



Ontario
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BY EMAIL and WEB POSTING

July 31, 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
Ontario Energy Board File Number: EB-2024-0199**

The Ontario Energy Board (OEB) is issuing a draft version of the complete Vulnerability Assessment and System Hardening Report (VASH Report) for stakeholder comment. This release also includes a draft version of the VASH Toolkit, which provides resources to help electricity distributors identify parts of their system most vulnerable to extreme weather and assess system hardening options using an objective benefit-cost framework.

Both documents incorporate feedback from stakeholder meetings and written comments received on the draft Vulnerability Assessment Report issued on December 17, 2024.

Stakeholders are invited to submit written feedback on the draft VASH Report and Toolkit by **August 29, 2025**. Instructions are provided in Appendix A. Both documents are also available on [Engage with Us](#).

Following a review of stakeholder input, the OEB will finalize and publish the final VASH Report and Toolkit in September 2025.

Overview

The OEB [launched](#) the VASH project in June 2024 to develop policies and a framework in response to three directives contained within the Minister's November 2023 [Letter](#) of Direction, including:

- 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 resilience purposes.

More recently, a Minister [Directive](#), issued to the OEB on June 11, 2025, to support implementation of *Energy for Generations - Ontario's Integrated Energy Plan*, reinforces the importance of considering frequent and extreme weather impacts on energy infrastructure resilience and encourages the OEB to support electricity distributors in integrating these considerations into their planning frameworks and processes. The VASH initiative addresses these directives by equipping 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 framework that prioritizes value for customers.

Since the inception of the VASH initiative, the OEB has engaged industry stakeholders through six public sessions to gather feedback on key elements of the framework. This includes vulnerability assessment, value of lost load, and benefit-cost analysis methodologies. In December 2024, the OEB released the first iteration of the Vulnerability Assessment Draft Report, inviting stakeholders to provide written feedback on the proposed methodology.

The Complete VASH Draft Report

The OEB is now releasing a draft version of the complete VASH Report for comment, which includes Value of Lost Load (VOLL) and Benefit-Cost Analysis (BCA) methodologies.

The report continues to present two options for distributors to conduct vulnerability assessments:

- **Custom Option:** This option allows distributors to develop customized assessments and analyses using proprietary tools, provided they meet specific criteria, such as incorporating climate projection data, using asset-based approaches, and applying quantitative analysis to key inputs.

- **Generic Option:** This option utilizes the structured framework and VASH Toolkit developed by the OEB, simplifying the process through standardized methodologies and guidance on sourcing input data.

To complete a vulnerability assessment, distributors must model future climate conditions to estimate the probability and intensity of climate-related perils that could affect their assets. This requires using projection-based data, which involves making informed judgments about future climate scenarios and alignments with appropriate climate models. To support this work, the OEB has secured a dataset from Environment and Climate Change Canada, on a one-time basis, which provides wind and ice accretion projections across Ontario. Distributors are responsible for sourcing any additional climate projections they consider useful for their analyses. They may also use alternative wind and ice accretion data, provided they can justify any deviations from the supplied dataset.

The VASH Report now includes a proposed methodology and Toolkit for calculating the value to customers of proposed investments. To help demonstrate that benefits outweigh costs, the OEB has provided tools to support a BCA, including guidance on incorporating the VOLL. After reviewing several approaches for estimating VOLL, the OEB determined that the [ICE Calculator](#) – a publicly available tool widely used in North America – offers a practical and customizable alternative to a custom Ontario-wide study. Outputs from ICE Calculator 1.0 were found to be reasonably comparable to those from a 2018 Toronto Hydro value of service study. As a result, the OEB expects distributors to use the ICE Calculator to derive project-specific and baseline VOLLs, unless they opt to conduct their own custom studies. In May 2025, ICE Calculator 2.0 was released, featuring updates to its survey model. Distributors may use either version at their discretion.

While the proposed BCA methodology is primarily designed to evaluate capital investments in system hardening, it can also be applied to assess the cost-effectiveness of operational expenditures. Although the current version of the VASH Toolkit does not offer a plug-and-play solution for evaluating operational projects, distributors may choose to do so under the Custom Option.

To help ensure the VASH requirements remain proportionate and less burdensome, the OEB has introduced a pre-assessment step prior to the BCA. This step allows distributors to determine whether economically feasible system hardening investments exist without having to conduct a full BCA for every potential project.

The requirements outlined in the VASH Report are intended to apply on a best-efforts basis for applications filed in 2026 for 2027 rates and will become mandatory for applications filed in 2027 for 2028 rates. Recognizing that this represents a new

approach for some distributors, the OEB will consider the amount of time that distributors have had to prepare the VASH-related components of their distribution system plans when reviewing applications.

The OEB thanks all participants for their contributions to this initiative.

Cost award matters

Cost awards will be available to eligible participants in the VASH project, as determined in the [decision](#) on cost awards published on July 18, 2024 (amended on July 19, 2024), to a maximum of eight(8) hours for review and comment on the complete draft VASH Report and draft VASH Toolkit.

When determining the amount of cost awards, the OEB will apply the principles set out in Section 5 of its *Practice Direction on Cost Awards*. Maximum hourly rates set out in the Cost Awards Tariff will also be applied. The OEB expects that groups representing the same interests or class of persons will make every effort to communicate and coordinate their participation in this process. In accordance with Section 12 of its *Practice Direction on Cost Awards*, the OEB will act as a clearing house for all payments of cost awards in this process. For more information on this process, please see the OEB's [Practice Direction on Cost Awards](#).

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,

Theodore Antonopoulos
Vice President
Major Applications

Attachment(s):

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

Appendix A – How to File Materials

All written materials sent to the OEB in response to this letter will be placed on the public record and posted on the OEB's website.

If the written materials are from a private citizen (i.e., not a lawyer representing a client, not a consultant representing a client or organization, not an individual in an organization that represents the interests of consumers or other groups, and not an individual from a regulated entity), the OEB will remove any personal (i.e., not business) contact information (e.g., address, phone number and e-mail address) before placing the materials on the public record and posting the materials on the OEB's website. However, your name and the entire content of your materials will be placed on the public record and posted on the OEB's website. If the written materials are from a person acting in a professional or business capacity, all information in the written materials will be publicly available.

Stakeholders are responsible for ensuring that any documents they file with the OEB **do not include personal information** (as that phrase is defined in the *Freedom of Information and Protection of Privacy Act*), unless filed in accordance with rule 9A of the OEB's [Rules of Practice and Procedure](#).

Please quote file number, **EB-2024-0199** for all materials filed and submit them in searchable/unrestricted PDF format with a digital signature through the OEB's [online filing portal](#).

- Filings should clearly state the sender's name, postal address, telephone number and e-mail address.
- Please use the document naming conventions and document submission standards outlined in the [Regulatory Electronic Submission System \(RESS\) Document Guidelines](#) found on the [File documents online page](#) on the OEB's website.
- Stakeholders are encouraged to use RESS. Those who have not yet [set up an account](#) or require assistance using the online filing portal can contact registrar@oeb.ca for assistance.
- Cost claims are filed through the OEB's online filing portal. Please visit the [File documents online page](#) of the OEB's website for more information. All participants shall download a copy of their submitted cost claim and serve it on all required parties as per the [Practice Direction on Cost Awards](#).

All communications should be directed to the attention of the Registrar and be received by end of business, 4:45 p.m., on the required date.

Email: registrar@oeb.ca

Tel: 1-877-632-2727 (Toll-free)