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BY EMAIL and WEB POSTING

October 7, 2025

**TO: All Rate-regulated Electricity Distributors
All Intervenors in Electricity Distribution Cost of Service Proceedings for
2024 and 2025 Rates
All Participants in the Vulnerability Assessment and System Hardening
(VASH) Consultation (EB-2024-0199)
All Other Interested Parties**

**Re: Vulnerability Assessment and System Hardening Consultation: Release of
Final Report and Toolkit
Ontario Energy Board File Number: EB-2024-0199**

What You Need to Know

- The Ontario Energy Board is issuing the final version of the Vulnerability Assessment and System Hardening Report and Toolkit, having regard to stakeholder comments received on the draft Report.
- The methodologies and expectations outlined in the Report will become mandatory for rebasing applications starting with applications for 2028 rates.
- Release of the final Report is an important step in embedding climate resiliency into electricity distribution planning and advancing the sector's capability to anticipate and respond to extreme weather.

The Ontario Energy Board (OEB) is issuing the final version of the Vulnerability Assessment and System Hardening (VASH) Report and Toolkit, reflecting consideration of stakeholder feedback received on the [draft](#) Report that was published on July 31, 2025. Along with the Toolkit, the OEB is also publishing four hypothetical examples demonstrating the use of the Toolkit to conduct vulnerability assessments and evaluate system hardening investments.

Background

A Ministerial [Directive](#), issued to the OEB on June 11, 2025, regarding implementation of the integrated energy plan entitled *Energy for Generations - Ontario's Integrated Energy Plan to Power the Strongest Economy in the G7*, calls on the OEB to encourage and, where appropriate, require distributors to consider frequent and extreme weather impacts on energy infrastructure resiliency in their planning frameworks and processes.

This direction builds from the OEB's VASH project, [launched](#) in June 2024 to develop policies and a framework in response to a request contained in the Minister's November 2023 [Letter](#) of Direction that the OEB develop and implement policies that required electricity distributors to:

- Incorporate climate resiliency into local distribution companies' asset and investment planning activities.
- Engage in a regular assessment of the vulnerabilities in their distribution system and operations in the event of severe weather.
- Prioritize value for customers when investing in system enhancements for resiliency purposes.

The VASH initiative advances the sector's capability to anticipate and respond to extreme weather by equipping electricity distributors with tools and methodologies to identify parts of their systems that are most vulnerable to extreme weather and to evaluate system hardening options based on an objective benefit-cost methodology that prioritizes value for customers.

Stakeholder Feedback on the Draft VASH Report and Toolkit

Overall, stakeholders were supportive of the draft VASH Report and Toolkit, and the structured approach to integrating climate resiliency and system hardening into distribution system planning. Many stakeholders agreed that offering both a Generic and a Custom option strikes the right balance between flexibility and consistency across the diverse range of Ontario distributors.

The discussion below highlights the key areas that were the focus of stakeholder comments, noting elements where the OEB has made changes relative to the draft Report and explaining why certain other changes have not been made.

Integration with Distribution System Planning

Feedback consistently emphasized that resiliency and system hardening should not displace other important drivers of system planning. Stakeholders stressed that VASH should be integrated into distribution system plans (DSP) as one input among many, balanced with other considerations. The OEB agrees and has clarified in the final Report that the VASH framework should be considered in the context of distribution system planning alongside other planning drivers, thus supporting a holistic approach to system planning.

Value of Lost Load (VOLL)

Most stakeholders supported the use of the ICE Calculator as the methodology for deriving a VOLL for VASH analysis purposes in the absence of an Ontario-specific alternative. However, stakeholders suggested that ICE 2.0 should be used to ensure the methodology is up to date and provides consistency in analysis across distributors.

Before the release of ICE Calculator 2.0, the OEB compared ICE 1.0 outputs with a 2018 Toronto Hydro study using similar survey instruments. While not identical, results were comparable, supporting ICE as a cost-effective option. ICE Calculator 2.0, released in May 2025, improves the survey methodology, econometric modeling, and customization, offering more robust VOLL estimates across customer classes and outage durations, especially for longer outages. ICE Calculator 2.0 also uses survey data from the most recent three years. The OEB has updated the VASH Report to confirm that distributors should use the ICE Calculator 2.0 to derive project-specific and baseline VOLLs, unless a distributor opts to conduct their own custom study.

Benefit-Cost Analysis (BCA)

The BCA framework was generally seen as a valuable tool for supporting decision-making. Some stakeholders suggested introducing a minimum BCA ratio above 1.0 to serve as a threshold for approving investments. Others emphasized that BCA results should be considered as part of a broader planning context rather than as a stand-alone determinant.

The OEB agrees with the latter view and believes it is appropriate for BCAs to remain a decision-support tool that enhances transparency and comparability while ensuring that VASH projects are assessed alongside other DSP priorities.

Toolkit and Data Guidance

Stakeholders welcomed the provision of standardized datasets from the CSA Group and Environment and Climate Change Canada as a foundation for vulnerability

assessments. At the same time, some suggested expanding the data to cover additional hazards such as chronic climate risks and wildfires and recommended that the Toolkit evolve as new science and practices emerge. The OEB considers the current inputs and guidance sufficient for immediate implementation but acknowledges the importance of continuous improvement. As indicated in the VASH Report, the OEB will consider the need for refinements over time based on experience with VASH investment proposals.

Cost Allocation

One stakeholder noted that some system hardening projects may disproportionately benefit large non-residential customers but that the costs of those projects may not be allocated accordingly. As the OEB gains more experience with VASH investment proposals, cost allocation may be explored further. In the meantime, it is open to a distributor to propose changes in its cost allocation model depending on the investments proposed in its cost-based application.

Policy Review Cadence

Some stakeholders suggested that the OEB review the VASH policy after one year or that a fixed review cycle be established. The OEB believes that the VASH framework should be reviewed again as needed to be responsive to new information and sector evolution, sector capacity to engage on this topic and having regard to lessons learned from implementation of the policy.

Implementation

Most stakeholders supported the timeline for implementation, noting that it provides distributors with adequate flexibility to prepare for adoption while ensuring resiliency is incorporated into planning on a timely basis.

One large distributor requested greater flexibility in implementation by proposing that distributors with a pre-existing vulnerability assessment be exempt from new requirements, and that there should be a lag between completing a vulnerability assessment and incorporating its outcomes into the distributor's DSP. This stakeholder also requested that the OEB create a mechanism to allow recovery of the costs of incremental investments identified by their vulnerability assessment that are not included in their DSP.

The OEB is not persuaded that an exemption for preexisting vulnerability assessments or other methodologies related to VASH initiatives, is appropriate. The Custom option provides flexibility for distributors, and the OEB expects that the distributors with pre-existing methodologies will align their approach to the criteria outlined under the Custom

option. The OEB also reiterates that it will consider the amount of time that distributors have had to prepare the VASH-related components of their DSPs when reviewing applications. Distributors that are uncertain about achieving alignment with the Custom option may wish to consult with the OEB staff prior to filing their application.

The OEB thanks all stakeholders for their comments and participation in this initiative. The final VASH Framework will be reflected in the 2027 Filing Requirements for electricity distribution rate applications, to be released later this year. Information regarding cost awards will be communicated separately.

Questions relating to this letter should be directed to Zubin Panchal at zubin.panchal@oeb.ca, 416-440-8113, or the toll-free number 1-888-632-6273.

Yours truly,

A handwritten signature in dark ink, appearing to read 'Theodore Antonopoulos', followed by a long horizontal line extending to the right.

Theodore Antonopoulos
Vice President
Major Applications

Attachment(s):

- (i) Final VASH Report
- (ii) Final VASH Toolkit
- (iii) Four VASH Toolkit Examples