



Registrar and Board Secretary
Ontario Energy Board
27th Floor - 2300 Yonge Street
Toronto, ON M4P 1E4

November 13, 2023

Dear Ms. Marconi,

**RE: Consultation for Benefit-Cost Analysis Framework for Addressing Electricity System Needs
Ontario Energy Board File No: EB-2023-0125
Comments on BCA Project Plan**

Please accept this letter as comments on the Benefit-Cost Analysis (BCA) Project Plan.

Overall Comments

I am supportive of the Ontario Energy Board's progress on developing a BCA approach for evaluating distributed energy resources (DER) as non-wires alternatives (NWA) and traditional wires projects to meet identified needs. There is a significant opportunity to guide resources being developed through current procurements to defer or avoid wires expenditures, and the BCA approach is one major element to realizing this potential value.

The Project Plan requires revision to ensure that the BCA approach properly evaluates both DERs and wires projects against a potential need while ensuring that the implementing Local Distribution Company's (LDC) customers as well as all Ontario customer benefit.

Detailed comments are provided using the questions posed at the October 13, 2023 session.

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?

Overall, the proposed Handbook will help LDCs assess the value of DER. However, there are revisions necessary to ensure that LDCs have clarify regarding the expectations for carrying out a BCA:

1. The Handbook should expand on how need would be assessed and how alternatives should be designed. These foundational steps are critical to ensuring that a BCA is making a meaningful assessment of comparable alternatives that both meet an identified need.
2. The Handbook should include generalized methodologies for assessing whether DERs meet an identified need. DER options are often eliminated in planning processes because they do not meet the need or have not been designed appropriately to meet a need. The Handbook should provide guidance on how an LDC could design or assess a DER option using either criteria-based (deterministic) or value-based (probabilistic) assessments of reliability.
3. Make both the Distribution System Test (DST) and the Energy System Test (EST) mandatory to ensure that the interests of the implementing LDC's customers and all Ontario ratepayers are properly considered by the BCA. There is a risk that the DST counts transfers from Ontario ratepayers to the implementing LDC's ratepayers as benefits, and making the EST mandatory

protects the interests of Ontario ratepayers. It would also ensure that the OEB is aware of projects that have a misallocation of costs where the DST shows insufficient net benefits while the EST shows significant benefits.

4. Benefit and cost calculations should consider locational constraints. Locational benefits and costs are proposed for distribution infrastructure value (section 4.5.1.1), but are not included for transmission and resource capacity (sections 4.5.2). For example, the proposed BCA approach will calculate resource capacity benefits in areas where transmission constraints prevent a DER project or program from providing additional resource capacity to the system.
5. Some transmission costs should be included in the DST. The proposed DST excludes all transmission costs, but the DST should include avoided or deferred transmission costs that would be directly charged to the implementing LDC. For example, a DER project could avoid the need for a new transformer station that would require a contribution from the implementing LDC, and the implementing LDC's ratepayers would be better off by avoiding that contribution.
6. The Handbook should provide guidance on how to quantitatively assess planning value. DERs have the potential to be implemented more quickly than traditional wires projects. The BCA Framework could provide assumptions about potential forecast and other uncertainties in need assessments that would increase the value of deferring wires investments. It would be helpful to provide standardized scenario analysis tools for LDCs based on the concepts presented in section 4.3.1.3.

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?

Generally, the proposed impacts and their applicability are reasonable. As described above, the EST should be mandatory, and locational considerations should apply to all benefits not only the distribution capacity value.

LDCs should be discouraged from using the marginal distribution capacity assessment (equation 3) because it will not be location-specific and will not reflect the lumpy nature of wires investments. Where an assessment of a DER program requires use of a marginal cost, the formula should account for the prevalence of the forecast infrastructure constraint. For example, the proposed equation 3 could be multiplied by a factor P, representing the proportion of infrastructure (e.g., the percentage of distribution lines owned by the LDC) that are forecast to be constrained and would be addressed by the DER program.

The reliability calculation in section 4.5.1.2 is unclear. The description indicates that this is the cost of addressing a restoration need that is avoided by the NWA but not the traditional investment. If there is a restoration need, both the NWA and the traditional investment should be designed to meet that need and then compared. If there is a discretionary restoration benefit, there should be a different way to assess the value of improved restoration based on the value of lost load or similar metric.

The resilience calculation in section 4.5.1.3 is similarly unclear. The resilience calculation is looking at outage costs and should be renamed or added to the reliability calculation. Resilience is often defined in terms of capability to respond to outages beyond criteria (e.g., multiple outages in a major storm). Diversifying between DER and wires investments has the potential to provide resilience benefits, but it would require a complex assessment of the probability and impact of major outages.

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.

I defer to the LDCs about what need examples would be most helpful.

It would be helpful to DER providers to understand how to design their DERs to most economically meet identified needs. The need statement and alternative design in the examples should be detailed and include critical information such as load size, duration, availability, estimated number of calls per year, and the estimated DER cost.

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?

The Handbook should rely on historical values where possible and avoid reliance on planning values. For example, the referenced \$144/kW-year value for resource capacity benefit may not be a reasonable assumption moving forward. The recent procurement results show that 4-hour storage is over \$200/kW-year. Similarly, historical location marginal prices should be used in place of CDM values once market renewal is implemented.

There are good resources on storage and other DER costs from Lazard, NREL and LBNL, and it would be helpful to provide guidance on how to use those value in Ontario to reflect exchange rates, more expensive development costs, and other factors.

Please feel free to contact me about the foregoing at 587-534-5008 or chris@versoriumenergy.com.

Regards,

A handwritten signature in blue ink, appearing to read "Chris Codd".

Chris Codd
VP, Regulatory and Site Development