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Request IR-1:

Reference: NSPI states at page 17, lines 10-23:

“As performance improves across all 405 feeders, the overall number of outages experienced by customers is reduced. However, the standards for measuring problem feeder performance become more stringent as the performance improves.

This positive result reduces the calculated performance threshold for individual feeders as the standard deviation narrows. As a result, the CKAIFI performance threshold for 2025 was reduced by 16 percent over 2024 and 22 percent over the previous five-year average.

... This data shows that as the standards become more stringent as performance improves that the bar that feeders must meet to achieve the feeder standards will become increasingly challenging.”

(a) Is NSPI effectively arguing that improved system performance disadvantages certain feeders? Please clarify.

(b) Does NSPI maintain that the bar is too high with the updated threshold? Please explain.

Response IR-1:

(a) NS Power's statement at page 17 is a descriptive explanation of how the Board-approved threshold formula operates as system performance improves. NS Power characterizes this as a positive result for customers and continues to work to improve feeder performance. The more stringent feeder level thresholds reflect the effect of positive system-side outcomes.

(b) As NS Power has previously stated in previous Performance Standards filings, the changing CKAIDI and CKAIFI targets are a result of overall improvement on the system

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1 and reflect the standards becoming more stringent over time as per the performance
2 standards design. NS Power maintains that the current thresholds and calculations are
3 appropriate.

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Request IR-2:

Reference: SAIDI and SAIFI Standards, p. 47.

Preamble: Target SAIDI was ≤ 4.29 and the result was 4.79. SAIDI has now missed target in multiple recent years.

(a) Please identify any structural factors preventing compliance despite increased capital spend.

(b) Please explain why SAIDI improvements lag SAIFI improvements. In providing your answer, identify any reasons within and outside NSPI's control.

Response IR-2:

(a) NS Power believes it is on track to improving SAIDI. As stated in previous Performance Standards submissions, capital investments in reliability projects and programs do not yield immediate, system-wide improvements in SAIDI. Performance in any given year is subject to variability, and while individual capital investments proposed for the transmission and distribution system may not necessarily yield significant incremental, system wide year-over-year improvements for SAIFI and SAIDI, they will support the longer-term reliability of transmission and distribution assets by both correcting existing/emerging reliability issues and avoiding issues that have not caused reliability impacts to date.

(b) As answered in previous IRs (for example, in M11017), outage frequency metrics (SAIFI and CKAIFI) are improved by reducing the overall occurrence of outages, including vegetation management reducing the likelihood of tree contacts, targeted device replacements reducing equipment failure, as well as the use of protective devices to limit the overall number of customers impacted by outages should they occur.

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1 Duration metrics (SAIDI and CKAIDI) are also positively influenced by interventions
2 reducing the frequency or scale of outages and are further improved through actions such
3 as moving lines out of the woods to roadside, remote control of protective devices, and
4 sustainable rights-of-way which all enable field crews to identify and respond to outages
5 more easily when they occur. These duration-reducing investments often require more
6 complex engineering and construction, and may require landowner coordination, delaying
7 the realization of benefits. Undertaking these investments are within NS Power's control,
8 but the ability to execute them may be subject to external requirements like customer
9 cooperation and regulatory processes that can be outside of NS Power's control.

10
11 Additional items outside of NS Power's control include weather and winds impacting safe
12 work and scheduling challenges, geographic and access constraints, transmission system
13 dependencies, or certain foreign interference outages can result in longer duration outages.

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Request IR-3:

Reference: Page 9, lines 2-5.

“NS Power is already seeing positive results from the \$206 million invested in the first year of the reliability plan. There was a 19 percent reduction in outages due to trees coming into contact with power lines in 2025 compared to 2024 and an 18 percent reduction in outages due to equipment failures.”

And Reference: Page 49, lines 5-7.

“While SAIDI just went above target in December, there was a year-over-year improvement that is aligned with NS Power’s Five-Year Reliability Plan and reliability is improving for customers.”

(a) Please describe the analysis NSPI performed to conclude that the observed change in SAIDI is “aligned with” the Five-Year Reliability Plan. In doing so, please state the comparison period used to support the “year-over-year” characterization, and explain how the effects of abnormal weather and major events were treated in that analysis.

(b) With respect to the statement that NSPI is seeing “positive results” from the \$206 million invested in year one of the Reliability Plan, please explain whether NSPI has undertaken any quantitative or correlation analysis linking specific projects/programs (or project categories) to changes in SAIDI and/or SAIFI. If so, please describe the methodology, inputs, assumptions, and results, and provide supporting materials.

(c) Please provide the calculations and supporting data underlying the reported 19 percent reduction in outages due to tree contact and 18 percent reduction in outages due to equipment failures.

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1 Response IR-3:

2
3 (a) The analysis is based on Figure 28 of the 2025 Report showing the "SAIDI Improvement
4 Projection" trajectory. The Plan does not prescribe specific interim annual targets for 2025,
5 2026, 2027, or 2028; rather, it projects a general downward trend from the baseline toward
6 the 2029 goal. NS Power's analysis that 2025 SAIDI of 4.79 is "aligned with" the Plan is
7 based on the following observations:

8 a. 2025 is below the 2019-2023 baseline (4.79 vs. 5.10 = 0.31-hour
9 improvement).

10 b. 2025 shows year-over-year improvement from 2024 (4.79 vs. 5.26 = 0.47-
11 hour improvement).

12 c. 2025 is positioned between the baseline and the 2029 target, consistent with
13 a trajectory toward achieving 4.10 by 2029.

14 d. As stated on page 50:

15 1. While the 2025 SAIDI result is still above the Performance
16 Standards target of 4.29, the result is a marked improvement over
17 2024 and on track for the projections as previously filed and shown
18 in Figure 28.

19 e. And on page 51:

20 1. Figure 28 shows the projection of SAIDI improvements over the
21 Five-Year Reliability Plan. 2025 is below the projection.

22
23 (b) NS Power has not used a quantitative model or statistical test to determine whether 2025
24 results in SAIDI or SAIFI are with specific projects or programs. As the program is filed
25 and approved within the three main categories of the Five-Year Reliability plan, NS Power
26 will continue to spend within the approved categories as approved in previous regulatory
27 filings.

28
29 (c) The improvement calculations are based on the data in Figure 29 and Figure 30.
30

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1

	Performance Standards - Outage Event Count	
Year	Equipment Failure	Tree Contacts
2025	1,604	1,580
2024	1,955	1,950
% Improvement	18%	19%

2

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Request IR-4:

Reference: Page 52, Figure 29.

Reference: 2026 ACE Plan (M12619), N-6, NSPI (NSEB) RIR -184.

(a) Does the data reflected in Figure 29 align with the figures provided by NSPI in response to Board IR 184(b) in the 2026 ACE Plan proceeding? If not, please identify each discrepancy and explain the reason(s) (e.g., different definitions, exclusions, time periods, or data sources).

(b) If yes, please confirm whether NSPI assumed that 40% of tree-contact outages (or tree-contact customer interruptions) are attributable to adverse weather conditions within Figure 29. Please define precisely what the 40% factor is applied to and how “adverse weather” is defined for this purpose.

(c) Please explain the basis for the 40% allocator and confirm whether this allocator is based on an industry-wide standard/benchmark (and, if so, identify the standard and provide the supporting source), or whether it is an internal NSPI assumption (and, if so, provide the rationale and any validation performed).

(d) Please confirm whether the reduction in tree-contact outages in 2025 is at least partially attributable to improved weather relative to 2024. If not, please explain. If yes, please describe the analysis NSPI performed to distinguish the portion of the change attributable to vegetation management and/or other reliability investments from the portion attributable to differences in weather.

Response IR-4:

(a) Please refer to NSEB IR-28.

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1 (b) N/A. For clarification, the annual tree contact outages shown in Figure 29 do not include
2 the 40 percent factor associated with adverse weather events which can be attributed to tree
3 contacts.

4
5 (c) As provided in response to 2025 ACE Plan NSEB IR-59 part (a) (M12012), the basis for
6 the 40 percent was estimated using feedback received from Powerline Technicians,
7 Regional Planners, Damage Assessors, Forestry Coordinators, and Field Supervisors
8 responding during adverse weather events.

9
10 (d) Yes, the reduction in tree contact outages can in part be attributed to the impact of weather
11 conditions along with targeted investments in vegetation management. A precise
12 attribution of the relative contributions from each factor is impossible to determine, due to
13 the inherent compounding effects of vegetation management activities on adverse weather
14 performance. While there was more favourable weather in 2025, there was also
15 approximately \$45 million of tree trimming and vegetation management in both 2024 and
16 2025.

17
18 Without vegetation management, even in favourable weather conditions, tree contact
19 outages would be higher. The ongoing and increasing vegetation management plan laid
20 out in the Five-Year Reliability Plan will provide ongoing cumulative benefits as more
21 corridors are widened and higher risk trees are trimmed and managed.

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1 **Request IR-5:**

2
3 **Reference: Page 52, Figure 30.**

4
5 **Reference: 2026 ACE Plan (M12619), N-6, NSPI (NSEB) RIR-185(b).**

6
7 **(a) Does the data reflected in Figure 30 align with the figures provided by NSPI in**
8 **response to Board IR 185(b) in the 2026 ACE Plan proceeding? If not, please identify**
9 **each discrepancy and explain the reason(s) (e.g., different definitions, exclusions, time**
10 **periods, or data sources).**

11
12 **(b) Please explain why the outage event count has decreased since 2020 while customer**
13 **outage hours have increased relative to 2020. In your response, please describe the**
14 **drivers of the change (e.g., event duration, customers affected per event,**
15 **inclusion/exclusion criteria, changes in restoration practices, and/or major-event**
16 **impacts) and provide the underlying annual totals used for Figure 30.**

17
18 **(c) Please confirm whether the reductions in outages in 2025 are at least partially**
19 **attributable to hahimproved weather relative to 2024. If not, please explain. If yes,**
20 **please describe the analysis NSPI performed to distinguish the portion of the**
21 **improvement attributable to the Five-Year Reliability Plan (or other reliability**
22 **investments) from the portion attributable to differences in weather (including any**
23 **normalization, major-event-day treatment, or other adjustments).**

24
25 **Response IR-5:**

26
27 **(a) Please refer to NSEB IR-28.**

28
29 **(b) With respect to outage event counts attributable to equipment failure, the reduction in**
30 **overall numbers is largely a result of NS Power's ongoing, targeted investments in**

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1 equipment replacements and upgrades, as well as new, modern standards implemented in
2 recent years. By replacing deteriorated assets with more robust equipment prior to failure,
3 fewer in-service failures are expected and observed in the data.

4
5 However, the specific contributions of Equipment Failure on customer hours of interruption
6 is not simply a function of event count and depends on a combination of three main factors:

- 7
- 8 • The event count, or frequency of failure. As described above, targeted asset
9 replacments and upgrades will reduce the number of events occurring.
 - 10 • The location on the system of the failure, or how many customers are impacted by a
11 given outage. An equipment failure event occurring on feeders with higher customer
12 counts and/or on mainline portions of a feeder can result in higher impacts compared
13 with an identical failure on a feeder with a lower customer count and/or branchline
14 portion of a feeder.
 - 15 • The restoration difficulty, or how long it takes to restore an outage. This can be
16 influenced by the available access to the outage area, travel time for responding crews,
17 the time of day/night, and the severity of damage. For more complex or difficult to
18 resolve outages, outage duration, and consequently customer hours of interruption can
19 increase.
- 20

21 In 2025, both the event count and customer interruptions for Performance Standards outages
22 attributable to Equipment Failure were the lowest since at least 2003. Given the positive
23 influence of the first two factors, the result for customer hours of performance in 2025 was
24 largely attributable to the third factor, the restoration time. In particular several large customer
25 count events with challenging restorations were responsible for a large fraction of overall CHI.
26 The largest 5 equipment failure events, of approximately 2,100 equipment-related events, in
27 2025 were responsible for more than 23% of the overall customer hours of interruption and the
28 top 25 events accounted for more than 55% of all customer hours of interruption. Ultimately,
29 these significant outages had an outsized impact on the final result for CHI in 2025 and
30 demonstrate the challenges related to complex outage restoration.

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1
2 (c) While the external forces associated with adverse weather (particularly icing and extreme
3 winds) can play a role, equipment failure outages are typically not as strongly correlated to
4 the prevailing weather conditions, but as stated in the 2026 ACE Plan, ""The increase in
5 failed primary aerial conductors is believed to be attributed in large part to the added stress
6 on existing infrastructure due to the high number of hours that winds have exceeded
7 warning levels." There can be a lagging effect with equipment failures and tree contacts,
8 as equipment can be weakened, but the failure can only been seen weeks or months after a
9 storm, making it difficult to attribute the outage events to a storm event. Comparing
10 Performance Standards outage data sets with All-In performance with respect to Equipment
11 Failure outages shows minimal impact.

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Request IR-6:

Reference: CKADI and CKAIFI Standards – Figures 35 and 36, p. 59-60.

Preamble: NSPI identifies feeders not meeting standards (CKAIDI:85S-401 and CKAIFI:57W-402, 91W-411).

(a) Please explain whether any of the above feeders now qualify as “chronic” under the Board’s methodology.

(b) Have enforcement or escalation measures been triggered? Please explain and describe all actions.

Response IR-6:

(a) Yes. Based on application of the Board’s methodology, the identified feeders now meet the criteria for designation as “chronic.”

(b) NS Power has established feeder-specific action plans, as set out in Section 3.4 of the 2025 Annual Report, including targeted investments and mitigation measures for each identified feeder, with implementation extending into 2026 and beyond as appropriate.

- 85S-401: Planned and ongoing work includes targeted vegetation management, targeted equipment replacements, FLISR grid modernization (including Intellirupters and TripSavers), and bring-to-roadside projects to improve accessibility and restoration response times.

- 57W-402: Actions include targeted vegetation management, hazard tree removal, and targeted reliability improvements. In addition, this feeder was impacted by loss-of-supply events from the L-5532 transmission line; planned investments on L-

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1 5532, including replacements, upgrades, and vegetation management along the
2 transmission corridor, are expected to reduce outage frequency on 57W-402.

- 3
4 • 91W-411: Planned investments include targeted vegetation management,
5 equipment installation (e.g., TripSavers), pole and insulator replacements, and the
6 Labelle Road Phase Extension (upgrading to a three-phase line). Similar to 57W-
7 402, reliability performance is influenced by the shared L-5532 transmission
8 supply; ongoing L-5532 upgrades and substation reliability improvements at 91W
9 Middlefield are expected to reduce loss-of-supply events.

10
11 Across all feeders, these investments reflect targeted vegetation management, equipment
12 installation, targeted equipment replacements, and system upgrades, prioritized based on
13 root cause analysis and intended to improve both outage frequency and duration.

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Request IR-7:

Reference: Section 4.0 Customer-Level Reliability Data (CEMI/CELID), p. 86.

Preamble: NSPI states it is at the final stage of developing customer-level reliability metrics i.e. operational values but has not proposed customer-level reliability standards.

(a) Does NSPI view CEMI/CELID as informational only, or precursors to enforceable standards? Please explain.

(b) Does NSPI oppose eventual inclusion of these metrics in its performance standards? Please explain.

(c) Having reached the end stage of the project to develop customer-level reliability metrics, please be specific regarding any remaining steps and the timeline to propose customer-level reliability metrics.

Response IR-7:

(a-c) NS Power views CEMI/CELID as informational only and not as precursors to enforceable standards, as moving these metrics from informational to enforceable will not provide incremental value to customers or necessarily drive more appropriate investment decisions. An undesired result from focus on such CEMI and CELID metrics can cause utilities to pursue high-cost, low-benefit projects at the ends of feeders that divert capital and resources away from system-level performance improvements (SAIFI and SAIDI). The existing reliability metrics (SAIFI, SAIDI, CKAIFI, CKAIDI) focus on how the majority of customers experience reliability (on the system and within a feeder respectively) and investments to improve those metrics result in benefit to the highest number of customers.

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1 Additionally, there is already inherent overlap of CKAIFI and CKAIID with CEMI and
2 CELID. Local customer reliability performance is already captured by the circuit-level
3 performance metrics, and the addition of CEMI and CELID largely represents a duplication
4 of the same areas already identified as part of existing metrics.

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1 **Request IR-8:**

2
3 **Reference: Appendix I.**

4
5 **(a) For each feeder-year where Appendix I reports CKAIFI and/or CKAIDI as zero or**
6 **blank, please state whether this reflects (a) no qualifying interruptions or (b)**
7 **excluded, missing or otherwise invalid data and provide an explanation for each.**

8
9 **(b) Please identify all rules or circumstances under which NSPI reports a zero value in**
10 **Appendix I rather than (n/a), blank or footnoted data.**

11
12 **Response IR-8:**

13
14 (a-b) “0.00” is a truncated value that indicates where there is outage data, but due to low
15 frequency and/or short duration the data, when rounded, is less than 0.005. This data,
16 although small, is still captured, stored, and used to calculate feeder percentiles, averages,
17 and standard deviations for circuit performance. A blank field represents no outages or data
18 available.

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Request IR-9:

Reference: Appendix I and Appendix K.

(a) For each feeder that shows zero or missing CKAIFI/CKAIDI in Appendix I and appears in Appendix K, please state whether the Appendix K outage events were included in the index calculations and if not, why.

(b) Please quantify, by feeder and year, the number of Appendix K outage events excluded from CKAIFI and/or CKAIDI calculations.

(c) For each feeder with zero or missing Appendix I data and no Appendix K records, please state whether the feeder was energized and serving customers in the relevant year.

(d) For each feeder with any zero or missing CKAIFI/CKADI value, please explain whether the feeder was tracked for performance purposes in that year and explain any untracked status.

Response IR-9:

(a) Per the definition of the Performance Standards calculations all performance metrics, including CKAIFI and CKAIDI, exclude Planned Outages.

(b) Please refer to IG IR-09 Attachment 1.

(c) All feeders were energized and serving customers.

(d) All feeders are tracked for every year. New feeders and retired feeders are still continued to be tracked for all years in Appendix K, but are shown as “blank” for years with no data available.

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Request IR-10:

Reference: Appendix I and Appendix K

- (a) For purposes of this IR, and assuming all outages associated with feeders listed in Appendix I were eligible for inclusion, please recalculate and provide system-level SAIDI and SAIFI results by year (i.e. including feeders that reported zero or missing CKAFI/CKADI values).
- (b) For each year, identify the difference between the recalculated SAIDI and SAIFI values and the reported SAIDI and SAIFI values in the Annual Performance Standards Reports.

Response IR-10:

- (a) The feeders and corresponding outages listed in Appendix I are all outages on the feeder excluding outages that occur on MEDs, EEDs, SEDs that follow an MED/EED and planned outages as per the established parameters for Performance Standards.
- (b) All-in SAIDI and SAIFI includes all outages (inclusive of MEDs, EEDs, and Planned Outages) and are reported annually in the PS report. The All-in SAIDI and SAIFI results, including all outages is reproduced below for reference.

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Year	SAIDI	SAIFI
2019	11.74	4.52
2020	6.57	2.71
2021	5.6	2.56
2022	74.87	5.82
2023	23.03	4.97
2024	6.34	2.75
2025	10.19	2.92