand-side solutions, such as energy efficiency and electrification, can be better aligned with climate policy goals than gas infrastructure investment and therefore reduce risk of higher costs of compliance with future environmental regulations?

Guidehouse Response:

a) Guidehouse's analysis suggests that non-traditional supply-side and demand-side solutions carry greater uncertainty, which includes different dimensions of reliability uncertainty. Some solutions, such as voluntary gas demand response with annual enrollment, carries a higher reliability uncertainty because it is dependent on customer behavior on peak days and there is limited experience. Within the Joint LDCs' letter within the Future Gas Planning proceeding, the

group proposed a framework to assess derating factors to solutions based on Deliverability Reliability and Recontracting / Renewal Reliability when determining final capacity forecasts. To address these issues, utilities deploy a broad mix of solutions, but are cognizant of and adjust for these different levels of certainty. Section 5.1.8 of the Guidehouse report identifies risk with relying on unconventional approaches to address future system capacity needs.

b) Guidehouse has not conducted analysis to either agree or disagree with this statement. On Page 49 of the Guidehouse report, we describe risks both for and against replacing traditional infrastructure with IRP solutions: "Our interview with National Grid highlighted the risk of making traditional infrastructure investments that may not be fully utilized in the future due to IRP solutions, as well as the risk of not making those infrastructure investments today and expecting IRP solutions to materialize in future years." The topic of risk is discussed throughout this section of the report.

c) Guidehouse has not conducted analysis to either agree or disagree with this statement. Energy efficiency will typically align with most climate policy goals. Analyzing whether electrification of end-use technologies aligns with specific climate policy goals depends on a number of factors including technology availability, electrical generation mix, impacts on electrical infrastructure, etc.

5.3 Green Energy Coalition 3

Preamble:

On p. 2 of its report, Guidehouse states that “IRP programs can take significant time to develop, recruit, launch and scale and may not align with the timelines of gas planning or engineering departments.

Question(s):

a. Is Guidehouse stating such non-alignment is relative to the timelines that gas planning or engineering departments have traditionally used? If not, please explain.

b. Would Guidehouse agree that such misalignment can often be addressed by lengthening the lead time for which gas planning or engineering departments perform forecasts of system needs? If not, why not

Guidehouse Response:

a) Yes, Guidehouse's research found that the timelines for gas planning or engineering departments to perform emergency, short-term, and longer-term projects today may or may not align with the timeline necessary to develop, recruit, launch, and scale IRP programs to substitute for the original infrastructure project.

b) Guidehouse has not independently analyzed the appropriate lead time for gas planning or engineering departments to incorporate IRP programs. Section 5.1.2.1 of the Guidehouse report summarizes proposals by Enbridge Gas, Con Edison, and the Joint LDCs of New York State regarding timelines for activities relating to gas planning, forecasting, engineering, and evaluation of NPA opportunities.

5.4 Green Energy Coalition 4

Preamble:

On pp. 3-4 of its Report, Guidehouse states that Enbridge's proposed Discounted Cash Flow analysis approach to comparing IRPAs with traditional infrastructure investments are based on OEB guidance in E.B.O. 134 "and that the environment for cost benefit analysis has evolved significantly since this methodology was originally developed."

Question(s):

Is it Guidehouse's view that Enbridge's proposed DCF approach is inconsistent with North American industry best practices on cost-effectiveness analysis? If not, why not?

Guidehouse Response:

Guidehouse has not stated that E.B.O. 134 is inconsistent with North American best practices. Guidehouse recommends that E.B.O. 134 be reviewed in relation to IRPA. Please refer to Guidehouse's response to Enbridge Gas 4.1 for more details.

5.5 Green Energy Coalition 5

Preamble:

On p. 4 of its report, Guidehouse states that ConEd has performed demand-side IRP programs both with and without gas AMI, but that performing without AMI "carries additional challenges and costs."

Question(s):

Has Guidehouse compared the additional costs of IRPA's without gas AMI to the cost of AMI deployment? If so, please document and explain the results of such comparisons.

Guidehouse Response:

No, Guidehouse has not performed such an analysis.

5.6 Green Energy Coalition 6

Preamble:

On p. 4 of its report, Guidehouse recommends that the OEB develop a BCA handbook for gas IRP or a "supplemental guide to the approach outlined in E.B.O. 134…"

Question(s):

a. Does Guidehouse consider the New York BCA framework – not just the existence of a detailed handbook, but the selection and design of the Societal Cost Test as the primary cost-effectiveness test that is to be used – to be industry best practice today for consideration of gas IRPAs? If not, why not?

b. Does Guidehouse have an opinion on the appropriateness of E.B.O. 134 as the primary framework for cost-effectiveness assessment of IRPAs? If so, what is that opinion and what is it based upon?

c. Would Guidehouse agree that at least some of the resources that could be deployed as part of an IRPA – including geotargeted energy efficiency and electrification – have benefits that would not be captured in the E.B.O. 134 analysis framework? If not, why not?

Guidehouse Response:

a) Guidehouse believes that a BCA framework is a tested and valuable tool for considering IRPAs, and has classified it as a best practice from our review of New York State (as described on Page 1).

Con Edison's Updated Gas BCA Handbook describes the following BCA tests:

> The BCA Order states that the Societal Cost Test (SCT), Utility Cost Test (UCT), and the Rate Impact Measure (RIM) make up the relevant cost-effectiveness tests to be used in the BCA. …The BCA Order positions the SCT as the primary cost-effectiveness measure because it evaluates impact on society as a whole

With regard to the selection of the SCT in New York State, Guidehouse believes it is difficult to draw firm conclusions for Ontario from the initial pilots and proposed frameworks in New York State, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding cost-effectiveness tests within a BCA Handbook for Natural Gas IRP in Ontario. The current Gas Planning proceeding may result in changes to the processes in New York State, including the BCA framework The selection of the SCT as the primary BCA test for the NPA Framework likely follows the earlier selection for the Non-Wires-Alternatives BCA Framework.[15]

> "The Commission adopts SCT as the primary measure of cost effectiveness under the BCA Framework. The SCT recognizes the impacts of a DER or other measure on society as a whole, which is the proper valuation. New York's clean energy goals are set in recognition of the effects of pollutants and climate change on society as a whole, and only the SCT would both properly reflect those policies and create a framework for meeting those goals."
>
> "The UCT and RIM tests would be conducted, but would serve in a subsidiary role to the SCT test and would be performed only for the purpose of arriving at a preliminary assessment of the impact on utility costs and ratepayer bills of measures that pass the

[15] New York State PSC. CASE 14-M-0101 - Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision. ORDER ESTABLISHING THE BENEFIT COST ANALYSIS FRAMEWORK January 21, 2016. http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=14-m-0101

SCT analysis. As a result, the role of these tests is to set indicators that a more detailed analysis is necessary."

b) Please refer to Enbridge Gas 4.1 for more details.

c) Guidehouse agrees that certain elements that are considered in cost effectiveness analyses in New York State for IRPA are not explicitly included in E.B.O. 134.

5.7 Green Energy Coalition 7

Preamble:

On p. 15 of its report, Guidehouse makes reference to a September 2020 update to the New York NPS BCA handbook.

Question(s):

Please provide a full copy of that updated version.

Guidehouse Response:

Footnote 40 to Table 2 in the Guidehouse report includes the citation. The Updated BCA Handbook is an appendix within the proposal document.

Con Edison "Proposal for Use of a Framework to Pursue Non-Pipeline Alternatives to Defer or Eliminate Capital Investment in Certain Traditional Natural Gas Distribution Infrastructure." Case 19-G-0066 September 15, 2020
http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={2CCB0D2A-183A-483B-9F56-87878E0471FA}

5.8 Green Energy Coalition 8

Preamble:

On pp. 15-16 of its report, Tables 1 and 2, Guidehouse summarizes the list of NPS benefits and costs included in the New York BCA Handbook.

Question(s):

a. Please confirm that the primary cost-effectiveness test used in New York to assess nonpipe solutions is the Societal Cost Test (SCT), per Table 3 on p. 41 of Guidehouse's report. If not confirmed, please explain.

b. Does the BCA handbook provide guidance on the application of both the primary Societal Cost Test as well as other secondary tests? If so, what are those secondary tests?

c. Please confirm that the listed benefits and costs in Tables 1 and 2 are not all included in all of the cost-effectiveness tests described in the handbook – i.e that some of the benefits and/or

costs are only included in some of the tests (for e.g., Lost Utility Revenue would not be included in the BCA SCT). If not confirmed, please explain.

d. Please provide the same tables of benefits and costs, but for just the primary cost effectiveness test – the Societal Cost Test – used in New York.

Guidehouse Response:

a) Yes, the Updated BCA Handbook (September 15th, 2020) states on Page 8 "The BCA Order positions the SCT as the primary cost-effectiveness measure because it evaluates impact on society as a whole." The full document can be found at the web link below.

Con Edison "Proposal for Use of a Framework to Pursue Non-Pipeline Alternatives to Defer or Eliminate Capital Investment in Certain Traditional Natural Gas Distribution Infrastructure." Case 19-G-0066 September 15, 2020
http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={2CCB0D2A-183A-483B-9F56-87878E0471FA}

b) Yes, the Updated BCA Handbook (September 15th, 2020) states on Page 8 "The BCA Order states that the Societal Cost Test (SCT), Utility Cost Test (UCT), and the Rate Impact Measure (RIM) make up the relevant cost-effectiveness tests to be used in the BCA." Later on Page 8, "The role of the UCT and RIM is to assess the preliminary impact on utility costs and customer bills from the projects that pass the SCT."

c) Correct, Table 3-1 in the Updated BCA Handbook (September 15th, 2020) provides assignments for which benefits and costs should be applied to each test.

d) See response to c).

5.9 Green Energy Coalition 9

Preamble:

On p. 16 of its report, Guidehouse states that ConEd's gross efficiency savings "represent approximately 0.7% of 2019 full service firm sales."

Question(s):

Please provide the equivalent value in terms of net savings as a percent of sales.

Guidehouse Response:

On Page 16 of the Guidehouse report, we did not provide Con Edison's gross savings, rather the report described the PSC's decision to raise Con Edison's annual savings goals to 606,924 gross MMBtu/yr. (Dth/yr.). Guidehouse then estimated that this annual gross savings goal would represent approximately 0.7% of 2019 full service firm sales, based on values on page 24 of Con Edison's 2019 Annual Report. Gross savings are the regulatory focus of New York's energy efficiency programs and Guidehouse did not estimate the realized gross or net savings in the report.

5.10 Green Energy Coalition 10

Preamble:

On pp. 16-17 of its report, Guidehouse estimates that Enbridge's 2019 DSM programs produced gross savings ranging of 0.5% to 0.8% of its 2014-2018 sales in the EGD rate zone and 1.2% to 1.9% for Union rate zones.

Question(s):

a. Please provide the specific values for the numerator (gross savings) and denominator (sales) used to compute these percentages.

b. Please provide the specific page references for the specific documents referenced for the numerator and denominator values provided in part "a" of this question.

c. Please provide the comparable values in terms of net savings (rather than gross savings), including page references for the net savings estimates.

Guidehouse Response:

a) Guidehouse did not independently calculate these values, and cited the values from Enbridge Gas Inc. "DRAFT 2019 Demand Side Management Annual Report." May 29, 2020. https://www.oeb.ca/sites/default/files/EGI-2019-Draft-DSM-Annual-Report-20200529.pdf

b) The values are provided in Table 3.10 on page 18 and Table 4.10 on page 25.

c) Tables 3.10 and 4.10 provide both gross and net savings.

6.0 Pollution Probe

The section contains the interrogatories submitted by Pollution Probe and Guidehouse's responses.

6.1 Pollution Probe 1

Question(s):

a) Please rank the following IRP approaches from best to worst from a consumer, policy and cost-effectiveness perspective, and explain the ranking.

- Siloed energy planning by fuel type (e.g. natural gas, electricity, renewables, etc.)
- Planning by fuel type with a mandated consideration of benefits and costs against other fuel options.
- Fully fuel-agnostic energy planning

b) If an energy option other than a new natural gas pipeline is the best IRP alternative resulting from an assessment (e.g. geothermal), please explain the role of the regulator and utility to ensure that the best option is implemented?

c) From a customer centric perspective, please explain the benefits and disadvantages of developing an IRP approach based on a siloed fuel (e.g. natural gas) vs. broader energy needs for consumers in Ontario.

d) If an energy option other than a new natural gas pipeline is the best IRP alternative resulting from an assessment (e.g. geothermal), what is the role of the OEB or a utility to ensure that the best option is implemented?

e) Is it Guidehouse's position that effective IRP can be done in Ontario at the utility level, or that it needs to be done at the system level and applied consistently to utilities? Please explain your answer.

Guidehouse Response:

a) Guidehouse did not do an analysis of how IRP approaches or alternatives should be ranked and therefore these questions are out of scope for our engagement.

b) Guidehouse did not investigate the specific roles that either the utility or the regulator should play. Guidehouse acknowledges that there may be challenges with implementing alternatives to gas infrastructure if the solutions are not within the purview of the regulated utility, for example, electric heat pumps replacing a pipeline project for a gas-only utility. The New York State utilities that have pursued fuel-switching alternatives to date supply both natural gas and electricity.

c) Guidehouse did not investigate advantages or disadvantages from the customer perspective of a siloed fuel approach. However, based on our experience, we are aware that customers may prefer to look at their energy usage holistically and seek opportunities to reduce use accordingly.

d) Guidehouse did not investigate the role that OEB or a utility should play to ensure that the best option is implemented. We have recommended consideration of developing a BCA Handbook and a consultation process regarding its development.

e) The experience of New York State gas utilities suggests that gas IRP solutions can be done at the utility level and that there may be additional benefits relating to coordination and consistency if applied at a system level.

6.2 Pollution Probe 2

Reference: Guidehouse Report Page 5

Preamble:

"The OEB should work to establish a common understanding amongst stakeholders for the gas IRP process and how benefits, costs, risks, and other parameters will be shared by shareholders, ratepayers, and other parties."

Question(s):

a) Please elaborate on how benefits, costs, risks, and other parameters should be shared by shareholders, ratepayers, and other parties, particularly in a monopoly utility environment such as Ontario.

b) In cases where poor long-term IRP decisions are made, who should bear the risks of stranded utility assets?

c) Is effective IRP typically expected as a condition of allowing a utility to have monopoly service rights? Please explain the answer.

d) It has been suggested that Ontario utilities have a bias toward capital investment (above other potential solutions) since that is how it makes a sustainable shareholder return. What requirements does Guidehouse recommend to keep that bias from restricting effective IRP?

Guidehouse Response:

a) Guidehouse recommended "The OEB should work to establish a common understanding amongst stakeholders for the gas IRP process and how benefits, costs, risks, and other parameters will be shared by shareholders, ratepayers, and other parties." Guidehouse did not provide specific recommendations for how the benefits, costs, risks, and other parameters ***should*** be shared. How the benefits, costs, risks, and other parameters are to be allocated to shareholders and ratepayers is still under development in New York State. We have recommended consideration of developing a BCA Handbook and a consultation process regarding its development.

b) Section 5.1.8 of the Guidehouse report summarizes the current proposals around risk for gas IRP. Guidehouse did not investigate this specific question within the research project.

c) Guidehouse did not investigate this specific question within the research project.

d) Section 5.1.7 of the Guidehouse report summarizes the current proposals around recovery of the costs for gas IRP. Guidehouse did not investigate this specific question within the research project.

6.3 Pollution Probe 3

References / Preamble:

[Guidehouse Report, Section 3] – "New York City and other local governments throughout the state have their own commitments, including New York City's carbon neutrality goal of 2050. New York State leaders have not determined the exact pathway to reach these goals, but are currently evaluating different economy-wide strategies through the CLCPA Climate Action Council and Advisory Panels"

[EB-2020-0136, Reply Argument of Enbridge Gas, November 17, 2020, Page 9 of 23] -

"For current planning purposes, the Company cannot assume that the emissions and

gas consumption reduction targets set out in the Made in Ontario Environment Plan

(MOEP) or the City of Toronto's TransformTO initiative will be met."

[PollutionProbe_IR_Appendix A-Toronto Plan_20210112]

[PollutionProbe_IR_Appendix B-Ottawa Plan_20210112]

Question(s):

a) Based on best practices, what is the best manner to ensure alignment between utility IRP planning assumptions and government energy and emissions planning and policy?

b) Please provide any relevant recommendations on how the OEB could bridge the gaps between long-term utility planning and government planning and policy assumptions.

c) Is Guidehouse aware of tools that have been used to engage utilities to actively pursue effective IRP activities?

d) Since natural gas IRP frameworks are fairly new, what frequency would Guidehouse recommend for a review to ensure they work effectively and to make adjustments as needed?

Guidehouse Response:

a) Guidehouse believes it is difficult to draw firm conclusions for Ontario from initial pilots and proposed frameworks in New York State, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding how best to align utility planning assumptions and government energy and emissions planning and policy assumptions for Natural Gas IRP in Ontario.

Guidehouse has determined that these questions are out of scope for our engagement.

b) Recommendation #4 of the Guidehouse report states:

> "It is recognized that the OEB considers provincial policy in its decision-making and is guided by statutory objectives (including a statutory objective related to natural gas to promote energy conservation and energy efficiency in accordance with the policies of the Government of Ontario, including having regard to the consumer's economic circumstances). To the extent that the OEB is providing direction that may influence or be impacted by provincial environmental and policy goals, the OEB should clearly define their underlying assumptions regarding applicable provincial policy goals. For example, since future gas demand scenarios are likely to be impacted by energy and environmental policy, clearly defining underlying assumptions relating to provincial climate change policies and decarbonization targets will help to better inform gas network infrastructure decisions going forward."

c) the Guidehouse report summarizes natural gas demand response and other IRP-related programs that New York State utilities have developed to date, as well as the BCA Handbooks, and proposed frameworks to consider natural gas IRP in the future.

d) Guidehouse believes it is difficult to draw firm conclusions for Ontario from initial pilots and proposed frameworks in New York State, particularly when applying the findings across jurisdictions. Therefore, Guidehouse did not provide specific recommendations regarding review frequency for Natural Gas IRP in Ontario.

6.4 Pollution Probe 4

References:

[Guidehouse Report, Section 4]

[PollutionProbe_IR_Appendix A-Toronto Plan_20210112]

[PollutionProbe_IR_Appendix B-Ottawa Plan_20210112]

Question(s):

a) Section 4 of the report highlights several pilots undertaken by utilities related to IRP. Does Guidehouse concur that with the GEC/ED recommendation that pilots should be undertaken in Ontario starting in 2021? If no, please explain. If yes, please indicate the highest value pilots that should be conducted first.

b) If two pilots were done, would it make sense to conduct one on an existing pipeline that needs to be replaced and one for a project to feed new customers? If not, why not and what is recommended.

c) Given that Enbridge will file its next generation DSM Plan in 2021, what elements should be included in that plan to enable any pilots (e.g. budget)?

d) Municipalities across Ontario have developed energy and emissions plans, many with targets to reach net zero emissions by 2050 (illustrative examples are provided in the appendix references above). Please describe how these complimentary plans should be incorporated into the Ontario gas IRP Framework to ensure the greatest consumer and policy value.

e) Does 'modernized gas planning process' require consideration and/or alignment with emissions policies over the life of proposed assets (i.e. 40+ years). If not, why not.

Guidehouse Response: a) b) Section 4 and Appendix C of the Guidehouse report describe various natural gas DR, non-pipeline solutions, and other related programs proposed by natural gas utilities in New York State. Guidehouse agrees that pilots would be valuable to test measures and concepts that could contribute to future planning and implementation efforts, but does not comment on the specific timeline or selection of pilots.

c) This question is out of scope for Guidehouse.

d) Section 5.1.2.2 of the Guidehouse report describes the stakeholder consultation process in New York State and Ontario. Municipalities are relevant stakeholders who often participate in utility proceedings. Guidehouse does not provide an opinion or recommendation on how municipality plans should be incorporated into an Ontario gas IRP framework.

e) See response to Enbridge Gas 5.1, and in particular, the language regarding "policy-aligned gas planning" within the Order for this proceeding.

6.5 Pollution Probe 5

Reference: Guidehouse Report, Section 5

Preamble:

The report indicates that “The first step in defining an appropriate process for IRP is to identify what type of system needs / proposed facility projects require any consideration of potential IRP alternatives”

Question(s):

a) Please explain why assessing consumer energy needs is not a required step before the steps identified above.

b) Please confirm that a broader IRP Utility Plan (i.e. broader system needs assessment) should precede any IRPA for a specific project. If not correct, please explain.

c) Does Guidehouse agree that the following steps are appropriate for natural gas IRP. If not, please explain what should be different. (see pdf for table)

d) Please explain what elements (if any) of Figure 2 (NPA Consideration Process from Con Edison NPA Framework) are consistent (or not) with Figure 1. IRP Integration at Enbridge Gas.

Guidehouse Response:

a) Guidehouse is providing a summary of the IRP integration process at Enbridge Gas; Guidehouse is not making a recommendation on an appropriate process for IRP.

b) Guidehouse does not provide an opinion or specific recommendation for whether a broader system needs assessment ***should*** precede any IRPA for any or all projects. Section 5.1.2.1 summarizes the proposed scope and timing for the consideration of IRP or IRPA (e.g., non-pipeline alternatives) for both Ontario and New York State. Both models proposed in Figures 1 and 2 (Pages 27, 30) include a needs assessment as an early stage.

c) Providing an opinion or a specific recommendation is outside of the scope

d) It is Guidehouse’s opinion that the elements of Enbridge Gas’ proposed process (Figure 1 on Page 27) conceptually align with Con Edison’s proposed NPA Framework process (Figure 2 on Page 30). The elements within the two processes are not a one-to-one match, with some overlap expected due to different number of steps. The table below highlights Guidehouse’s opinion for the alignment between the two processes.

Enbridge Gas (Figure 1)		Con Edison (Figure 2)
Generic Planning	Forecasting & Planning	Identify System Needs
	Need Identification	Identify System Needs
	Baseline Facility Setting	NPA Suitability / Traditional Solution
IRPA Specific Planning	IRPA Screening	NPA Suitability / Traditional Solution
	IRPA Evaluation	NPA Opportunity Identification, NPA Evaluation & Development
	Project Development	NPA Sourcing Development, NPA Evaluation & Development
	Project Implementation	NPA Procurement & Implementation

Enbridge Gas (Figure 1)	Con Edison (Figure 2)
Monitoring & Reporting	NPA Procurement & Implementation

Despite the experiences with early pilots and programs, the landscape in New York State is still under development and the experiences to date may or may not be sufficient for the framework moving forward. The DPS staff whitepaper is expected to outline a proposal to modernize the gas system planning, and may result in changes to the IRP processes in New York State. The proposal will likely open further discussion with stakeholders before finalizing the framework for New York State.

6.6 Pollution Probe 6

Reference: Guidehouse Report, Section 5

Preamble:

Section 5.1.4 of the report indicates that Guidehouse believes that the following OEB policies, rules, or guidelines may be impacted by the implementation of an IRP framework.

• Natural Gas Facilities Applications Guidance and Filing

• DSM Frameworks

• Rate Applications

• Distributor Gas Supply Plans

Question(s):

a) Please indicate the process and timing that Guidehouse believes would be prudent for making updates to impacted OEB policies, rules, or guidelines resulting from the development and implementation of the IRP framework.

b) The OEB Environmental Guidelines for Location, Construction and Operation of Hydrocarbon Pipelines in Ontario, 7th Edition, 2016 (“Environmental Guidelines) requires consideration of all relevant policies, including that air emissions and their environmental impacts should be compared to all local, provincial and federal regulations, policies and guidelines. Given this is a principle OEB Guidance document for infrastructure projects, should IRP updates be made to OEB Environmental Guidelines or should they be done separately in the IRP Framework? Please explain you answer.

c) OEB requirements for Enbridge’s Gas Supply Plan require consideration of policy and inclusion of specific metrics in Enbridge’s scorecard. What types of IRP policy metrics and targets would be appropriate for the scorecard to ensure alignment with an IRP Framework?

d) Customers and the natural gas system receive a benefit due to access of curtailment. Curtailment is rarely used in Ontario and could provide a more strategic tool. Does Guidehouse agree and how should this be leveraged in the IRP Framework?

e) It is often difficult to ensure consideration of all relevant OEB policies, rules, or guidelines during infrastructure proceedings and this could be more difficult when properly considering all

relevant IRP options. Does Guidehouse have any advice on how to deal with this challenge from a structural or procedural perspective?

f) In a recent Leave to Construct application (EB-2020-0192 London Line Replacement) Enbridge conducted a DSM option assessment, but used only two years of DSM benefits rather than the full measure life (as required in the OEB DSM Framework) to do the cost-benefit comparison against the preferred pipeline option. It appears that criteria outlined E.B.O. 134 and E.B.O. 188 alone are insufficient to ensure that proper accounting of costs and benefits (e.g. DSM or other IRP options) is conducted. Please specify what other consideration or controls (other than just E.B.O. 134 and E.B.O. 188) the OEB would need to put in place to ensure that correct calculations are used for IRP analysis.

Guidehouse Response:

(a) Section 5.1.4. is a summary of Enbridge's statements from its IRP proposal. Guidehouse's opinion is limited to the statement that the IRP framework will likely impact the stated policies, rules and guidelines. Guidehouse does not offer an opinion on timing and process for the update of the quoted rules, other than this matter should be coordinated between Enbridge, the OEB, and all other relevant stakeholders.

(b) On Page 34 of the Guidehouse report, we note that that several OEB policies, rules, or guidelines may potentially be impacted by the implementation of an IRP framework, including:

> "Natural Gas Facilities Applications Guidance and Filing Requirements - Leave to Construct is granted for traditional facility projects. Guidehouse believes that the set of guidelines will need to incorporate the existence of IRPA as an alternative to facility expansions."

(c) This question is out of scope for Guidehouse.

(d) Guidehouse has described the use of interruptible rates / curtailment / non-firm rates in Ontario and New York State throughout the report (Page 8, 20, 22, others). Guidehouse did not conduct further evaluation of the potential of interruptible rates / curtailment / non-firm rates to support IRP goals, and does not provide any opinion or recommendation whether the strategy should be leveraged in the IRP Framework.

(e) Sections 7 and 8 of the Guidehouse report summarize industry best practices for natural gas IRP, and recommendations for OEB to consider when evaluating opportunities to implement natural gas IRP in Ontario

(f) We have recommended consideration of developing a BCA Handbook and a consultation process regarding its development.

6.7 Pollution Probe 7

References / Preamble:

[Guidehouse Report Section 5] - Guidehouse comments in the ICF major finding that "Based on a review of the state of the industry, there is no relevant precedent for, or evidence of natural gas utilities consideration of the impact of broad-based DSM, geotargeted DSM or dedicated

DR programs impact on facilities planning. Further, while electric utilities have used DSM and DR programs to reduce the need for new generating capacity and transmission capacity for many years, there is only relatively limited experience deferring distribution system infrastructure."

[PollutionProbe_IR_Appendix C-BCUC Guidelines_20210112]

[PollutionProbe_IR_Appendix D-ConEd Interim BCA Handbook_20210112]

Question(s):

a) Recent IESO auctions included energy efficiency and other Distributed Energy Resources (DERs) to enable a greater range of IRP solutions. The York Region auction alone exceeded the desired response by 340% (34MW vs. 10MW target). Does Guidehouse agree that these types of examples show capacity to meet Ontario's energy needs through non-traditional IRP solutions? If not, why not.

b) Pollution Probe has provided two illustrative examples above of specific natural gas IRP related initiatives. One from BCUC started almost 20 years ago and has been matured through regulatory process and effort of the Canadian gas utility (Fortis). The second example indicates an interim gas utility handbook that was developed in 2017 and updated based on stakeholder feedback. Additional transferable experience is also available from entities such as IESO. Do you agree with the major finding by ICF that there are little to no best practices available to inform gas IRP in Ontario? Please explain your answer.

c) If Guidehouse agrees that there are limited precedents to draw from, what is the best approach to ensure that the IRP Framework is robust enough to meet Ontario's energy needs for the future?

Guidehouse Response:

a) An examination of the efficacy of electric-related DSM and DR programs for applicability to Gas IRP in Ontario is outside of the Guidehouse scope

b) Examination of approaches to Gas IRP outside of NY is out of scope

c) Some aspects of these topics may require further discussion through a consultation process.

6.8 Pollution Probe 8

Reference / Preamble:

Section 5.1.6 indicates that "Renewable natural gas (RNG) could be used in place of conventional natural gas for any CNG project, thus rendering the injection greenhouse gas emissions ("GHG") neutral."

Question(s):

a) Currently, Enbridge only has a voluntary RNG program (approved in EB-2020-0066) where customers can contribute $2 per month in support of RNG. Customers, including municipalities have a significant interest in developing or accessing RNG as part of their energy and emissions

goals. What would need to change to enable RNG to become a meaningful part of the IRP solution in Ontario?

Guidehouse Response:

Guidehouse has determined that these questions are out of scope for our engagement.

6.9 Pollution Probe 9

Note – there were two questions labelled #9 in Pollution Probe's interrogatories. We have answered them in order as 9 and 9s.

References:

[Guidehouse Report Section 5]

[PollutionProbe_IR_Appendix A-Toronto Plan_20210112]

[PollutionProbe_IR_Appendix B-Ottawa Plan_20210112]

Question(s):

a) What cost-effectiveness test does Guidehouse believe is most appropriate for conducting IRP option analysis?

b) Municipalities across Ontario have developed energy and emissions plan (two illustrative examples are referenced above) which include IRP related goals and actions outside of activities planned by Enbridge. How should the IRP Framework consider these other activities to ensure that the overall energy and emission benefits for Ontario consumers are optimized?

c) It has been difficult for the OEB to compare natural gas infrastructure proposals against other IRP options given the lack of comparable information. What is the best way to overcome this barrier?

d) Does Guidehouse agree that O&M costs for IRPAs be capitalized? If not, why not.

Guidehouse Response:

a) See response for Green Energy Coalition 6

b) See response for Pollution Probe 4, d)

c) Guidehouse notes that this area of inquiry is outside the scope of work. Guidehouse has made the recommendation "The OEB should encourage the development of a comprehensive Benefit Cost Analysis (BCA) Handbook for Gas IRP, or supplemental guide to the approach outlined in E.B.O. 134 , that evaluates infrastructure, supply-side, and demand-side solutions with a similar set of assumptions for costs and benefits. Stakeholders can provide comment on the proposed BCA Handbook / supplemental guide and build an understanding of the costs, benefits, and risks for different IRP options, and allow for a more transparent IRP process."

d) Guidehouse does not provide an opinion or recommendation on this topic. Section 5.1.7 describes the proposal by Enbridge Gas to capitalize O&M costs for IRPAs and its differences

from the Cost of Service Applications, as well as cost recovery approaches in New York State, including Con Ed's NPA Framework proposal.

6.10 Pollution Probe 9s

Note – there were two questions labelled #9 in Pollution Probe's interrogatories. We have answered them in order as 9 and 9s.

Reference: [Guidehouse Report Section 6] - "It is the OEB's expectation that the DSM framework consultation will monitor the IRP framework proceeding".

Preamble:

Given that the OEB has now cancelled the next generation DSM Framework Consultation (EB-2019-0003), what DSM elements will need to be addressed in the IRP proceeding to ensure consistency and alignment?

Question(s):

Given that the OEB has now cancelled the next generation DSM Framework Consultation (EB-2019-0003), what DSM elements will need to be addressed in the IRP proceeding to ensure consistency and alignment?

Guidehouse Response:

Guidehouse notes that this area of inquiry is outside the scope of work. In a December 1st, 2020 letter[16], OEB referenced the IRP proceeding in connection with the post-2020 DSM Framework:

> "DSM can avoid or defer infrastructure passively (by reducing overall natural gas use and infrastructure needs) or actively (by targeting specific infrastructure projects). The OEB has an ongoing hearing that is considering Enbridge Gas's proposed Integrated Resource Planning framework (EB-2020-0091). As part of that proceeding, the OEB will decide on the relationship between the IRP framework and future utility DSM plans and the extent to which Enbridge Gas will be expected to meet this secondary objective {create opportunities to defer and/or avoid future natural gas infrastructure projects} as part of its future DSM plan."

[16] Ontario Energy Board. Post-2020 Natural Gas Demand Side Management Framework. Board File Number: EB-2019-0003December 1, 2020 https://www.oeb.ca/sites/default/files/OEBLtr-Post-2020-DSM-Framework-20201201.pdf

6.11 Pollution Probe 10

Reference: PollutionProbe_IR_Appendix F-IESO Engagement_20210112

Question(s):

Does Guidehouse agree that the IESO Engagement Principles used to coordinate their planning represent best practices? If not, what changes would you recommend?

Guidehouse Response:

Guidehouse notes that this area of inquiry is outside the scope of work.