**Request IR-1:**

**When does NS Power expect to submit C0071888 92H-T61 Transformer Replacement for Board approval?**

**(a) Is approval of this CI contingent on Board approval of the current C0080102 92H-331 Double Circuit Peggy's Cove Rd capital application?**

**(i) If so, please explain.**

**(b) Is the C0080102 92H-331 Double Circuit Peggy's Cove Rd project required if the C0071888 – 92H-T61 Transformer Replacement does not proceed? Please explain.**

Response IR-1:

At the time the 2026 ACE Plan estimate for CI C0071888 92H-T61 Transformer Replacement was developed, a new transformer was planned to be used. This would have required costs to move structures and provide additional means to supply customers. However, CI C0071888 92H-T61 Transformer Replacement will utilize an existing spare transformer, enabling a simpler, immediate and more cost-effective execution due to the spare transformer's physical size. As a result, the project will cost less than $1M and no longer require submission to the NSEB.

(a) No; C0071888 92H-T61 Transformer Replacement is not contingent on Board approval of C0080102 92H-331 Double Circuit Peggy's Cove Rd.

(b) The construction of an additional feeder (identified as 92H 335 in the study) is required to independently address the overload on feeder 92H 331 at 92H Tidewater and is therefore justified on its own merits. While the 92H T61 transformer replacement mitigates the transformer overload, it does not resolve the feeder loading. Each project addresses a

distinct planning recommendation, and the need for the feeder project remains unchanged regardless of whether or when the transformer replacement proceeds.

**Request IR-2:**

**Please describe the expected improvement in system reliability and resiliency by completing this project.**

Response IR-2:

Completion of this project is expected to improve system reliability and resiliency by offloading feeder 92H-331, which currently exceeds the 325 A planning criterion and has no available load transfer options. NS Power anticipates that this project will directly improve the loading and balancing element of the feeder's condition scoring, and ultimately reduce the risk rating of this feeder.

During extreme cold weather events, this feeder required active monitoring for potential load shedding to avoid exceeding conductor and protection limits. Without intervention, it is very likely that, due to the high load conditions, partial feeder outages would be required during future extreme cold weather events to prevent the loss of the entire feeder.

Reduced loading on 92H-331 following completion of this project will allow for faster restorations should outages occur in the future. Heavily loaded distribution feeders can take significant time to restore following an extended outage due to the effects of cold load pickup (increased demand and loss of load diversity). By lowering the baseline load of the feeder, the higher post-restoration load can remain within feeder protection limits.

An additional feeder on Peggy's Cove Rd. will provide new flexibility for partial feeder restorations in the event of an outage on either feeder. Currently, feeder 92H-331 extends radially along Peggy's Cove Rd. with no available feeder ties that could be used for partial restoration.

Finally, potential low voltage issues on 92H-331 during peak loading have been identified through modelling. This project will ensure adequate voltage performance.

**Request IR-3:**

**Please describe the load pickup issues experienced by Feeder 92H-331 during the February 4, 2025, extreme cold event.**

Response IR-3:

NS Power's application referenced an extreme cold event on February 4, 2024 in error; on February 4, 2023, there were significant challenges in restoring a feeder outage on 92H-331, due to the extreme cold weather.

A motor vehicle accident caused damage to a pole and resulted in an outage to feeder 92H-331. Full restoration for all customers was delayed due to the impacts of cold load pickup. Following an outage during extreme cold weather, post-restoration load may exceed pre-outage load by a significant margin due to increased heating demand and loss of load diversity. In this instance, the resulting post-restoration increase of load meant the feeder had to be restored in many stages to prevent the restored load from inadvertently operating feeder protection. This is one of the issues the 325 A feeder design limit is intended to mitigate.

**Request IR-4:**

**Please explain why the work for this project needs to be completed under live load operating conditions.**

**(a) Please explain why this was not envisioned in the 2026 ACE Plan estimate.**

Response IR-4:

Based on the detailed scoping conducted for this project following completion of the 2026 ACE Plan estimate, NS Power concluded that the preferred and most readily constructible solution is to double-circuit the existing pole line supporting distribution feeder 92H-331, which supplies customers along Peggy's Cove Road.

The proposed upgrade involves replacing the majority of the existing 185 poles with taller and higher-strength structures installed within the current pole line alignment. This approach enables the feeder to be double-circuited while minimizing the requirement for additional easements by utilizing the existing right-of-way.

In order to mitigate the potential for customer impacts and limit planned service interruptions on feeder 92H-331 during construction, all new pole installations and associated framing will be installed and transferred under live-line conditions using approved rubber-gloving techniques.

(a) At the time of the 2026 ACE Plan estimate development, NS Power was continuing to evaluate alternative design options along Peggy's Cove Road that would have required additional stakeholder engagement and third-party approvals. One such alternative involved constructing the new feeder on an adjacent Bell Aliant-owned pole line. Utilizing the Bell Aliant pole line on the opposite side of the road would significantly increase construction complexity and cost. This option would require modifications to the existing poles on feeder 92H-331 to accommodate additional guying and anchoring, to

accommodate the construction of a new pole line on the opposite side of the road with its own anchoring requirements. It would also necessitate the establishment of a new right-of-way with sufficient feeder clearances, resulting in extensive vegetation management and acquisition of additional easements along the 6.5km on Peggys' Cove Road. Furthermore, a new Department of Public Works pole permit would be required, along with formal construction agreements with Bell Aliant which could impact the base design upon their review.

**Request IR-5:**

**Please provide a table outlining NS Power's cost per meter to construct three-phase feeders over each of the past five years.**

**(a) Please identify the estimated cost per meter to construct the proposed C0080102 92H-331 Double Circuit Peggy's Cove Rd feeder.**

**(i) Please describe the reasons for any significant difference in this cost compared to historical per meter costs over the past five years.**

Response IR-5:

NS Power does not maintain historical records that track cost per meter for the construction of a double circuited three phase feeder as it is not a typical construction scenario. Accordingly, this information cannot be provided.

(a) In the initial 2026 ACE Plan estimate, a nominal cost assumption of $356,000 per kilometre was applied to develop a high-level estimate of project costs, which excludes site-specific requirements.

The current submission reflects the preferred design and incorporates refined cost estimates derived from NS Power's existing 2026 distribution service agreements.

(i) No significant difference is identified in historical cost-per-kilometer values, as the rates are based on established annual pricing contained within executed master service agreements for distribution line construction.

**Request IR-6:**

**(a) Please provide a list to explain the scopes of the project, project timeline and critical milestones for CI C0080102 92H-331 Double Circuit Peggy's Cove Rd.**

**(b) Please explain the current status of the project, including whether the project is underway or has not yet commenced.**

Response IR-6:

(a) The proposed new feeder, 92H-335, has been divided into 11 discrete construction work orders. Each work order may be constructed independently, allowing NS Power to advance construction progress as the necessary approvals, permissions, and access agreements are obtained:

**Construction Work Orders**

- 92H Substation to 5354 Highway 3
- 5354 Highway 3 to 13589 Peggys Cove Rd
- 13589 to 13387 Peggys Cove Rd
- 13387 to 13136 Peggys Cove Rd
- 13136 to 13925 Peggys Cove Rd
- 13925 to St. Margarets Crescent
- St. Margarets Crescent to 12670 Peggys Cove Rd
- 12699 to Nautical Way
- Nautical Way to 12388 Peggys Cove Rd
- 12388 to Indian Point Rd
- Indian Point Rd to Crouchers Point Rd

**Critical Milestones**

- Third-Party Consents and Authorizations Secured – Target: July 2026
- Easements Secured for Construction – Target: July 2026
- Vegetation Management Activities Completed – Target: July 2026
- Construction commencement – Target: July 2026
- New Feeder 92H-335 Placed in Service – Target: December 2026

Based on current construction readiness, NS Power can partially mitigate near-term loading constraints by temporarily interconnecting with Feeder 92H-332. While this measure provides limited capacity relief, it does not fully address the underlying feeder overload, particularly if Construction Work Orders 1 and 2 have not yet received all required consents and authorizations.

All construction work orders have similar pre-requisites that must be completed prior to execution, as outlined below:

1. Securing of easements
2. Department of Public Works permitting
3. Vegetation management
4. Bell Aliant–approved work requests
5. Utility locates

Due to the multiple easements required, failure to secure any of these would result in either minor or major redesigns to enable construction of the new feeder servicing the Peggy's Cove Road area.

NS Power will prioritize Work Orders #2 through #8, to allow for the ability to introduce an early mitigation measure by sequencing construction as individual work orders become ready.

If required, additional incremental capacity could be achieved through an interconnection with 92H-332 contingent upon completion of a portion of the proposed double-circuit construction along Peggy's Cove Road to Nautical Way. This partial build would enable load transfer from Feeder 92H-331, reducing feeder loading ahead of the next cold-load season. However, this option does not fully mitigate the feeder overload and remains dependent on early work orders being approved and ready for construction. It is therefore only a contingency mitigation measure should the full construction schedule extend beyond December 2026.

(b) NS Power is currently undertaking engineering and planning activities to obtain the necessary third-party consents, authorizations, and permissions to facilitate construction, and also performing vegetation management to ensure that the worksite is adequately prepared for construction execution. Third-party engagement, including customer easement requests and right of way review for permitting, is underway to confirm that the project can be constructed as designed, thereby minimizing the potential for rework and avoiding incremental costs associated with design changes. At this time, NS Power has identified two construction work orders that, based on their current state of readiness, are anticipated to commence construction in the May/June 2026 timeframe. These work orders would facilitate early offloading of feeder 92H-331 onto feeder 92H-332.

**Request IR-7:**

**Assuming the Board approves C0071888 92H-T61 Transformer Replacement:**

**(a) Please explain the necessity of the Stillwater Lake Substation for the proposed CI C0080102 92H-331 Double Circuit Peggy's Cove Rd. project load transfer.**

**(b) Please explain the possibility to transfer load from 137H or 103H feeder(s) to 92H substation.**

Response IR-7:

(a) The Stillwater Lake substation is not required to construct the new feeder on Peggy's Cove Road or to replace transformer 92H-T61. However, it is required for the preferred long-term solution in the Tidewater/Hubley area identified in the planning study submitted as Attachment 1 to the application. The contingency capacity at 92H-Tidewater is limited to approximately 25 MVA, based on loss of the station transformer and installation of the largest available mobile transformer. The preferred long-term solution identified in the study is to limit Tidewater load to below this threshold by converting the Hubley area from 12 kV to 25 kV and transferring it to the proposed Stillwater Lake source, and creating a 25 kV tie point between 103H-Lakeside and Stillwater Lake. This approach provides greater capacity, improved reliability, and better operational flexibility than the other alternatives considered. However, the new feeder on Peggy's Cove Road is required under all foreseeable future scenarios and stands on its own, independent of the outcome of the longer-term plan.

(b) Transferring meaningful load from 137H-Hammonds Plains or 103H-Lakeside to 92H-Tidewater is not a practical long-term solution. Both adjacent sources are 25 kV systems, while Tidewater is 12 kV, so any significant transfer to 92H would necessarily require voltage conversion or installation of step-up transformation. That approach is contrary to

NS Power's overall philosophy for system design, as 25 kV circuits can carry approximately twice the load of 12 kV circuits under the same feeder ampacity constraint. Sufficiently sized step-up transformers would require new distribution substations, which would not be practical to implement. Such conversions would also create new islanded 12 kV distribution within existing 25 kV service areas, which limits capacity and operational flexibility. The Hubley area has already been partially converted from 12 kV to 25 kV to address load growth driven by development and electrification. In addition, load transfers from adjacent sources onto 92H-Tidewater would result in violation of the approximately 25 MVA contingency-capacity limit at Tidewater. Increasing that contingency limit would require installation of a second transformer at 92H; however, space constraints at the existing 92H substation do not permit a second unit, so that option would require construction of a new substation.

**Request IR-8:**

**Please provide the historical number of customers and forecasted number of customers on each feeder under the proposed Alternatives A and B of Attachment 1 (M-AREA-2025-002) for the 2022 to 2035 period, for the following feeders:**

**(a) 92H-331**

**(b) 92H-332**

**(c) 92H-334**

**(d) 92H-335**

Response IR-8:

(a-d) Customer count forecasts are not developed at the individual distribution feeder level and therefore cannot be provided to 2035. Historical feeder customer counts for 2022 to 2025 are provided in Table 7 (page 12 of 52) of the planning study included as Attachment 1 to the application, and reproduced below for ease of reference. The feeder growth rates used in the study are based on historical load trends and reflect both new customer connections and increased customer demand, including demand growth associated with electrification.

| Transformer | Feeder | Customer Counts | | | | Feeder Peaks (A) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2022 | 2023 | 2024 | 2025 | 2022 | 2023 | 2024 | 2025 | Growth (%) |
| 92H-T61 | 92H-331 | 2,451 | 2,521 | 2,557 | 2,515 | 372 | 369 | 413 | 432 | 4.3% |
| | 92H-332 | 1,141 | 1,166 | 1,177 | 1,175 | 255 | 230 | 271 | 280 | 3.4% |
| | 92H-334 | 1,191 | 1,210 | 1,218 | 1,203 | 216 | 188 | 215 | 239 | 3.6% |
| 137H-T61 | 137H-411 | 3,173 | 3,361 | 3,597 | 3,623 | 292 | 302 | 357 | 337 | 4.4% |
| | 137H-412 | 3,031 | 3,108 | 3,157 | 3,133 | 341 | 320 | 330 | 385 | 3.3% |
| | 137H-413 | 4,551 | 4,678 | 4,856 | 4,871 | 345 | 333 | 365 | 358 | 1.9% |
| | 137H-414 | N/A | 266 | 441 | 439 | N/A | 65 | 77 | 94 | N/A |

**Request IR-9:**

**Please confirm whether the proposed double circuit/circuit extension is 92H-335.**

Response IR-9:

Confirmed.

**Request IR-10:**

**In Attachment 1 (M-AREA-2025-002), Section 3.1, NS Power noted that limited SCADA/PI data is available, and data prior to 2022 could not be validated. In addition, Table 7 and Figure 4 indicate that the winter peak load on feeder 92H-331 has exceeded its design limit since at least 2022. Considering the proposed annual growth is 4.3% for 92H-331, please address the following:**

**(a) Why did NS Power not propose the project at an earlier date?**

**(b) How did NS Power manage or mitigate the overload conditions on feeder 92H-331?**

**(c) Please provide technical documentation describing NS Power's operating procedures for managing the distribution system overload conditions, including but not limited to:**

**(i) The maximum allowable overload capacity.**

**(ii) The permissible duration of overload conditions.**

**(iii) The process to identify the overload condition as temporary or persistent.**

**(iv) The escalated process to result in the persistent overload.**

**(d) The figures and tables provided present only annual winter peak load conditions.**

**(i) Please provide additional records for regular feeder load conditions.**

**(ii) Please explain the frequency and duration of the feeder overload conditions on this feeder.**

**(e) Please provide records of any customer complaints related to power quality on feeder 92H-331, if any such complaints exist.**

Response IR-10:

(a) Load growth has materialized very quickly in this area and real-time monitoring of loading is not installed at this location. As a result, identification of the overloaded condition was delayed and operational concerns progressed more quickly than what is typical of distribution feeders. Once identified, a detailed analysis (M-AREA-2025-002) was initiated to determine the preferred solution ahead of the capital submission. In parallel with this study, preliminary design work and long-lead equipment and easement procurement for the anticipated solution were advanced to streamline the construction upon project approval.

(b) The operational impacts resulting from the overloaded condition on 92H-331 have been managed by NS Power through several measures in recent years. Once the overloaded condition was identified, NS Power's Regional Engineering team reviewed the thermal limits of feeder equipment to confirm that damage would not occur, performed phase balancing, optimized protection settings to reduce the risk of customer outages due to high loading, and evaluated opportunities for load transfer. However, these mitigation measures do not sufficiently reduce the operational risk on this feeder, ultimately necessitating the project.

(c) Each distribution feeder has unique characteristics and limitations that must be considered when mitigating the potential risks from overloading conditions. Where an overload is identified, it is monitored closely by the NS Power Regional Engineering team and interim mitigation measures, as described in response to part (b) above, are used until a permanent capital solution is implemented. There is no general technical document that prescribes this process for all feeders.

The typical planning limit for distribution feeders is 325 A, unless a lower limit applies due to feeder-specific thermal or protection-coordination constraints. This planning limit is intended to keep standard equipment within normal ratings, provide limited headroom for temporary increases in loading during extreme cold weather or cold load pickup, and maintain some operational flexibility for feeder transfers (if available) during outages or equipment isolation.

(d) (i) The SCADA equipment required for hourly load trending is not installed on these feeders. Upgrades are planned to add this capability in 2026. The study considered a typical winter peak, that may happen several times per year, based on the development of load models using available meter data.

(ii) Based on the magnitude of the overload on 92H-331, and the typical load shape of residential distribution feeders, it is expected that this feeder experiences load above the 325 A design limit on most winter mornings and evenings for approximately 2-3 hours at a time.

(e) NS Power has received customer complaints related to power quality on feeder 92H-331. Most recently, a complaint was submitted through the Board under file M12730, concerning service in the Bailey/Janda Court area. In response to recent concerns, NS Power has completed substantial feeder balancing work, upstream of the low voltage area, to reduce voltage unbalance at the regulators and reduce peak load on the most heavily loaded phase at the substation. In addition, a failed regulator on this feeder earlier this year contributed to degraded power quality for customers on the affected phase until repairs were completed. Offloading feeder 92H-331 is expected to improve customer service quality and reduce stress on downstream feeder equipment that has been subject to high loading for several years.

**Request IR-11:**

**In Attachment 1, p. 16, NS Power noted the following about the load forecast:**

> **There was limited historical data available, and data prior to 2021 (for 137H) and prior to 2022 (for 92H) could not be validated. The load forecast is developed using a linear regression trend of historical peaks calculated with the Excel FORECAST function. Year-to-year variability is captured by determining the historical percentage deviation from the trend line and applying the 90th-percentile deviation as an adjustment factor.**

**(a) Please explain the "Excel FORECAST function" referenced above and describe how this function is used to predict load growth.**

**(b) Please confirm whether the same forecasting function and methodology is used by NS Power to predict load growth for other projects.**

Response IR-11:

(a) The FORECAST function in Excel predicts a future value by fitting a straight-line trend to known historical data. It uses linear regression to estimate what the dependent value would be at a specified independent value.

To account for year-to-year variability caused by weather patterns, the historical percentage deviation of actual loads from the trend line is calculated, and the 90th-percentile deviation is applied as an adjustment factor. This approach produces a planning forecast that reflects both the long-term load trend and the upper range of historical variability.

(b) Confirmed. This methodology is standard for NS Power distribution planning studies.

**Request IR-12:**

**(a) Most 92H feeders are adjacent to 25 kV feeders supplied from the 137H and 103H substations. Please explain why under Alternative A, NS Power proposes to convert only a portion of 92H-332 to 25 kV instead of the entire circuit.**

**(b) Please explain the technical feasibility and associated costs (including unit costs and total costs) to convert the entire 92H substation to 25 kV, or alternatively to convert selected feeders such as 92H-331 and 92H-332 to 25 kV?**

**(c) Please describe the technical specification and cost details for CI C0071888, T61 transformer.**

**(d) Please assess the feasibility and associated costs of replacing the proposed T61 transformer with a transformer capable of supplying dual secondary distribution voltages for both 25 kV and 12 kV.**

**(e) Please describe the feasibility and associated costs of converting a portion of 92H-331 circuit to the 25 kV system and temporarily transferring load to feeder 103H-434 as a mitigation measure to address existing overload conditions.**

**(f) Please describe the feasibility and associated costs of installing transformers to convert the output voltage of connected generation plants to 25 kV.**

Response IR-12:

(a) The study indicates that the preferred long-term strategy is to limit the 12 kV Tidewater system to the coastal area and to transfer the growing Hubley load to a new 25 kV source from Stillwater Lake. The Hubley portion of 92H-332 is therefore the portion identified for conversion and transfer. This accounts for almost all of the load on 92H-332 while

maintaining its tie to 92H-331. The total conversion of 92H-332 is not required to address the capacity requirements and would eliminate a feeder tie between 92H-331 and 92H-332, reducing reliability.

(b) Conversion or partial conversion of the 92H system is not a practical solution to address the capacity issues identified in the study. The required scope would take several additional years to execute, would cost significantly more than the proposed solution, and would rely on creation of upstream 25 kV capacity that does not presently exist. Assuming that new 25 kV capacity was made available through a separate project, and excluding necessary additional work that cannot be currently estimated without further analysis, the approximate cost of a full conversion of the 92H system and associated feeder work would be in excess of $22.5 million.

Although there are 25 kV sources adjacent to 92H 12 kV feeders, this in itself does not enable voltage conversion. To complete a feeder voltage conversion, line upgrades are made at the current voltage level and dual-rating transformers are installed at each service point. Brief outages are then taken to reconfigure transformers in small sections and transfer those sections to the new voltage level. To facilitate this process, a feeder tie point at the desired voltage is required so work can proceed from feeder extent back toward the source. Step-down transformers can provide some flexibility by segmenting the voltage between different sections; however, they are generally limited to sizes that can be installed on pole-mounted platforms.

The following paragraphs will describe the scope and feasibility of converting each of the 92H feeders, including the high-level estimates that comprise the $22.5 million total referenced above.

The total cost to convert 92H-331 would be approximately $13.4 million, not including any prerequisite work to provide the necessary 25 kV capacity.

- The cost to convert 92H-331 distribution equipment from 12 kV to 25 kV would be approximately $4.7 million.

- Significant work would be required to leverage the nearest 25 kV source, 103H-434. First, the 103H-Lakeside substation is at its design capacity. Engineering is already underway to determine the preferred solution to address future capacity constraints at 103H and in the surrounding Bayers Lake, Fairview, and Rockingham areas, but resolution is not expected until at least 2028. Second, feeder 103H-434 itself is overloaded. Ongoing work to add a second feeder along Prospect Road (CI C0031117) is not expected to create significant additional capacity on 103H-434; rather, it is intended to improve capacity and operational flexibility to reliably serve the area currently supplied by 103H-434. Third, even if capacity from the 103H substation were available and there was capacity on feeder 103H-434, an approximately 15 km three-phase line upgrade/extension would be required to connect 92H-331 to 103H-434, at an approximate cost of $5.0 million.

- Even with a suitable line upgrade on 103H, it would not be feasible to convert and transfer the entire 92H-331 feeder due to the resulting circuit length causing voltage to drop below acceptable levels. Consequently, to achieve conversion of 92H-331, a new 25 kV source in Tidewater would therefore still be required, together with a feeder extension at least part way down Peggy's Cove Road. Detailed design would be required to confirm the required extent of this feeder, but it is expected to be at least 11 km to Seabright, at an approximate cost of $3.7 million.

The total cost to convert 92H-332 would be approximately $4.54 million.

- The study recommends conversion of most of 92H-332 as part of the long-term solution to maintain total 92H area load below the approximate contingency capacity of 25 MVA, at an approximate cost of $3.24 million.

- Converting the remainder of 92H-332 would add approximately $1.3 million.

The total cost to convert 92H-334 would be approximately $4.65 million, not including the redevelopment and upgrades required for hydro generation collector circuits.

- The cost to convert 92H-334 distribution from 12 kV to 25 kV would cost approximately $2.55 million.

- As there is no nearby 25 kV source at the feeder extent, additional major work would also be required. Assuming a new 25 kV source were available at Tidewater, a feeder would need to be constructed in parallel with 92H-334 along almost its entire length, at an approximate cost of $2.1 million. In addition, the Tidewater, Sandy Lake, and Mill Lake hydro generation collector circuits and associated protection equipment would need to be completely redeveloped. Detailed design would be required before accurate estimates for that work could be developed.

(c) Transformer 92H-T61 is planned to be replaced with a 138/69-13.2 kV, 15/20/25 MVA transformer sourced from the NS Power spare transformer storage facility. Since the transformer is a spare unit, no costs will be allocated to CI C0071888.

(d) The total conversion of 92H to 25 kV is not being considered due to the cost and feasibility concerns described in part (b).

(e) Please refer to part (b).

(f) Detailed design would be required to determine the feasibility and estimates for this work. As the total conversion of 92H to 25 kV is not being considered, this design work is not being pursued at this time.

**Request IR-13:**

**In Attachment 1, Section 5.1.1, NS Power noted the following:**

> **… recent operating experience has shown that hydro availability cannot be relied upon during winter peak seasons. For these reasons, the hydro capacity are not included in 92H contingency capacity calculations.**

**(a) Please describe NS Power's new strategy to utilize the mentioned hydro generations.**

**(b) How does this affect NS Power's system planning when upgrading related feeders and facilities?**

Response IR-13:

(a) The study does not indicate a new strategy to rely on hydro generation for winter peak planning. Rather, it states that in 2025 hydro generation from Tidewater, Sandy Lake, and Mill Lake was dispatched during peak periods to help manage loading on transformer 92H-T61, but that drought conditions in 2025 significantly limited hydro availability during the winter of 2026 and that the station could not consistently rely on hydro dispatch to sufficiently offset peak loading.

(b) This means that permanent system upgrades must be planned on the basis that hydro generation is not always available to support winter peak loading or contingency supply at 92H. The study states that hydro capacity is not included in 92H contingency capacity calculations because hydro availability cannot be relied upon during winter peak seasons. As a result, the required upgrades are based on permanent infrastructure solutions, including replacement of 92H-T61, construction of feeder 92H-335, and long-term load reduction on the Tidewater system through Hubley conversion and transfer to Stillwater Lake.

**Request IR-14:**

**NS Power noted that the 92H substation is constructed of wood and is expected to require replacement within the next 10 years due to material deterioration. Further, in Attachment 1, section 6.3.1, NS Power stated the following:**

> **To address the deteriorated structures in the 92H substation, it is recommended that it is rebuilt in place in 2033. The feasibility and scope of this will need to be verified. A very conservative estimate equivalent to building a new substation (less the cost of a transformer) on nearby NS Power land will be used to account for the uncertainty with this work.**
>
> **The scope of this alternative is as follows:**
>
> **…**
>
> **- Rebuild the Tidewater substation in its current location, using a mobile transformer to temporarily supply feeders during demolition and construction.**

**(a) Please describe NS Power's plan to redistribute the load currently supplied by the 92H substation during the substation rebuild period.**

**(b) Please clarify the proposed rebuild plan for the 92H substation under this alternative and confirm the budget of $7,000,000 in Table 17, including whether the rebuild is proposed to be:**

- **At the existing 92H substation location, or**
- **At the nearby NS Power land.**

**(c) If the plan is to rebuild the 92H substation at its existing location, please explain whether the site can accommodate, first, the proposed new T61 transformer, which**

**has double the capacity of the existing transformer, and second, the addition of feeder 92H-335.**

**(d) Please describe the proposed structure type and construction materials for the 92H substation rebuild under Alternative A.**

**(e) If the existing 92H site cannot accommodate the proposed facilities under Alternative A and a rebuild at a new location is required, please update the scope and cost estimate of Alternative A accordingly. In addition, provide a revised comparison of all alternatives.**

Response IR-14:

Work to rebuild the 92H substation is outside of the scope of current submissions.

(a) Under Alternative A, the study states that the Tidewater substation would be rebuilt in its current location, using a mobile transformer to temporarily supply feeders during demolition and construction.

(b) The study states that for the purposes of alternative analysis, it is recommended under Alternative A to rebuild the Tidewater substation in its current location in 2033. However, it also states that the feasibility and scope must be verified, and that a very conservative estimate equivalent to building a new substation (less the cost of a transformer) on nearby NS Power land was used to account for the uncertainty. The $7,000,000 budget in Table 17 of the study is therefore a conservative estimating allowance rather than confirmation that the rebuild would occur on nearby land. This was intended to demonstrate the strong preference for Alternative A.

(c) It has been confirmed that the existing transformer pad is adequate to support the new 25 MVA transformer. The additional feeder will be installed as a pole-mounted recloser adjacent to the substation.

(d) The structure will be a like-for-like design and constructed of wood. Given the planned relocation of the substation, using the existing design and wood materials represents the most cost-effective approach for this project.

(e) Please refer to parts (b) and (c).

**Request IR-15:**

**(a) Did NS Power explore the following alternatives for the project:**

**(i) Conversion of feeders 92H-331 and 92H-332 to 25 kV system, and if technically possible, convert 92H-334 to 25 kV system.**

**(ii) Installation of a new T61 transformer (138kV to 25 kV) rated at 25 MVA or higher if required, or if 92H-334 must remain as 12 kV and technically feasible, installation of a T61 transformer capable of supplying dual secondary distribution voltage levels (138 kV to 25 kV and 12 kV).**

**(iii) Depending on the availability of T61 voltage configurations:**

- **option 1 to retain feeder 92H-334 as a 12 kV feeder to maintain the connection between the hydro system to 87W.**

- **option 2 to connect feeder 92H-334 and associated hydro generators using step-down transformers or a dual-secondary T61 transformer.**

**(iv) Interconnection of the new 25 kV feeders from 92H with adjacent 25 kV feeders from 103H and 137H to transition the system from a single-source circuit to a multi-source circuit, which would enable load sharing and improve reliability.**

**(v) As a temporary measure to address overload conditions, convert portions of the 92H-331 circuit to a 25 kV system and transfer load to feeder 103H-434, and if needed, convert portions of feeder 92H-332 to 25 kV and transfer load to feeder 103H-432.**

**(vi) Rebuilding the 92H substation either at the existing location or on the nearby NS Power land, as required based on technical considerations.**

**(b) If not, why not?**

**(c) If so, please explain why this option was not preferred.**

Response IR-15:

(a-c) Yes, the study explored or substantively considered the listed alternatives, but not all were developed as formal standalone alternatives. Please refer to NSEB IR-12.