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November 8, 2023

Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street, P.O. Box 2319
Toronto ON, M4P 1E4

Dear Ms. Marconi,

RE: EB-2023-0125: BCA Framework for Addressing Electricity System Needs - Energy Probe Comments on the Draft Phase One BCA Framework Project Plan

At the engagement session on October 13, 2023, and in its letter of October 26, 2023, the OEB invited participants in the EB-2023-0125 consultation on the Benefit-Cost Analysis (BCA) Framework for Addressing Electricity System Needs to provide feedback comments on the draft Phase One BCA Framework project plan, prepared by Guidehouse Canada. At the engagement session, the OEB provided key questions that participants should address in their comments. The following are the comments of Energy Probe Research Foundation (Energy Probe) in response to the questions posed by the OEB.

1. Content. *What additional information could be included in the Handbook that would help LDCs to assess the value of DERs for meeting system needs?*

Energy Probe Comments

The Handbook should indicate if a BCA will be required for each DER or for a group of DERs. It should also indicate when BCAs will be publicly available, such as annually or at rebasing. The Handbook should include a complete list of acronyms used in it. For example, DST (Distribution Service Test) and EST (Energy System Test) are used in the Handbook Project Plan but are not listed in the List of Acronyms. Since the Handbook will deal with these two tests it should also include comprehensive explanations of the purpose and the intent of the DST and the EST such as defined in the FEI BCA Subgroup Report¹.

¹ EB-2021-0118, Framework for Energy Innovation, Report of the BCA Subgroup, January 8, 2022

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Distribution Service Test

The distribution service test would evaluate the impacts associated with providing distribution service. A solution is preferred if it has the highest net benefits to distribution service. This includes the costs of distribution service (e.g., the cost to meet an identified need) and changes to the value of the distribution service (e.g., improvements in local reliability experienced by distribution customers). All other impacts are excluded from this test. This test would evaluate the benefits and cost of distribution service change due to implementing the DER. A DER should be deployed by the distributor where the distribution system benefits exceed the costs of the service to those distribution customers and the net distribution system benefits outweigh those of the alternatives. Distributional fairness to the implementing LDC's customers is viewed as the limiting consideration.²

Energy System Test

An energy system test evaluates all the energy system impacts to all customers in Ontario. A solution is preferred if it results in the greatest net energy system benefits to energy customers overall. Typically, the preferred solution results in the lowest overall energy costs.¹⁶ The focus is on all energy system impacts, including electricity distribution, transmission, and supply impacts. This aligns with two of the traditional cost-effectiveness tests, the "program administrator cost test" and the "total resource cost test," which are used to evaluate gas and electric energy efficiency programs in Ontario. This test determines whether provincial ratepayers as a whole will be better off by implementing the DER as opposed to the alternatives. Net benefits accruing to provincial ratepayers may justify including DER costs into the implementing LDC's rates even where the implementing LDC's customers are worse off.³

In addition to the DST and EST there were several other tests included in the FEI BCA Subgroup Report such as the Distribution Customer Test and the Net Regulated Utility Test. Energy Probe believes that these should also be included in the Handbook.

2. Impacts. *For the DST and EST, are the proposed impacts and their suggested applicability correctly aligned with the purpose and intent of each test?*

Energy Probe Comments

In general Energy Probe agrees with the impacts proposed by Guidehouse in Section 3.2 *Impacts Addressed by the Tests*. However, Energy Probe is concerned that potential benefits of DERs may be over-emphasized while potential adverse impacts of DERs may be downplayed. Cumulative effects of many DERs such as rooftop solar panels on a feeder may cause voltage fluctuations and reductions in power quality and reliability. These can be prevented by installation of systems for Volt-Var control and fault location, isolation, and service restoration. These systems are necessary if there are multiple DERs to prevent deterioration in power quality

² *Ibid.*, Page 19

³ *Ibid.*, Page 21

and reliability and their cost should be included in the required inputs for the DST and permitted inputs for the EST. The benefits of DERs should be tangible and quantifiable. Avoided costs must be based on realistic, quantifiable alternatives, not unrealistic assumptions.

3. Examples. *The BCA Handbook will include three summary worked examples of BCAs for different DER NWAs. What types of system needs, DER solutions, and practical constraints should these examples address? The more specific the detail that can be provided here, the better.*

Energy Probe Comments

Energy Probe believes that capacity constraints posed by multiple DER's and Level 2 EV chargers on a distribution feeder should be included in the examples. The examples should also consider the differences in the costs of integration of exporting and non-exporting DERs. Some DERs, such as solar panels, provide intermittent power that must be backed up by the power provided by the distributor during nighttime and on overcast days. This requires the distributor to have facilities and other sources of power on standby. A worked example should include the costs of standby distribution facilities and the cost of standby power.

4. Inputs. *We expect that the most significant benefits and costs of DERs will be derived from project- and program-specific information. Are you aware of any material impacts for which generic values are available and might be used?*

Energy Probe Comments

Energy Probe is not aware of any material impacts for which generic values are available and might be used.

Respectfully submitted on behalf of Energy Probe.

Tom Ladanyi
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Consultant representing Energy Probe

cc. Patricia Adams (Energy Probe Research Foundation)
Alexander Di Ilio (OEB Staff)
Consultation Participants

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