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1 **Request IR-1:**

2
3 **With respect to Section 4.1, please provide the “further language” discussed on p. 27, lines**
4 **15-20.**

5
6 Response IR-1:

7
8 Further language in this instance would mean adding language into the current definition of scope
9 and/or scope change to clearly define that when the alternative defended under the Why do the
10 Project This Way section of the application changes after project approval, that would trigger a
11 scope change filing. Currently, the scope change definition reads as follows:

12
13 Scope Change: A project is considered to have had a scope change when the stated intent
14 from the original capital application of the project description has been changed.

15
16 Adding the further language would update the scope change definition to the following (further
17 language bolded):

18
19 Scope Change: A project is considered to have had a scope change when the stated intent
20 from the original capital application of the project description has been changed. **A change**
21 **in intent would occur when the alternative defended under the Why do this Project**
22 **This Way section of the application changes.**

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Request IR-2:

With respect to Appendix D, p. 7 and p. 44, would a scope change be considered to have occurred when a new asset is added to the project? For example, a project involving refurbishment of a dam and dyke is revised to include significant civil work on an adjacent (second) dyke. If, in responding to this question, NS Power views it as reasonable to consider (not necessarily support) revised language, please provide proposed edits that would effectuate the change.

Response IR-2:

The instance detailed above would not require a scope change as the dyke structures would be considered part of the overall dam system related to that Hydro generating station. As an example, if NS Power was completing a dam refurbishment related to the Malay Falls Dam, and an adjacent dyke, also used for the purpose of controlling water that flows through the Malay Falls generating station, was found to also require refurbishment to complete the dam refurbishment, then the overall intent of the project (refurbishing the Malay Falls Dam) remains consistent with the original filing. It is important to note that additional work such as this that is added to the project has a high likelihood of driving additional costs for the project, thus triggering an Authorization to Overspend (ATO) application, and resulting regulatory process to confirm its prudence.

Accordingly, NS Power does not consider it necessary to amend language in the CEJC to capture this scenario.

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Request IR-3:

With respect to Appendix D, p. 21, does NS Power view it as necessary or helpful to revise the summary of the capital work budget thresholds to reflect the Board’s decision in M12417 that, “NS Power is directed to submit any future capital expenditures that exceed \$1 million for approval to the Board, regardless of the source of funding.” If, in responding to this question, NS Power views it as reasonable to consider (not necessarily support) revised language, please provide proposed edits that would effectuate the change.

Response IR-3:

No, the language in the CEJC aligns with Section 35 of the *Public Utilities Act* (PUA). The NSEB direction provides its interpretation of the language contained in the PUA and the additional requirements for NS Power capital submissions. The CEJC is not meant to list all directives from the Board; accordingly, providing this language is not seen as providing additional value at this time.

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1 **Request IR-4:**

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3 **With respect to Appendix D, p. 39, please provide NS Power's view on a revision to the**
4 **definition of a related project that would include CIs for like assets at a Steam/Gas Turbine**
5 **or Hydro unit, where like would be defined as units that can be substituted for one another**
6 **in the normal course of business. For example, work on any of the rotating LM6000 engines.**
7 **If, in responding to this question, NS Power views it as reasonable to consider (not necessarily**
8 **support) revised language, please provide proposed edits that would effectuate the change.**
9

10 **Response IR-4:**

11
12 NS Power is open to considering this change, however, considers it important to note that the only
13 instance where this would lead to a change in approach would be the rotating LM6000 Engines
14 where currently related projects only list projects on the specific engine that the capital project is
15 related to. Potential wording change that could be proposed as an update through to the CEJC
16 through a compliance filing could be as follows (added language in bold, removed language in
17 strikethrough):
18

19 Related Projects approved or having taken place in the past 2 years, current year or
20 anticipated for the next 2 years including the projects' estimated costs. When multiple
21 projects relate to the same asset **(or an asset that can be used to replace this asset in the**
22 **normal course of operations)**, or initiative they should be considered related and listed in
23 the project description. ~~grouped as a package.~~

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Request IR-5:

With respect Figure 7, during the technical conference, NS Power explained that due to new wind projects being added to the scope of work for C0072808 (Synchronous Condensers), the number of units increased from 4 to 8 units and the budget has increased by \$121 million. Understanding that the project will be defined in a subsequent submittal, please provide a description of:

- (a) How the scope of the project was originally defined,**
- (b) How the scope of the project was increased, and**
- (c) How the procurement process was affected by the scope change.**

Response IR-5:

(a-b) Please refer to NSEB IR-6 part (a).

(c) NS Power continues to develop the scope of this project and is seeking pricing from proponents for nine synchronous condensers, as wind farms with a larger capacity output may require two units. As indicated in NSEB IR-6, NS Power plans to bring forward a separate capital filing for the project in 2026.

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Request IR-6:

With respect to Section 6.0:

- (a) Please provide the number of hours of cumulative service and years of service for LM6000 Unit 191-253, identifying how many of those hours and years were accumulated before NS Power took ownership of the unit in 2012.
- (b) Please explain how many hours of cumulative service and years of service an LM6000 unit might reasonably be expected to achieve before unit replacement given the coastal operating conditions. If there is no official answer to this question (e.g., from GE), please provide NS Power's best estimate. Please provide any supporting documentation, such as data on the actual lifetime of comparable units.
- (c) Please provide the date for the next scheduled major refurbishment or replacement for Unit 253.
- (d) Please explain whether a decision has been made on whether Unit 253 will be a refurbishment or replacement, and on what basis. Please include any supporting documentation.
- (e) If no decision has been made, please explain the process by which such a decision will be made, including dates for key milestones.

Response IR-6:

NS Power notes that LM6000 Engine 191-253 is not part of the current ACE filing, and the unit is not included in the separate LM6000 proceedings currently before the Board (M12416); the information provided below is strictly in response to the IR.

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- 1 (a) As of the 2026 planning year, LM6000 Engine 191-253 has accumulated 100,925 total
2 fired hours. Of this total, approximately 50,120 fired hours were accumulated before NS
3 Power acquired the engine in 2012, and approximately 50,805 fired hours have been
4 accumulated since NS Power took ownership.
5
- 6 (b) GE does not define a fixed retirement life for LM6000 engines; their service life can be
7 indefinitely extended through scheduled hot section refurbishments and major overhauls.
8 Industry practice and third-party expert guidance (TGA) indicate typical maintenance
9 intervals of approximately 21,000 fired hours between hot-section refurbishments and
10 approximately 45,000 fired hours between major overhauls. At normal utilization, these
11 intervals correspond to approximately five years between major capital reinvestments.
12 Engines maintained on this cycle routinely exceed 100,000 fired hours of total service life,
13 consistent with the current operating profile and condition of engine 191-253 following its
14 2023 overhaul.
15
- 16 (c) Following the 2023 major overhaul and based on NS Power's planning interval of
17 approximately 45,000 fired hours between major engine overhauls, the next major
18 refurbishment or replacement for Engine 191-253 is projected for 2033–2034, subject to
19 actual annual operating hours, starts, and ongoing condition-based assessments.
20
- 21 (d) No final decision has been made regarding whether the next major event for Engine
22 191-253 (2033–2034) will be a refurbishment or a full engine replacement. The final
23 determination will be made closer to the refurbishment window, informed by engine
24 performance, maintenance findings, and the relative economics of refurbishment versus
25 replacement at that time.
26
- 27 (e) NS Power will determine whether Engine 191-253 should be refurbished or replaced
28 during the planning cycle leading up to its next major overhaul, expected in 2033–2034,
29 with sufficient lead time to accommodate engine procurement timelines that are currently
30 approximately two to two and a half years. This decision will be based on condition
-

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1 assessments, operational needs, and market pricing for LM6000 replacements, and NS
2 Power will adjust the plan accordingly should engine conditions or market conditions
3 change.

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Request IR-7:

With respect to Figure 35:

(a) Please provide actual (or forecast, for 2026) person-hours by regular and overtime for each distribution routine, for the years 2022-2026.

(b) Please provide an explanation and justification for the quantity of overtime hours for each routine, discussing any evident trends, identifying drivers, and explaining why sufficient personnel cannot be assigned to complete the required work during regular hours.

(c) Please confirm that NS Power does not schedule powerline technicians for regular shifts 24 hours per day, 7 days per week but rather uses overtime to cover responses to outages and trouble calls as well as for other scheduling reasons (see Exhibit N-7, CA RIR-31(b), M12012) during hours outside of the regular workday. Please explain the response and the reason for this business practice.

(d) Is it possible to procure external contractors for work that must be conducted outside of regular hours at rates lower than overtime? Please distinguish between responses to outages and trouble calls and work that is normally scheduled in advance.

Response IR-7:

(a) D005 is the only routine that uses person-hours. Below are the 2022-2026 Person Hours by Regular and Overtime Labour.

D005 - Unplanned Replace Deteriorated	2022 Actuals	2023 Actuals	2024 Actuals	2025 Actuals	2026 Budget
# of Person Hours Reg	38,170	48,744	51,318	33,100	40,549
# of Person Hours OT	27,966	28,064	31,084	28,643	27,021

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D005 - Unplanned Replace Deteriorated	2022 Actuals	2023 Actuals	2024 Actuals	2025 Actuals	2026 Budget
Total Person Hours	66,136	76,808	82,403	61,742	67,571
Average Person Hour Cost (\$)	270	315	320	348	332
Total Net Actuals (\$)*	17,884,715	24,220,639	26,385,283	21,501,960	22,418,590

* As figures in the table are rounded to the nearest dollar, calculations may differ due to rounding.

Below is the 2026 labour forecast for the remaining Distribution routines.

Routine	2026 Forecast (\$)	
	Regular & Term Labour	Overtime Labour
D004	3,363,603	1,033,476
D006	497,226	243,216
D007	449,507	219,870
D008	308,951	1,558,675
D051	400,000	-
D055	2,912,574	722,651
D061	6,981,629	2,027,385
D062	2,152,762	726,327

- (b) There are multiple reasons why overtime may be utilized for all distribution routines. Those factors may include the complexity of the work involved, constraints around time of day that work is able to take place for roads restrictions, planned outages, or otherwise, and/or requiring overtime to complete work that was previously disrupted by trouble call response to meet required service levels. The reactive nature of routines such as D005 or T001 results in unplanned overtime.
- (c) Confirmed. This business practice exists for a variety of reasons. The variability of trouble / outage calls requiring a response after regular working hours limits the benefit of having a 24/7 shift in most of the province. Planned work that can be performed outside of standard business hours is limited and often, cannot be completed safely or effectively during extended off hours. For these reasons, NS Power's overtime-based model remains the most practical and cost-effective approach to ensuring resource availability when absolutely

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1 required without incurring the significant costs of maintaining regular staffing over a 24/7
2 period.

3
4 (d) External contractors also have an overtime mark up rate that would apply in the situations
5 that NS Power would be paying internal overtime, governed by a separate union contract.
6 Similar mark ups would therefore apply to any contractors that would be available to fill
7 those irregular hour gaps, resulting in a potential increase of costs.

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Request IR-8:

With respect to Section 10, please explain how the Project Delivery Model (PDM) is applied to capital routine projects. If the PDM is not applied to capital routine projects, please provide a table with the following information:

- (a) Each element of the PDM,**
- (b) The purpose, objective, etc. of the element in (a),**
- (c) Any equivalent practice(s) or process(es) in NS Power's management of capital routine projects,**
- (d) The frequency or triggering event that causes the activities described in (c) to occur, and**
- (e) The reason for the difference in practice or process between the PDM element and the activity described in (c).**

Response IR-8:

The Project Delivery Model (PDM) is applied to all capital projects, routines included. However, as detailed through previous ACE Plan processes, all elements of the PDM are not required on all capital projects as NS Power is mindful to only require project managers to complete tasks that are expected to provide value to the project in question. For this reason, many of the PDM elements are not required for routines as they generally represent very repetitive tasks that do not experience significant change from one job to the other. The elements of the PDM that are applied to the routine program are: Basis of Estimate, Cost Minimization, Post Project Review / Lessons Learned, and Project Safety Plan (completed via the Field Level Risk Assessment process as most routines are made up of smaller scale, higher quantity tasks).

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Elements of the PDM that are not required to be documented as part of the routine program are detailed below. It is important to note that while not required to be completed as part of the routine program as a whole, some of these elements certainly can be used for portions of the routine program where a project manager considers them to be helpful.

(a-e) Please refer to the table below.

PDM Element	Purpose/Objective	Equivalent Practice/Process	Triggering Event	Reason for difference
Project Inception Form	This element is to provide information related to the project, including items such as location, scope, operational considerations, etc.	No equivalent process occurs, as this requirement is not needed as routines continue year over year and does not require a restart each year.	N/A	N/A
Project Charter	This element is intended for the project manager to fill out the justification of the project, financial information and project risks.	No equivalent process occurs, as these projects are already justified and accepted.	N/A	N/A
Risk Register	This element is intended for the project team to highlight any potential risks of the project, either in planning or during execution of the project.	No equivalent process occurs, as these projects are repetitive in nature with risks already well understood by individuals who work on these projects.	N/A	N/A
Basis of Schedule	This element is to build the project schedule to help ensure that timelines are met and resources are planned in advance of the work commencing.	No equivalent process occurs, as the routine program is made up primarily of small scale, like for like replacements that happen over a short period of time where scheduling generally does not vary considerably or are reactive in nature and do not undergo pre-planning activities.	N/A	N/A

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Request IR-9:

With respect to Figure 43, please provide the number of meters actually procured for 2022-2025 along with the 2026 procurement count shown in Figure 43 in an excel spreadsheet, and provide a narrative explanation of any significant trends in quantity or type of meter.

Response IR-9:

Please refer to the table below for an annual summary. Please refer to Attachment 1 for the detailed information.

<u>Meter Procurement Forecast vs Actual</u>		
Year	Forecast Count	Actual Count
2022	6,724	7,564
2023	13,588	13,404
2024	16,854	16,512
2025	19,606	18,768
2026	11,104	N/A

A small variance in forecast versus actual procured every year is expected. The year over year trend was driven primarily by new customer growth, fluctuations between new service types (i.e. residential single-phase vs apartment network meters), damaged meters, opt-out customers opting back in, supply chain delays, and maintaining a working inventory in depots across the province.

MC

NSP Item#

			Meter Type	Meter Style	PART #	Description	Actuals				Forecast
1.0 Element, 120-240 volt			1.0 Element, 120-240 volt				2022	2023	2024	2025	2026
	208252	103	CP3SRA 3S (5 Jaw)	ltron Centron	3450560	CP3SRA (HW4.1) 3S CL20 OPENWAY RIVA CENTRON POLYPHASE METER. 120V-277V. BID	480	480	768	672	384
	208253	104	CP3SRA 3S (5 Jaw) TOU	ltron Centron	3450564	CP3SRA (HW4.1) 3S CL20 OPENWAY RIVA CENTRON POLYPHASE METER. 120V-277V. (TOU)BID	172	96	288	192	192
1.5 Element, 120-240 volt			1.5 Element, 120-240 volt			Description					
						C2SR (HW 4.1) 2S CL320 OPENWAY RIVA CENTRON no DISCONNECT.	0	108	240	360	240
		102	C2SRD	Centron	3450510	C2SRD (HW 4.1) 2S CL200 OPENWAY RIVA CENTRON W/ DISCONNECT.	0	600	2280	1920	3480
		102	C2SRD tou/bid	Centron	3450512	C2SRD (HW 4.1) 2S CL200 OPENWAY RIVA CENTRON W/ DISCONNECT (TOU)BID	360	4440	5280	6840	4440
		102	C2SR	Centron	3450569	C2SR (HW4.1) 2S CL200 OPENWAY RIVA CENTRON "NO DISCONNECT"	600	1560	0	0	120
						Cellular adder single phase	0	0	0	0	8
2.0 Element, 120-480 volt			2.0 Element, 120-480 volt			Description					
			12s		3450511	CN2SRD (HW 4.1) 12S CL200 OPENWAY RIVA CENTRON W/ DISCONNECT	4320	5160	5760	6960	720
			12s		3450513	CN2SRD (HW 4.1) 12S CL200 OPENWAY RIVA CENTRON W/ DISCONNECT (TOU)	0	0	72	0	360
			CP3SRA 12s poly		3450559	CP3SRA (HW4.1), 12S CL200 OPENWAY RIVA CENTRON POLYPHASE METER. 120V-277V	96	0	0	0	96
	208254		CP3SRA 45s LV	Centron	3450565	CP3SRA (HW4.1) 45S CL20 OPENWAY RIVA CENTRON POLYPHASE METER. 120V-277V	96	0	96	0	96
3.0 Element, 120-347 volt			3.0 Element, 120-347 volt			Description					
	208256		CP3SRAForm 9s	Centron	3450561	CP3SRA (HW4.1) 9S/36S CL20 OPENWAY RIVA CENTRON POLYPHASE METER. 120V-277V	480	288	576	576	288
	208258		CP3SRA 16S LV	Centron	3450562	CP3SRA (HW4.1) 16S CL200 OPENWAY RIVA CENTRON POLYPHASE METER. 120V-277V	576	288	576	576	288
	208260		CP3SRA 16S HV	Centron	3450563	CP3SRA (HW4.1) 16S CL200 OPENWAY RIVA CENTRON POLYPHASE METER. 240V-480V	384	384	576	672	384
						Cellular adder three phase	0	0	0	0	8
						Total Meters	7564	13404	16512	18768	11104

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Request IR-10:

With respect to Section 11.1.4:

- (a) Please provide tables with the data for Figures 59 and 60. Please provide columns for Atlantic Utilities both with and without NS Power included,
- (b) Please explain how the average of Atlantic Utilities outage frequency and duration is calculated for Figures 59 and 60 (e.g., weighted based on peak load of each utility),
- (c) Please provide the final 2024 reliability statistics (Figures 61-71),
- (d) Please comment on any important developments in 2024 that influenced these outcomes, and
- (e) Please provide the final terms of reference for CEATP's Grid Resiliency Working Group (p. 97).

Response IR-10:

- (a) The data used to generate Figure 59 and the Atlantic Utilities SAIFI (NS Power Excluded) is provided below:

Year	NS Power SAIFI	Atlantic Utilities SAIFI	Atlantic Utilities SAIFI (NS Power Excluded)
2015	2.39	2.96	3.34
2016	3.42	3.29	3.20
2017	2.81	3.23	3.52
2018	4.56	4.19	3.93

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2019	4.53	3.67	3.06
2020	2.71	2.86	2.97
2021	2.56	2.79	2.95
2022	5.82	4.52	3.60
2023	4.97	4.18	3.63
2024	2.75	2.77	2.78

The data used to generate Figure 60 and the Atlantic Utilities SAIDI (NS Power Excluded) is provided below:

Year	NS Power SAIDI	Atlantic Utilities SAIDI	Atlantic Utilities SAIDI (NS Power Excluded)
2015	4.86	6.32	7.31
2016	11.90	9.77	8.30
2017	8.57	14.19	18.08
2018	16.26	16.55	16.75
2019	43.89	26.37	13.81
2020	6.57	7.21	7.66
2021	5.60	6.03	6.33
2022	74.87	47.69	28.52
2023	23.03	18.44	15.22
2024	6.34	6.91	7.31

- (b) The Atlantic Utilities SAIFI and SAIDI are calculated based on the totals of all Customers, Customer Interruptions, and Customer Hours of Interruption each year of the utilities included in the comparator group. Please refer to the formulas below.

$$SAIFI = \frac{\sum CI}{\sum Customers} = \frac{CI_{Utility\ 1} + CI_{Utility\ 2} + CI_{Utility\ 3} + \dots}{Customers_{Utility\ 1} + Customers_{Utility\ 2} + Customers_{Utility\ 3} + \dots}$$

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$$SAIDI = \frac{\sum CHI}{\sum Customers} = \frac{CHI_{Utility\ 1} + CHI_{Utility\ 2} + CHI_{Utility\ 3} + \dots}{Customers_{Utility\ 1} + Customers_{Utility\ 2} + Customers_{Utility\ 3} + \dots}$$

Similarly to SAIFI or SAIDI for a single utility, it represents the average outage frequency and average outage duration for a customer within the combined service territories of these Atlantic utilities.

(c) Please refer to the table below.

2026 ACE Plan Figure #	2024 Result	2025 Result
Figure 61: NS Power Annual SAIFI (Major/Extreme Events Excluded)	2.75	2.32
Figure 62: NS Power Annual SAIDI (Major/Extreme Events Excluded)	6.34	5.90
Figure 63: NS Power Annual SAIFI (Major and Extreme Events Included)	2.75	2.92
Figure 64: NS Power Annual SAIDI (Major and Extreme Events Included)	6.34	10.19
Figure 65: Annual Tree Contact – Customer Interruptions	259,071	390,975
Figure 66: Annual Tree Contact – Customer Hours of Interruption	770,960	2,055,782
Figure 67: Annual Tree Contact – Customer Interruptions (Major/Extreme Events Removed)	259,071	214,341
Figure 68: Annual Tree Contact – Customer Hours of Interruption (Major/Extreme Events Removed)	770,960	548,590
Figure 69: Annual Failed Equipment – Customer Interruptions	243,823	168,495
Figure 70: Annual Failed Equipment – Customer Hours of Interruption	513,704	516,909

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Figure 71: Equipment Failure by Device Type Customer Hours of Interruption

Customer Hours of Interruption				
Device Type	2024	% of Hours	2025	% of Hours
Primary Aerial Conductor	91,142	17.74%	60,055	11.62%
Pin Insulator	87,769	17.09%	94,754	18.33%
Wood Pole	48,831	9.51%	34,554	6.68%
Tie Wire	44,840	8.73%	12,123	2.35%
Recloser	35,838	6.98%	35,224	6.81%
Jumper	26,868	5.23%	18,963	3.67%
Cutout	23,117	4.50%	36,279	7.02%
Fuse Link	22,230	4.33%	17,874	3.46%
Crossarm	18,931	3.69%	73,037	14.13%
Lead	15,994	3.11%	15,816	3.06%

(d) 2024 all-in performance showed favourable indications despite three significant event days in Q1, that in previous years (due to increasing MED thresholds) would have been excluded in the MED/EED-adjusted data sets. Overall outage duration was the best result since 2021, and the third best in the past 10 years. A large proportion of planned work resulting in part from the need to safely complete historic volumes of customer and reliability work contributed approximately 0.78 to SAIFI and 1.06 to SAIDI overall. For further discussion on major trends of 2024 performance please refer to the Reliability Directive in Section 11.1.5 of the 2025 ACE Plan and the Five-Year Reliability Plan.

2025 system performance showed continued improvement in limiting customer impacts despite severe weather challenges in both Q1 and late Q4. Three notable weather events were experienced in 2025, resulting in one Significant Event Day, two Major Event Days, and one Extreme Event Day:

- February 17, 2025 Winter Storm (SED): 30,954 CI, 114,984 CHI
- December 3, 2025 Winter Storm (MED): 56,867 CI, 237,934 CHI
- December 19, 2025 Wind Storm (EED): 182,495 CI, 1,569,724 CHI

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- 1 • December 20, 2025 Wind Storm (MED): 87,916 CI, 560,223 CHI

2

3 SAIFI and SAIDI (excluding MED/EED) continued to trend positively. Tree contact

4 outages showed further improvement, and equipment-related interruptions in 2025 were

5 the best observed in the past 25 years. For further discussion on major trends in 2025

6 performance, please refer to the Reliability Directive in Section 11.1.4 of the 2026 ACE

7 Plan and the Five-Year Reliability Plan Update.

- 8
- 9 (e) Please refer to NSEB IR-46.

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Request IR-11:

With respect to C0068898 (TUC1 Blade Replacement):

(a) Please provide an update on the delivery of the replacement blades and any other project developments that could affect budget or schedule, and

(b) Please provide a description of the procurement process for the contracts (Attachments 1 and 2). If the contracts were competitively bid, please provide documentation of the selection process. If not, please explain how NS Power minimized cost.

Response IR-11:

(a) Manufacturing of the replacement blades is complete and the blades will be shipped in time to arrive for the TUC1 work planned for April 2026. There is a risk of shipping costs increasing beyond the budgeted amount due to the replacement blades being installed at a different shop than originally planned, which will be covered by the project contingency, if necessary.

(b) Please refer to NSEB IR-87.

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Request IR-12:

With respect to C0080134 (TUC2 Stack), the CI states that the estimated life of the asset is 25 years, but that the prior major coating work had an expected lifetime of 15 years. Please explain whether a shorter lifetime alternative was considered for the project. If so, please provide the analysis and explain why it was not selected. If not, please explain why not, especially given the likelihood that the TUC2 stack would be retired within 25 years due to carbon regulation.

Response IR-12:

A shorter lifetime alternative was not considered for this project. The Integrated Resource Plan (IRP) modelling demonstrates continued generation from Tuft's Cove until the end of the planning horizon (to 2050). Savings from the material cost of a lower life expectancy coating system would not greatly reduce the total cost of the project.

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

CONFIDENTIAL (Attachment Only)

1 **Request IR-13:**

2
3 **With respect to C0068888 (TUC3 Ash Hauling), please provide the evaluation documents for**
4 **the RFP. To the extent that the evaluation documents are not self-explanatory as to the**
5 **general basis for the scoring or ranking method, please provide supporting documentation**
6 **from the bids.**

7
8 **Response IR-13:**

9
10 **Please refer to Partially Confidential Attachment 1.**

RFP-01/2025-403 - Tufts Cove TUC3 Precipitator Continuous Ash Hauling System

Recommendation RFP-01/2025-403

April 2025



Project Details	
Reference ID	RFP-01/2025-403
Project Name	Tufts Cove TUC3 Precipitator Continuous Ash Hauling System
Project Owner	Michelle Sampson
Project Type	RFP
Department	Power Production - Tufts Cove & CTs
Budget	
Project Description	NSPI is looking to engage a Service Provider for the Tufts Cove TUC 3 Precipitator Continuous Ash Hauling System project.
Open Date	Jan 07, 2025 3:00 PM AST
Intent to Bid Due	Jan 13, 2025 3:00 PM AST
Close Date	Jan 28, 2025 3:00 PM AST

Submitted to:

- Andrea Mackay Procurement Operations Manager
- Kyle Ryan Manager, Projects and Engineering
- John MacDonald Senior Manager, Procurement & Supply Chain
- Josh Hyslop Senior Plant Manager
- Lynne Drover Senior Director Power Production

RFP-01/2025-403 - Tufts Cove TUC3 Precipitator Continuous Ash Hauling System

Recommendation RFP-01/2025-403

April 2025



Prepared by:

- Michelle Sampson Procurement Specialist

Evaluation Team:

- Gavin McInnis Engineer-In-Training
- Kyle Ryan Manager, Projects and Engineering
- Jeff Lee Consultant

Risk Reviewers:

Through the use of Emera's Third-Party Risk Management (TPRM) Evaluation Scorecard, all identified risks are deemed to be mitigated through standard NSPI SWP's and procedures.

Any risks identified through the TPRM Evaluation Scorecard would be reviewed, and mitigation plans approved, through the appropriate risk department.

It is the objective of NSPI to enter into a supply arrangement(s) for Tufts Cove TUC3 Precipitator Continuous Ash Hauling System with a Service Provider who:

- a) Is competitive from a quality and cost perspective.
- b) Has the ability to meet required project timelines.
- c) Meets the required specifications.

Recommendation:

The Evaluation Team recommends NSPI awards the Tufts Cove TUC3 Precipitator Continuous Ash Hauling System via Goods and Services Agreement and Purchase Order to:

- **PROCESS BARRON**

Total CAD expenditure from this Recommendation:

PO DETAILS			
DESCRIPTION	ACCOUNT NUMBER	CURRENCY	VALUE
Tufts Cove TUC3 Precipitator Continuous Ash Hauling System		CAD	
THIS RECOMMENDATION			
Capital or Operating?	Capital		
Total Expenditure of this Recommendation is			
Total Budgeted for this Scope of Work is:			
Difference Between Recommended Expenditure and Budgeted Amount is:			

Process Overview:

RFP-01/2025-403 - Tufts Cove TUC3 Precipitator Continuous Ash Hauling System

Recommendation RFP-01/2025-403

April 2025



On January 7, 2025, a Request for Proposal for Tufts Cove TUC3 Precipitator Continuous Ash Hauling System was issued to the following companies:

Contacted and Proposal Submitted

Process Barron – Southern Field Canada Inc

Contacted and Did Not Respond or Declined

Upon the Close Date January 28th, 2025 the evaluation of the Proposals focused on the following Key Selection Criteria:

- a) Pricing
- b) Speed and efficiency of project plan, availability and delivery
- c) Experience in the industry and relevant and specific expertise and competence of proposed project team / key personnel
- d) Understanding of Specification and ability to provide an innovative and acceptable solution
- e) Adherence to RFQ requirements

Technical and Commercial Evaluation:

Evaluation of all Proposals received based on the defined Key Selection Criteria:

The Evaluation Scorecard is a compilation of all scores and associated comments completed by the Evaluation Team. The criterion weighting must be established prior to Proposal review and is determined based on project requirements and priorities. The proponent with the highest score is the one recommended for award.

Project Criteria:

Criteria	Points
A - Evaluation	
A-1 - Pricing	
A-2 - Speed and efficiency of project plan, availability and delivery	
A-3 - Experience in the industry and relevant and specific expertise and competence of proposed project team / key personnel	
A-4 - Understanding of Specification and ability to provide an innovative and acceptable solution	
A-5 - Adherence to RFP Requirements	
A-6 - Insurance	
A-7 - ISNetwork Company Grade	
A-8 - Safety performance record, including WCB Letter of Good Standing and Experience Ratings (or equivalent) and past Regulatory History	

RFP-01/2025-403 - Tufts Cove TUC3 Precipitator Continuous Ash Hauling System

Recommendation RFP-01/2025-403

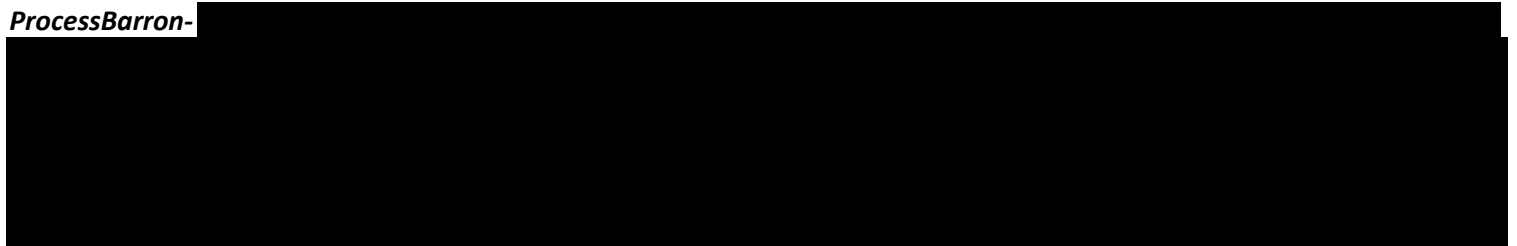
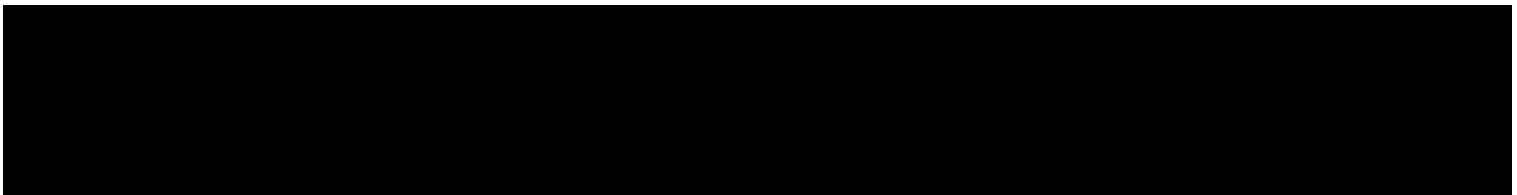
April 2025



RFP-01/2025-403 - Tufts Cove TUC3 Precipitator Continuous Ash Hauling System
Scoring Summary

Active Submissions

	Total	A - Evaluation	A-1 - Pricing	A-2 - Speed and efficiency of project plan, availability and delivery	A-3 - Experience in the industry and relevant and specific expertise and competence of proposed project team / key personnel	A-4 - Understanding of Specification and ability to provide an innovative and acceptable solution	A-5 - Adherence to RFP Requirements	A-6 - Insurance	A-7 - ISNetworld Company Grade	A-8 - Safety performance record, including WCB Letter of Good Standing and Experience Ratings (or equivalent) and past Regulatory History
ProcessBarron - Southern Field Canada Inc.										



Recommendation:

The evaluation team confidently presents this Recommendation and believes the process was both competitive and transparent and requests your approval.

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

NON-CONFIDENTIAL

Request IR-14:

With respect to C0080135 (CT-BGT2 Engine Refurbishment), please provide a description of the procurement process for the contract (Attachment 2). If the contract was competitively bid, please provide documentation of the selection process. If not, please explain how NS Power minimized cost.

Response IR-14:

Attachment 2 to the capital work order in the 2026 ACE Plan is not a contract, it is a budgetary quote. The pricing noted in Attachment 2 was not obtained through a competitive procurement process. Pricing was compared to previous FT4 engine overhauls and determined to be reasonable. Attachment 2 is a budgetary estimate, and the final costs will be charged based on inspection findings that will justify the work completed and parts replaced. All costs will be reviewed and approved by NS Power engineers supporting the project.

NON-CONFIDENTIAL

1 **Request IR-15:**

2
3 **With respect to Appendix I, CIs for transmission replacement and upgrade projects**
4 **C0080110 and C0080109, and 2024 ACE Plan Rebuttal Evidence (p. 22):**
5

6 **(a) Please confirm that NS Power’s policy remains, “In the case of Transmission**
7 **Replacement and Upgrade projects, the project risks and their potential impacts are**
8 **well understood by the project team, therefore having a risk register for each of these**
9 **projects does not add value to the project, or other projects in terms of better**
10 **understanding risks.” If not confirmed, please elaborate.**
11

12 **(b) With respect to the projects included in Appendix I that were at least 10% over**
13 **budget, please provide the risk register or explain why it does not exist.**
14

15 **(c) With respect to the projects included in Appendix I that were at least 10% over**
16 **budget, please explain why a larger contingency is a more appropriate budgeting and**
17 **cost accountability mechanism than an ATO filing.**
18

19 **(d) With respect to the discussion of C0011339 in Appendix I, did NS Power identify the**
20 **risk that the planned component replacements might not meet engineering**
21 **requirements, and that full structure replacements might be required for a**
22 **substantial (in this case, 19 structures) number of structures? If so, please provide**
23 **documentation. If not, please explain why not.**
24

25 **(e) With respect to C0011339, does NS Power agree that the increase from 13**
26 **replacement structures in the 2019 ACE Plan to 34 full structure replacements in the**
27 **ATO is more appropriately addressed in an ATO application than by increasing the**
28 **contingency to accommodate such circumstances? In other words, is NS Power’s**
29 **expectation that an increase from 13 to 34 structure replacements is the sort of**
30 **uncertainty that a contingency budget is expected to accommodate?**

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

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1
2 **(f) In the case of C0011339, did the substantial increase in replacement structures have**
3 **an impact on project procurement activities and the project schedule? If so, please**
4 **elaborate.**

5
6 **(g) In the Board's decision in M12417, it stated that, "the Board remains concerned about**
7 **the amount of contingency included in transmission line replacement and upgrade**
8 **projects submitted for Board approval." Please explain why it would be unreasonable**
9 **for the Board to reduce the contingency for projects C0080110 and C0080109 to 10%.**

10
11 Response IR-15:

12
13 (a) Confirmed.

14
15 (b) Consistent with part (a), no risk registers exist for the project in Appendix I as all these
16 projects are standard Transmission Replacement and Upgrades Projects and the project
17 risks were understood by the project team.

18
19 (c) Please refer to part (g).

20
21 (d) Yes, NS Power would have understood that the risk of structures requiring full replacement
22 as opposed to component replacement was present, however the project estimate is always
23 built on the best information NS Power has at the time of filing. The original submission
24 for CI C0011339 was submitted to the Board prior to updating and analyzing LiDAR data,
25 which identifies structure locations that do not meet clearance requirements. The LiDAR
26 data identified that the planned component replacements required full structure
27 replacement to meet clearance requirements. NS Power now incorporates LiDAR data
28 prior to submitting similar projects to identify the full scope of work ahead of submission.
29 Please refer to M11707 for additional information.

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

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- 1 (e) Risks intended to be covered by contingency for projects such as this are additional
2 overtime work that may be required to complete the project if the outage window is
3 shortened, unforeseen material or contract cost increases, or unforeseen costs related to
4 accessing structures in wet or remote locations. It is not intended to cover changes such as
5 a significant increase in structure replacements, and NS Power agrees that an ATO
6 application is more appropriate for situations such as that encountered with CI C0011339.
7
- 8 (f) Please refer to M11707 – the ATO filing for C0011339; there was no impact on
9 procurement activities, and the schedule impacts were outlined in the ATO process.
10
- 11 (g) As stated in the project submissions, similar past projects that have experienced cost
12 pressures have generally been in the 8-15% range and based on the assessment of the
13 experience project teams managing these projects, that remains a reasonable contingency
14 percentage to apply to these projects. [REDACTED] Projects that over/underspend would be captured
15 by ATO and FIN thresholds and their associated existing regulatory processes. However,
16 reducing the contingency to 10 percent would not align with NS Power's risk assessment
17 and historical experience with these projects and is likely to result in an increase in the
18 number of required regulatory filings and resulting process, and therefore decrease
19 regulatory efficiency.

CONFIDENTIAL (Attachment Only)

Request IR-16:

With respect to projects C0070909, C0053234 and C0053214:

- (a) Please explain why there is no cost support reference for the cost of the C0070909 and C0053234 transformers in the Capital Project Detailed Estimates.**
- (b) If a firm quote for the transformer in C0070909 or C0053234 has been obtained since the filing, please provide it and provide an updated cost estimate.**
- (c) If a firm quote has been obtained since the filing, does NS Power agree that the transformer cost in C0070909 and C0053234 should be excluded from the contingency? If not, why not?**
- (d) Please provide the project schedule and risk matrix for each project.**
- (e) Please provide data on all transformer additions and replacements in the past seven years in the same format as Appendix I. Please include partial responses for any incomplete projects.**

Response IR-16:

- (a) The cost support for the transformers in C0070909 and C0053234 are shown in Partially Confidential Attachments 1 and 2, respectively.**
- (b) There is no change to the cost estimate and cost support is firm.**
- (c) These two transformers are still under construction, and design changes may occur prior to completion. As a result, the contingency amounts associated with these transformers is**

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

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1 necessary to account for the potential additional costs associated with potential, necessary
2 design modifications.

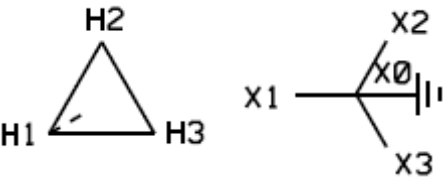
3
4 (d) No risk matrix or detailed schedule was formalized for these projects. These are three
5 transformer addition projects which NS Power has significant experience completing and
6 the risks to the project are well understood, as they are generally very consistent across all
7 transformer addition projects. Project start up meetings review all potential risks, however,
8 consistent with how NS Power applies any Project Delivery Model requirements, only
9 elements that are expected to add value to the projects are set out as requirements.

10
11 (e) Please refer to Attachment 3.

DATA SHEET	
Standard Specification	SE-38.1-2021
Power Transformers - Distribution Source, Sealed Tank, up to 138kV	

70W-T52 Transformer Addition

Specified		Proponent	
SE-38.2-2021 Technical Response ("Schedule "I")		UOM	Value
1.0 TRANSFORMER RATING			
1.1 Manufacturer			Shihlin Electric
1.2 No. of Phases & Frequency	3 Phase, 60Hz		3 Phase, 60Hz
1.3 Rated Capacity @ 65 degrees C	15	MVA /	15
	20	MVA /	20
	25	MVA	25
1.4 Cooling	ONAN	MVA /	ONAN
	ONAF	MVA /	ONAF
	ONAF	MVA	ONAF
1.5 H Winding Voltage	69	kV	69
1.6 H Winding Connection	Delta		Delta
1.7 H Winding BIL Line End	350	kV	350
1.8 H Winding BIL Neutral End		kV	N/A
1.9 X Winding Voltage	13.2	kV	13.2
1.10 X Winding Connection	Wye-gnd		Wye-gnd
1.11 X Winding BIL Line End	95	kV	95
1.12 X Windnig BIL Neutral End	95	kV	95
1.13 Angular Displacement	Dyn1 (Refer to Diagram on Right)		Dyn1
1.14 Regulation @ 0.80 PF	-		4.19
1.15 Estimated Hot Spot Temp Rise	-	degrees C	<80
1.16 Exciting Current at Rated Voltage	-	A	1.57@LV SIDE
1.17 Magnetizing kVA at Rated Voltage	-	kVA	35.703
1.18 Cost of Load Losses	\$2,523.00	\$/kW	
1.19 Cost of No-Load Losses	\$11,383.00	\$/kW	
1.20 Guaranteed No Load Loss	-	kW	13
1.21 Guaranteed Load Loss @ ONAN	-	kW	46
1.22 Total Losses @ Max Rating	-	kW	141.5@25MVA
1.23 Auxiliary Losses @ Max Rating	-	kW	3
1.24 System X/R (138kV)			



- 1.25 System X0/X1
- 1.26 Impedance H-X
- 1.27 Zero Sequence Impedance H-X
- 1.28 Compliance to Standards (CSA C88)
- 1.29 Compliance to Standards (other)
- 1.30 Noise Rating
- 1.31 Exterior Paint

6.39
10 dB below CSA C88
ANSI Grey 70

%

6.39
Approx.6.39

Note: To Match T53

Standard

YES
IEEE C57.12.00
10dB below C88 Standard
ANSI GREY 70

2.0 TAPS

2.1 Load Tap Changer (OLTC)

- 2.1.1 Manufacturer
- 2.1.2 Model
- 2.1.3 Type (Resistor, Reactor)
- 2.1.4 Range
- 2.1.5 No. of Steps
- 2.1.6 Location
- 2.1.7 Rated Voltage
- 2.1.8 Rated Current
- 2.1.9 Rated BIL
- 2.1.10 Temperature Rise @ Rated Current
- 2.1.11 No. of Operations @ Rated Current
- 2.1.12 Motor Voltage
- Motor Phase
- 2.1.13 Voltage Regulating Relay Type
- 2.1.14 Oil Mass
- Oil Volume
- 2.1.15 Oil Manufacturer
- Oil Type

Reinhausen
Vacutap RMV II
Reactive
± 10
32
HV
69
400
350
120/240
1
Beckwith M-2001D
-
-
-
-

%

kV

A

kV

degrees C

V

Phase

kg

L

Reinhausen
Vacutap RMV-II
Reactive
± 10
32
HV
69
400
350
65
500000
120/240
1
Beckwith 2001D
920
1022
Luminol Tri
Type II

(Confirm this Matches T53)

Round to Nearest 400, 600, 1200, 2000

2.2 Off Circuit Tap Changer

- 2.2.1 Manufacturer
- 2.2.2 Model
- 2.2.3 Range
- 2.2.4 No. of Steps
- 2.2.5 Location
- 2.2.6 Rated Voltage
- 2.2.7 Rated Current
- 2.2.8 Rated BIL
- 2.2.9 Temperature Rise @ Rated Current

N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

%

kV

A

kV

degrees C

N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

3.0 TRANSFORMER CONSTRUCTION

- 3.1 Type (i.e. sealed, conservator)
- 3.2 H Winding Material
- 3.3 X Winding Material
- 3.4 Core Type (i.e. shell, core)

Sealed
Copper
Copper
Core

Sealed
Copper
Copper
Core

3.5 Flux Density @ Rated Voltage			1.63
3.6 Flux Density @ 115% Rated Voltage	-		1.87
3.7 Mass of Core and Coils	-	kg	21000
3.8 Mass of Tank and Fittings	-	kg	12500
3.9 Oil Mass	-	kg	14000
Oil Volume	-	L	15510
3.10 Oil Manufacturer	-		Luminol Tri
Oil Type	-		Type II
3.11 Total Mass	-	kg	47500
3.12 Shiping Mass (heaviest)	-	kg	32500
3.13 Noise Level @ ONAN Rating	-	dB	< 62
3.14 Noise Level @ Max Rating	-	dB	< 65
3.15 No. of Colling Fans per stage	-		2
3.16 Fan Motor Rating	-	W	232
3.17 Fan Motor Voltage	120/240	V	120/240
Fan Motor Phase	1	Phase	1
3.18 Fan Motor Current FLA		A	4.02
Fan Motor Current LRA	-	A	1.06

4.0 TRANSFORMER BUSHINGS

4.1 H Bushing Location (cover mount, cable compartment)	Cover Mount		Cover Mount
4.2 H Bushing Manufacturer	Hitachi or Pcore		PCORE
4.3 H Bushing Type/Model			PRC/85503-12-70
4.4 H Bushing BIL	350	kV	350
4.5 H Bushing Current Rating	600	A	400
4.6 H Bushing Creepage	1380	mm	2387.6
4.7 X Bushing Location (cover mount, cable compartment)	Cover Mount		Cover Mount
4.8 X Bushing Manufacturer	Hitachi or Pcore		PCORE
4.9 X Bushing Type/Model	-		PRC/85123-70
4.10 X Bushing BIL	110	kV	110
4.11 X Bushing Current Rating	2000	A	2000
4.12 X Bushing Creepage	300	mm	457
4.13 Ho Bushing Location (cover mount, cable compartment)	-		N/A
4.14 Ho Bushing Manufacturer	-		N/A
4.15 Ho Bushing Type/Model	-		N/A
4.16 Ho Bushing BIL		kV	N/A
4.17 Ho Bushing Current Rating	-	A	N/A
4.18 Ho Bushing Creepage		mm	N/A
4.19 Xo Bushing Location (cover mount, cable compartment)	Cover Mount		Cover Mount
4.20 Xo Bushing Manufacturer	Hitachi or Pcore		PCORE
4.21 Xo Bushing Type/Model	-		PRC/85113-70
4.22 Xo Bushing BIL	110	kV	110
4.23 Xo Bushing Current Rating	600	A	1200
4.24 Xo Bushing Creepage	300	mm	533.4

5.15 Ho (Location D)		Accuracy	N/A
		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.16 Xo (Location A)	1	Quantity	1
	2000:5 MR	Ratio	2000:5 MR
	C800	Accuracy	C800
5.17 Xo (Location B)	1	Quantity	1
	2000:5 MR	Ratio	2000:5 MR
	C800	Accuracy	C800
5.18 Y12 (Stabalizing Delta Grounding Point)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.19 Y23 (Stabalizing Delta Grounding Point)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.20 TG1/TG2	-		N/A

6.0 ACCESSORIES

6.1 Electronic Temperature Gauge	Yes	Yes/No	YES
6.2 Tank Ground Protection	No	Yes/No	NO
6.3 Galvanized Radiators	Yes	Yes/No	YES
6.4 HV Surge Arrester Mounting Bracket	Yes	Yes/No	YES
6.5 XV Surge Arrester Mounting Bracket	Yes	Yes/No	YES
6.6 Asset Condition Monitoring (Option)	SEL-2414	Yes/No	SEL-2414
6.7 Online Gas Monitor	GE Hydran M2	Yes/No	GE Hydran M2

7.0 TRANSFORMER TESTS

Indicate whether or not the following tests, as specified in Section 29 of the Specification, are included:

7.1 Winding Resistance	Yes/No	YES
7.2 Ratio	Yes/No	YES
7.3 Polarity and Phase Relationships	Yes/No	YES
7.4 Excitation Current	Yes/No	YES
7.5 Excitation Loss	Yes/No	YES
7.6 One Hour Excitation	Yes/No	YES
7.7 Positive Sequence Impedance	Yes/No	YES
7.8 Zero Sequence Impedance	Yes/No	YES
7.9 Load Loss	Yes/No	YES
7.10 Temparture Rise	Yes/No	YES
7.11 Gas in Oil Analysis (Before and After Temp Rise)	Yes/No	YES
7.12 Induced Potential Test	Yes/No	YES
7.13 Partial Discharge	Yes/No	YES

7.14.1 Lightning Impulse (Full Wave)	Yes/No	YES
7.14.2 Lightning Impulse (Chopped Wave) (data sheet spec'd)	Yes/No	YES
7.15 Core Insulation	Yes/No	YES
7.16 Insulation Power Factor	Yes/No	YES
7.17 Bushing Power Factor	Yes/No	YES
7.18 Pressure (Hot Oil)	Yes/No	YES
7.19 Vacuum	Yes/No	YES
7.20 Sound Level (data sheet spec'd)	Yes/No	YES
7.21 CT's (ratio, polarity, saturation, insulation, & DC resist)	Yes/No	YES
7.22 Winding Temperature (indication calibration)	Yes/No	YES
7.23 Functional Tests (cooling, control, indication, etc)	Yes/No	YES
7.24 OLTC (functional testing)	Yes/No	YES
7.25 Control Wiring Insulation	Yes/No	YES
7.26 Paint Thickness	Yes/No	YES

8.0 LOCATION OF MANUFACTURE AND QUALITY ASSURANCE PROGRAM LEVEL ESTABLISHED

If the QA program in the plant(s) complies with the standards of an organization other than the CSA, please state the applicable QA standard and number.

8.1 Tank	Location	TAIWAN
	QA Level	ANSI/IEEE
8.2 Welding (Tank)	Location	TAIWAN
	QA Level	ANSI/IEEE
8.3 Radiators	Location	INDIA
	QA Level	DIN&BSEN
8.4 Fans/Pumps	Location	USA
	QA Level	ANSI/IEEE
8.5 Core	Location	JAPAN
	QA Level	23ZDKH80
8.6 Winding	Location	TAIWAN
	QA Level	ANSI/IEEE
8.7 Instrument Transformers	Location	TAIWAN
	QA Level	ANSI/IEEE
8.8 Tap Changer	Location	GERMANY
	QA Level	ANSI/IEEE
8.9 Bushings	Location	USA
	QA Level	CSA C88.1
8.10 Final Assembly	Location	TAIWAN
	QA Level	ANSI/IEEE
8.11 Welding (Cover)	Location	TAIWAN
	QA Level	ANSI/IEEE
8.12 Testing	Location	TAIWAN
	QA Level	ANSI/IEEE

SE-38.3-2010 Timings (Schedule "B")

1.0 SCHEDULE OF DELIVERY

Indicate time from date or order that the supplier will guarantee to provide the following:

1.1 Drawings for Approval			
Production Schedule	Production Schedule	Weeks ARO	

Transformer Outline & BOM	Transformer Outline & BOM	Weeks ARO	
Nameplate	Nameplate	Weeks ARO	
Schematics	Schematics	Weeks ARO	
Diagram of Connections	Diagram of Connections	Weeks ARO	
Wiring Diagrams & Panel Layout	Wiring Diagrams & Panel Layout	Weeks ARO	
Shipping Drawing	Shipping Drawing	Weeks ARO	
Instruction Manual	Instruction Manual	Weeks ARO	
1.20 Equipment Delivery		Weeks ARO	

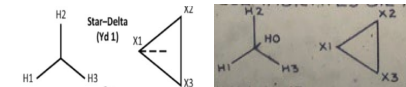
SE-38.4-2010 Quantities & Prices (Schedule "C")

Currency				CAD
Transformer				
Duty				
Freight and Offloading (FOB Destination)				
TRANFORMER SUB-TOTAL				
Cost of Oil (if not included above)				
TRANSFORMER TOTAL				
Oil Filling, Assembly, and Testing			Lump Sum	
Options				
Spare Parts				
1 - HV Bushing with Gaskets				
1 - LV Bushing with Gaskets				
1 - XO Bushing with Gaskets				
1 - Fan with Monitor and Complete Set of Gaskets				
Shipping Terms				FOB Destination
Warranty		months		60month
Extended Warranty		months		NA
Payment Terms				NET 30days
END OF SCHEDULES				

DATA SHEET	
Standard Specification	SE-38.1-2021
Power Transformers - Distribution Source, Sealed Tank, up to 138kV	

96H-T1 Transformer Replacement

Specified	Proponent
SE-38.2-2021 Technical Response ("Schedule "I")	UOM Value
1.0 TRANSFORMER RATING	
1.1 Manufacturer	SHIHLINE ELECTRIC
1.2 No. of Phases & Frequency	3 Phase, 60Hz
1.3 Rated Capacity @ 65 degrees C	MVA / 7.5 MVA / 10 MVA / 12.5
1.4 Cooling	MVA / ONAN MVA / ONAF MVA / ONAF
1.5 H Winding Voltage	kV 69
1.6 H Winding Connection	Wye-gnd
1.7 H Winding BIL Line End	kV 350
1.8 H Winding BIL Neutral End	kV 150
1.9 X Winding Voltage	kV 6.9
1.10 X Winding Connection	Delta
1.11 X Winding BIL Line End	kV 95
1.12 X Winding BIL Neutral End	N/A
1.13 Angular Displacement	Ynd1
1.14 Regulation @ 0.80 PF	-
1.15 Estimated Hot Spot Temp Rise	degrees C <80
1.16 Exciting Current at Rated Voltage	A 0.91
1.17 Magnetizing kVA at Rated Voltage	kVA 19
1.18 Cost of Load Losses	\$/kW \$2,648.00
1.19 Cost of No-Load Losses	\$/kW \$11,383.00
1.20 Guaranteed No Load Loss	kW 8
1.21 Guaranteed Load Loss @ ONAN	kW 28
1.22 Total Losses @ Max Rating	kW 86@12.5MVA
1.23 Auxiliary Losses @ Max Rating	kW 2
1.24 System X/R (138kV)	
1.25 System X0/X1	
1.26 Impedance H-X	% 6.75
1.27 Zero Sequence Impedance H-X	% 5.68
1.28 Compliance to Standards (CSA C88)	YES
1.29 Compliance to Standards (other)	IEEE C57.12.00
1.30 Noise Rating	10 dB below CSA C88 Standard
1.31 Exterior Paint	ANSI GREY 70



2.0 TAPS

2.1 Load Tap Changer

2.1.1 Manufacturer	-		N/A
2.1.2 Model	-		N/A
2.1.3 Type (Resistor, Reactor)	-		N/A
2.1.4 Range	-	%	N/A
2.1.5 No. of Steps	-		N/A
2.1.6 Location	-		N/A
2.1.7 Rated Voltage	-	kV	N/A
2.1.8 Rated Current	-	A	N/A
2.1.9 Rated BIL	-	kV	N/A
2.1.10 Temperature Rise @ Rated Current	-	degrees C	N/A
2.1.11 No. of Operations @ Rated Current	-		N/A
2.1.12 Motor Voltage	-	V	N/A
Motor Phase	-	Phase	N/A
2.1.13 Voltage Regulating Relay Type	-		N/A
2.1.14 Oil Mass	-	kg	N/A
Oil Volume	-	L	N/A
2.1.15 Oil Manufacturer	-		N/A
Oil Type	-		N/A

2.2 Off Circuit Tap Changer

2.2.1 Manufacturer	Reinhausen		Reinhausen
2.2.2 Model	DEETAP DU III		DEETAP DU III
2.2.3 Range	±5	%	±5
2.2.4 No. of Steps	5		5
2.2.5 Location	HV		HV
2.2.6 Rated Voltage	69	kV	69
2.2.7 Rated Current	200	A	200
2.2.8 Rated BIL	350	kV	350
2.2.9 Temperature Rise @ Rated Current		degrees C	65

3.0 TRANSFORMER CONSTRUCTION

3.1 Type (i.e. sealed, conservator)	Sealed		Sealed
3.2 H Winding Material	Copper		Copper
3.3 X Winding Material	Copper		Copper
3.4 Core Type (i.e. shell, core)	Core		Core
3.5 Flux Density @ Rated Voltage			1.57
3.6 Flux Density @ 115% Rated Voltage	-		1.81
3.7 Mass of Core and Coils	-	kg	12100
3.8 Mass of Tank and Fittings	-	kg	8100
3.9 Oil Mass	-	kg	9000
Oil Volume	-	L	9900
3.10 Oil Manufacturer	-		Luminol Tri
Oil Type	-		Type II
3.11 Total Mass	-	kg	29200
3.12 Shipping Mass (heaviest)	-	kg	22000
3.13 Noise Level @ ONAN Rating	-	dB	57
3.14 Noise Level @ Max Rating	-	dB	60
3.15 No. of Colling Fans per stage	-		2
3.16 Fan Motor Rating	-	W	232
3.17 Fan Motor Voltage	120/240	V	120/240
Fan Motor Phase	1	Phase	1
3.18 Fan Motor Current FLA	-	A	1.2
Fan Motor Current LRA		A	2.6

4.0 TRANSFORMER BUSHINGS

4.1 H Bushing Location (cover mount, cable compartment)			Cover Mount
4.2 H Bushing Manufacturer			PCORE
4.3 H Bushing Type/Model			PRC/855503-12-70
4.4 H Bushing BIL	350	kV	350
4.5 H Bushing Current Rating	600	A	400
4.6 H Bushing Creepage	1725	mm	2387.6
4.7 X Bushing Location (cover mount, cable compartment)			Cable Compartment
4.8 X Bushing Manufacturer	-		EC
4.9 X Bushing Type/Model	-		solid core/110-020-570-04
4.10 X Bushing BIL	110	kV	110
4.11 X Bushing Current Rating	2000	A	2000
4.12 X Bushing Creepage	300	mm	668
4.13 Ho Bushing Location (cover mount, cable compartment)	-		Cover Mount
4.14 Ho Bushing Manufacturer	-		PCORE
4.15 Ho Bushing Type/Model	-		PRC/855503-12-70
4.16 Ho Bushing BIL	350	kV	350
4.17 Ho Bushing Current Rating	600	A	400
4.18 Ho Bushing Creepage	1725	mm	2387.6
4.19 Xo Bushing Location (cover mount, cable compartment)			N/A
4.20 Xo Bushing Manufacturer			N/A
4.21 Xo Bushing Type/Model			N/A
4.22 Xo Bushing BIL		kV	N/A
4.23 Xo Bushing Current Rating		A	N/A
4.24 Xo Bushing Creepage		mm	N/A

5.0 CURRENT TRANSFORMERS

5.1 H (Location A)	3	Quantity	3
	100:5	Ratio	100:5
	C200	Accuracy	C200

5.2 H (Location B)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.3 H (Location C)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.4 H (Location D)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.5 X (Location A)	3	Quantity	3
	1200:5 MR	Ratio	1200:5 MR
	C200	Accuracy	C200
5.6 X (Location B)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.7 X (Location C)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.8 X (Location D)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.9 X (Location E)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.10 LDC (On X1 Bushing)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.11 Winding Temperature Indicator (On X2 Bushing)	1	Quantity	1
	On H2	Ratio	120:5A on H2 Bushing
	Ratio per Manufacturer		
	Per Manufacturer	Accuracy	C100
5.12 Ho (Location A)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.13 Ho (Location B)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.14 Ho (Location C)	1	Quantity	1
	100:5	Ratio	100:5
	C200	Accuracy	C200
5.15 Ho (Location D)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.16 Xo (Location A)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A

5.17 Xo (Location B)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.18 Y12 (Stabalizing Delta Grounding Point)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.19 Y23 (Stabalizing Delta Grounding Point)		Quantity	N/A
		Ratio	N/A
		Accuracy	N/A
5.20 TG1/TG2	-		N/A

6.0 ACCESSORIES

6.1 Electronic Temperature Gauge	Yes	Yes/No	Yes
6.2 Tank Ground Protection	No	Yes/No	No
6.3 Galvanized Radiators	Yes	Yes/No	Yes
6.4 HV Surge Arrester Mounting Bracket	Yes	Yes/No	Yes
6.5 XV Surge Arrester Mounting Bracket	Yes	Yes/No	Yes
6.6 Asset Condition Monitoring	SEL-2414	Yes/No	SEL-2414
6.7 Online Gas Monitor	GE Hydran M2	Yes/No	GE Hydran M2

7.0 TRANSFORMER TESTS

Indicate whether or not the following tests, as specified in Section 29 of the Specification, are included:

7.1 Winding Resistance	Yes/No	Yes
7.2 Ratio	Yes/No	Yes
7.3 Polarity and Phase Relationships	Yes/No	Yes
7.4 Excitation Current	Yes/No	Yes
7.5 Excitation Loss	Yes/No	Yes
7.6 One Hour Excitation	Yes/No	Yes
7.7 Positive Sequence Impedance	Yes/No	Yes
7.8 Zero Sequence Impedance	Yes/No	Yes
7.9 Load Loss	Yes/No	Yes
7.10 Temparture Rise	Yes/No	Yes
7.11 Gas in Oil Analysis (Before and After Temp Rise)	Yes/No	Yes
7.12 Induced Potential Test	Yes/No	Yes
7.13 Partial Discharge	Yes/No	Yes
7.14.1 Lightning Impulse (Full Wave)	Yes/No	Yes
7.14.2 Lightning Impulse (Chopped Wave) (data sheet spec'd)	Yes/No	Yes
7.15 Core Insulation	Yes/No	Yes
7.16 Insulation Power Factor	Yes/No	Yes
7.17 Bushing Power Factor	Yes/No	Yes
7.18 Pressure (Hot Oil)	Yes/No	Yes
7.19 Vacuum	Yes/No	Yes
7.20 Sound Level (data sheet spec'd)	Yes/No	Yes
7.21 CT's (ratio, polarity, saturation, insulation, & DC resist)	Yes/No	Yes
7.22 Winding Temperature (indication calibration)	Yes/No	Yes
7.23 Functional Tests (cooling, control, indication, etc)	Yes/No	Yes
7.24 OLTC (functional testing)	Yes/No	Yes
7.25 Control Wiring Insulation	Yes/No	Yes
7.26 Paint Thickness	Yes/No	Yes

8.0 LOCATION OF MANUFACTURE AND QUALITY ASSURANCE PROGRAM LEVEL ESTABLISHED

If the QA program in the plant(s) complies with the standards of an organization other than the CSA, please state the applicable QA standard and number.

8.1 Tank	Location	TAIWAN
	QA Level	ANSI/IEEE

8.2 Welding (Tank)	Location	TAIWAN
	QA Level	ANSI/IEEE
8.3 Radiators	Location	INDIA
	QA Level	DIN&BSEN
8.4 Fans/Pumps	Location	USA
	QA Level	ANSI/IEEE
8.5 Core	Location	JAPAN
	QA Level	23ZDKH80
8.6 Winding	Location	TAIWAN
	QA Level	ANSI/IEEE
8.7 Instrument Transformers	Location	TAIWAN
	QA Level	ANSI/IEEE
8.8 Tap Changer	Location	GERMANY
	QA Level	ANSI/IEEE
8.9 Bushings	Location	USA
	QA Level	CSA C88.1
8.10 Final Assembly	Location	TAIWAN
	QA Level	ANSI/IEEE
8.11 Welding (Cover)	Location	TAIWAN
	QA Level	ANSI/IEEE
8.12 Testing	Location	TAIWAN
	QA Level	ANSI/IEEE

SE-38.3-2010 Timings (Schedule "B")

1.0 SCHEDULE OF DELIVERY

Indicate time from date or order that the supplier will guarantee to provide the following:

1.1 Drawings for Approval		
Production Schedule	Production Schedule	Weeks ARO
Transformer Outline & BOM	Transformer Outline & BOM	Weeks ARO
Nameplate	Nameplate	Weeks ARO
Schematics	Schematics	Weeks ARO
Diagram of Connections	Diagram of Connections	Weeks ARO
Wiring Diagrams & Panel Layout	Wiring Diagrams & Panel Layout	Weeks ARO
Shipping Drawing	Shipping Drawing	Weeks ARO
Instruction Manual	Instruction Manual	Weeks ARO
1.20 Equipment Delivery		Weeks ARO

SE-38.4-2010 Quantities & Prices (Schedule "C")

Currency
Transformer
Duty
Freight and Offloading (FOB Destination)
TRANSFORMER SUB-TOTAL
Cost of Oil (if not included above)
TRANSFORMER TOTAL
Oil Filling, Assembly, and Testing

Lump Sum

CAD

Options

Spare Parts

1 - HV Bushing with Gaskets
1 - LV Bushing with Gaskets
1 - Complete Set of Gaskets and Fan with Motor

Shipping Terms
Warranty
Extended Warranty
Payment Terms

months
months

FOB Destination

60

NA

NET 30days

END OF SCHEDULES

CI#	Project Long Title	Approval Mechanism	Approved Budget (no Contingency)	Approved Contingency	Total Spend	Commentary
C0050852	10V-T1 Transformer Replacement	ACE 2025	1,942,132	171,205	1,444,326	Partially Complete.
C0031048	91H-T11 Transformer Replacement	ACE 2025	5,854,823	1,059,799	69,630	Partially Complete.
C0055557	76V-T1 Transformer Replacement	2023 (ATO in 2025)	2,947,696	203,879	1,778,074	Partially Complete. ATO filed and approved by NSEB.
C0055539	10H-T1 Transformer Replacement	ACE 2023	2,145,070	275,822	39,265	Partially Complete.
C0045510	20V-T52 Transformer Replacement	2022	1,330,379	176,187	1,415,374	Under budget (including contingency).
C0024486	2S-T1 Transformer Replacement	2020	2,648,403	-	2,821,134	Filed as a U&U with no contingency
C0010956	78W Substation Relocation and New Power Transformer	2022 (ATO in 2025)	5,057,004	65,757	4,473,588	Partially Complete. ATO filed and approved by NSEB.
C0021142	19W-T51 Transformer Replacement	ACE 2020	1,400,211	112,125	1,473,279	Under budget (including contingency).

REDACTED

Request IR-17:

With respect to project C0070586:

- (a) Please provide support and context for the assertions that “it is not always possible to take an outage to L-6536” and that “Taking an outage to this line negatively impacts customer reliability in the area.” In your response, please explain whether these statements are intended to emphasize distinct reliability risks that are more significant than exist for other transmission lines, or whether these same considerations would apply to any and all transmission line with switches that do not include “live line” capability.**
- (b) Please provide a table providing the number of in-line transmission switches, by switch type (e.g., voltage and any other relevant characteristics for cost and planning purposes), showing the number that have live-line capability and the number that do not.**
- (c) Please provide a table indicating the anticipated time period (e.g., 5 year ranges) during which the switches without live-line capability, categorized as in part (b), will reach their end of life.**
- (d) Has NS Power developed an economically optimized plan for replacing the switches identified in part (c) of this question? If so, please provide it. If not, please provide a rough estimate of the total cost to replace these switches if it were planned and completed using current costs without assuming any particular schedule for replacements.**
- (e) Please provide a more detailed justification for the 20 percent contingency amount, elaborating on each factor included in the contingency statement.**

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

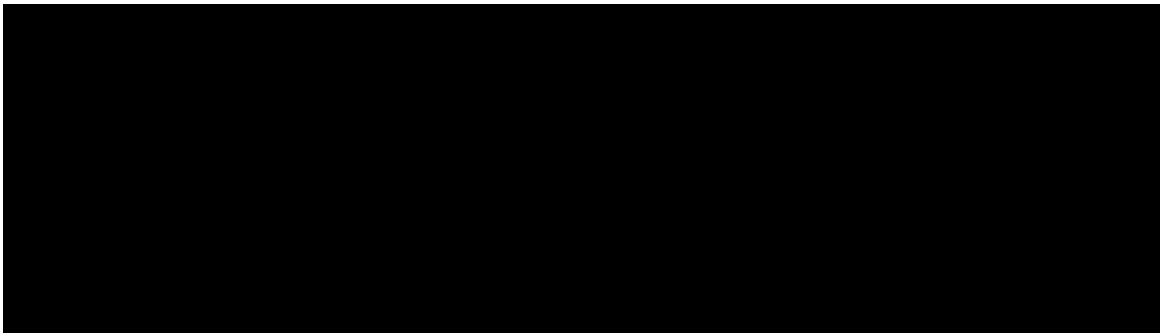
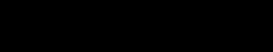
REDACTED

1 **(f) Please identify any similar previous projects that provide a basis for the 20 percent**
2 **contingency amount, and supply any information not already filed with the Board in**
3 **a public document that would assist in understanding why some previous projects**
4 **have exceeded the without-contingency cost forecast.**

5
6 **(g) Please explain why the cost of the switches identified in Attachments 1 and 2 is not**
7 **excluded from the 20 percent contingency amount, similar to the approach taken for**
8 **C0053214.**

9
10 **(h) Please explain why the transmission structure replacement and substation**
11 **construction contracts are not provided as cost support, and justify the procurement**
12 **process for those contracts including supporting documents.**

13
14 Response IR-17:

15
16 (a) 
17
18
19
20
21
22  The need to balance and maintain compliance with these important
23 system conditions can lead to constraints and limitations to outage availability and
24 approvals on L-6536. These operating criteria are unique to L-6536 and the other two
25 interconnection lines. The switches associated with 22N-603 and 22N-604 located at the
26 22N - Church St tap on L6536 are manually operated and have been assessed to be at the
27 end of their useful life. The operation of these switches to support planned line work and
28 system security requirements results in a brief, planned outage to approximately 7,680
29 customers served from the 22N Church Street substation. This project, in addition to
30 replacing switches at end of life, will add live-line functionality allowing switch operation

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

REDACTED

1 to proceed without an outage to the customers at 22N, improving the reliability experience
2 for customers.

3
4 (b) Please refer to Confidential Attachments 1 and 2, showing lists of transmission switches
5 located in the transmission line rights-of-way across the province. In total, NS Power has
6 1,762 transmission rated switches around the province. Approximately 20 percent of the
7 switches are automated (motor operated disconnect, or MOD). 1,403 switches are manually
8 operated, while 359 switches can be operated remotely using an MOD. In addition,
9 approximately 14 percent of the total fleet of switches are live-line operable, corresponding
10 to 252 switches.

11
12 (c) NS Power does not replace transmission rated switches solely based on time or age. These
13 switches are replaced based on assessed condition, including operability. If the switch is
14 identified as not functional or in-operable, the switches would be prioritized for
15 replacement.

16
17 (d) NS Power does not plan to replace all 1,510 “non live-line” switches with “live line
18 capability” switches. As stated above, switches are replaced when their condition
19 (including operability) warrants replacement; at that time the determination of whether the
20 new switches would benefit from live line operability is made. It is possible that a switch
21 could be specified for replacement based solely on the requirement for “live line capability”
22 but this would be on a case by case basis and is not reflected in a planned program. Every
23 switch replacement requires a detailed engineering design which will ultimately dictate the
24 cost, but high level estimates would be from \$135 to \$175 thousand per switch.

25
26 (e) The 20 percent project contingency is intended to be used to address unknowns that may
27 be discovered during the detailed engineering design process. Some potential unknowns
28 are related to the foundation design and construction. The foundations require excavation
29 and civil work (including drainage and upgrades to the access road), and are not finalized
30 at this phase of the project. The contingency is also meant to cover material cost

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

REDACTED

1 fluctuations (such as steel which has increased significantly due to the impact of tariffs)
2 and potential delays in the delivery of long lead materials.

3
4 (f) This contingency was not based on previous projects, therefore no documentation on past
5 variance to spend is relevant to the 20 percent contingency selection. Rather, contingency
6 was primarily based on subject matter expertise that considered the risk of contractor
7 availability, tariffs, and long lead time delivery delays to be such that a 20 percent
8 contingency was appropriate.

9
10 (g) The switches are considered long lead material items. Therefore, at the early stage of this
11 project, a purchase order was sent to the manufacturer to secure a manufacturing slot. NS
12 Power has started the preliminary engineering design and developed the technical
13 requirements. The cost of the switches can vary based on design changes, freight-related
14 costs, and delivery timelines which are specific to the switch. These details can only be
15 determined after the final design is completed. For this reason, NS Power has included this
16 material cost in the contingency.

17
18 (h) At this stage, the engineering designs and technical requirements are in progress.
19 Consequently, estimates were used to guide projected project costs. Estimates for
20 materials, contracts, labour, environmental costs (construction matting), administrative
21 costs, and consultant related expenses were developed by internal subject matter experts.
22 Transmission structure replacements and civil construction will follow the standard
23 competitive procurement processes, which will include RFP (Request for Procurement), as
24 well as utilizing existing MSA contracts for the wooden transmission structure
25 replacement. These costs and construction vendor details are agreed upon once the final
26 engineering is completed.

**2026 ACE Plan CA IR-17 Attachment 1 has been removed
due to confidentiality**

**2026 ACE Plan CA IR-17 Attachment 2 has been removed
due to confidentiality**

CONFIDENTIAL (Attachment Only)

Request IR-18:

With respect to project C0068969 (Pennsylvania Breaker Replacements):

- (a) Please provide the schedule for the replacement of the 14 remaining circuit breakers.
- (b) Please explain why the circuit breaker and BS&G contracts are not provided as cost support, and justify the procurement process for those contracts, including supporting documents.

Response IR-18:

- (a) As of this IR response, there are 13 circuit breakers remaining. NS Power is replacing all the remaining breakers over the next several years; the exact schedule depends on resource availability and outage restrictions and is subject to change. Please refer to the table below. In the interim, the breakers remain on the regular monthly, annual, and out-of-service inspection intervals, and spare parts are kept on hand from previously replaced units. If a breaker fails to operate as expected, all effort is made to repair it on-site using the parts from the previously replaced units. If a breaker fails and cannot be feasibly repaired, NS Power can replace it using existing breaker inventory.

Breaker ID	CI Number	Project Title
43V-615	C0031051	2022 Pennsylvania Breaker
51V-552	C0057882	2024 Pennsylvania Breaker
51V-562	C0057882	2024 Pennsylvania Breaker
51V-601	C0057882	2024 Pennsylvania Breaker
51V-602	C0057882	2024 Pennsylvania Breaker
51V-603	C0057882	2024 Pennsylvania Breaker
51V-604	C0057882	2024 Pennsylvania Breaker

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

CONFIDENTIAL (Attachment Only)

Breaker ID	CI Number	Project Title
77V-503	C0068969	2026 Pennsylvania Breaker
93N-601	C0068969	2026 Pennsylvania Breaker
93N-602	C0068969	2026 Pennsylvania Breaker
93N-603	C0068969	2026 Pennsylvania Breaker
43V-601	TBD – Future submission	
43V-602	TBD – Future submission	

1
2 (b) Please refer to Confidential Attachment 1, page 5, line 16 and Confidential Attachment 2,
3 page 5, line 19 for details on the circuit breaker cost support and purchase agreement.
4 Please note, the prices in the attached are in USD. NS Power estimated the exchange rate
5 to be 35%. For details on the procurement process for the circuit breakers, please refer to
6 2025 ACE Plan (M12012) NSUARB IR-125 part (c), provided for ease of reference as
7 Attachment 3.

8
9 For the Buildings, Structures, and Grounds (BS&G) costs, this is an estimate of the civil
10 works required to accommodate the breaker replacements (for example, modifications to
11 existing concrete foundations) and is estimated based on previous similar projects. NS
12 Power will award the necessary civil works per NS Power's Procurement Policies.

**2026 ACE Plan CA IR-18 Attachment 1 has been removed
due to confidentiality**

REDACTED (CONFIDENTIAL INFORMATION REMOVED)

**2026 ACE Plan CA IR-18 Attachment 2 has been removed
due to confidentiality**

2025 ACE Plan (NSUARB M12012)
NSPI Responses to NSUARB Information Requests

CONFIDENTIAL (Attachment Only)

Request IR-125:

C0050834 – Spare EHV Breaker Replacements

(a) Are both breakers being ordered from the same supplier?

(b) The project start date is noted as July 2024 and the first breaker is forecasted to be received June 2025 indicating about a year in lead time why is it that the second breaker is being received in January 2029 a lead time of approximately 54 months.

(c) What was the RFP process for this how many suppliers participated, and did they all have similar lead times?

(d) Please provide a copy of the supply agreement with the supplier.

(e) Is the \$695,741 material cost outlined on page 4 of 6 the cost of one breaker or for both breakers?

Response IR-125:

(a) Yes.

(b) As part of NS Power's agreement with the vendor, NS Power has access to a number of production slots for EHV circuit breakers each year. One slot was available in 2025 for the 345 kV circuit breaker in this project. The next available slot was in 2029 and was assigned to the 230 kV circuit breaker in this project.

(c) The vendor is NS Power's current supplier of high voltage circuit breakers and was the successful proponent during the last competitive RFP in 2018. The RFP was a Strategic Joint Procurement between NS Power and NB Power and was sent to 36 proponents, of

2025 ACE Plan (NSUARB M12012)
NSPI Responses to NSUARB Information Requests

CONFIDENTIAL (Attachment Only)

1 which 19 were suppliers of circuit breakers. Using a robust evaluation approach, including
2 scorecard criteria selection and weighting, industry standard scoring methodology, and a
3 cross-functional committee of evaluators from both NS Power and NB Power, the vendor
4 was selected as the winning proponent and awarded the contract for Circuit Breakers (Dead
5 Tank) in 2018.

6
7 In May 2024, an execute briefing was circulated to stakeholders at NS Power and NB
8 Power to gain approval to enter into a new contract program with the vendor. The briefing
9 stated that the market is experiencing an exponential shift in high voltage circuit breaker
10 demand causing a significant imbalance in supply versus demand, resulting in order lead
11 times on some circuit breakers increasing up to 5 years, putting many projects at risk. As a
12 mitigating initiative, NS Power and NB Power and the vendor agreed to address supply
13 risks by implementing a partnered program for the purpose of guaranteeing future factory
14 capacity (production slots) for NS Power and NB Power. Due to unprecedented market
15 volatility and ongoing supply chain challenges, the parties have agreed upon an
16 escalation/de-escalation mechanism, and pricing will be evaluated bi-annually using a
17 mutually agreed upon indexation model. The program is not an exclusive arrangement; NS
18 Power and NB Power are legally able to purchase circuit breakers from other
19 manufacturers, as needed, during the term of this agreement.

20
21 (d) Please refer to Confidential Attachment 1.

22
23 (e) The total cost of both breakers is \$695,817 USD. There was a typo on the detailed cost
24 estimate.

2026 Annual Capital Expenditure (ACE) Plan (NSEB M12619)
NSPI Responses to Consumer Advocate Information Requests

NON-CONFIDENTIAL

1 **Request IR-19:**

2
3 **With respect to project C0080266 (New Distribution ROW 11), please provide the number**
4 **of outage events, by year, for each feeder listed in attachment 1. Please provide the number**
5 **of both total outage events and tree contact outage events. Please provide these data along**
6 **with the data in Attachment 1 in an excel spreadsheet.**

7
8 **Response IR-19:**

9
10 Please refer to NSEB IR-129.

CONFIDENTIAL (Attachment Only)

Request IR-20:

With respect to project C0080252 (Intelligent Asset Data Capture & Integration Platform):

- (a) Please provide a forecast of future costs to maintain and develop this platform. If no such forecast is available, please explain why NS Power did not consider future costs when undertaking this project.**
- (b) Please provide a copy of the federal funding agreement.**
- (c) Please identify any risks that NS Power might be responsible for any costs currently understood to be covered by the federal funding agreement, e.g. through some failure of execution.**
- (d) Please explain why the project is referenced as “ECC Renewable Dispatch Data on p. 4.**

Response IR-20:

- a) Please refer to NSEB IR-146
- b) Please refer to Confidential Attachment 1.
- c) There is no risk of this occurring as NS Power has already received this funding.
- d) The reference to ECC Renewable Dispatch Data on page 4 of the capital work order in the 2026 ACE Plan application was a typographical error; however, NS Power confirms that the Maturity Matrix is the assessment for this C0080252 (Intelligent Asset Data Capture & Integration Platform) Project.

REDACTED (CONFIDENTIAL INFORMATION REMOVED)

**2026 ACE Plan CA IR-20 Attachment 1 has been removed
due to confidentiality**

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Request IR-21:

With respect to Appendix E:

- (a) Please provide a working copy of Appendix E, Attachment 1.**
- (b) Please explain the differences between the NPV analysis and an EAM (p. 10, lines 26-27).**
- (c) If NS Power has the additional information necessary to complete an EAM for the three scenarios, please provide the information or a complete EAM.**
- (d) Please provide a summary of the actions NS Power has taken in the past two years to update its decommissioning plan for Mersey and provide the deliverables from each action.**

Response IR-21:

- (a) Please refer to NSEB IR-162 Attachment 1.**
- (b) The difference between an NPV analysis and an EAM is simply that an EAM is generally used as a comparison tool when two feasible options are present. Both tools calculate a net present value of the planned investment, but an EAM also calculates a payback period and revenue requirement for each alternative.**
- (c) There is currently no additional information available to complete an EAM for all three scenarios. The necessary inputs required to complete the EAM will be made available upon the completion of the integrated resource plan (IRP), which is now the responsibility of the IESO-NS. An update to the IRP will be completed in 2026 but is not currently available.**

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1 (d) NS Power has not updated the formal Mersey decommissioning plan over the past two
2 years, as the Company continued to evaluate long-term options rather than advancing
3 detailed project work. However, foundational inputs that inform future decommissioning
4 planning were refreshed. In 2024, as noted in NSEB IR-17, NS Power completed updates
5 to the 2018 Hydro Asset Study, including new archaeological costing (Boreas) and updated
6 decommissioning estimates (Hatch), reflecting current regulatory expectations and cost
7 assumptions. These updated studies have been filed with the Board and will be provided to
8 the IESO Nova Scotia for use in the upcoming IRP, where decommissioning assumptions
9 will be further evaluated and refined before any future decisions are made.

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1 **Request IR-22:**

2
3 **With respect to Appendix G, does NS Power's distribution system experience strong winds**
4 **or microbursts that pull down multiple poles in sequence (e.g., over a stretch of at least**
5 **several hundred meters) due to the cable pulling down poles after the initial pole failure? If**
6 **so, please estimate the number of such incidents and the percentage of outage cost, effort, or**
7 **equipment replacement associated with this mode of failure.**

8
9 **Response IR-22:**

10
11 An incident like this is referred to as a cascading failure. These have occurred in the past during
12 extreme weather events (e.g. Hurricane Fiona), but are a rare occurrence in Nova Scotia and NS
13 Power is not aware of microbursts of wind being the cause of failure. The root cause in known
14 instances during extreme events were due to trees falling onto pole lines constructed according to
15 legacy standards. When these pole lines are rebuilt, modern standards are used, including larger,
16 stronger poles and storm guying as appropriate aiding in preventing cascading failures.

17
18 NS Power does not collect the granular level of data during these extreme events to associate
19 specific costs to that section of pole line.

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1 **Request IR-23:**

2
3 **With respect to Appendix G, Figure 1:**

4
5 **(a) Please confirm that this figure is unchanged since the submission of the 2025-2029**
6 **Five-Year Reliability Plan (December 20, 2024). If not confirmed, please identify the**
7 **differences.**

8
9 **(b) If part (a) is confirmed, please explain why there has been no update to the reliability**
10 **program forecast investment in the past 12 months.**

11
12 **Response IR-23:**

13
14 **(a) Confirmed.**

15
16 **(b) The intent of Figure 1 is to reiterate NS Power's commitment to invest \$1.3 billion in**
17 **reliability programs over the five-year span between 2025 and 2029. The progress report**
18 **was submitted within the first year of execution of the Five-Year Reliability Plan and there**
19 **were no significant changes to the forecast. Appendix G, Figure 30: 2026 Reliability**
20 **Program Investment Overview provides NS Power's updated forecast investment in 2026**
21 **(Year 2).**

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Request IR-24:

With respect to Appendix G, Figure 2:

- (a) Please explain the reasons for changes in the five-year average for each value. For example, tree contacts declined from 49% adjusted contribution to CHI in the previous plan as compared to 33% in this plan.**
- (b) Please provide a definition for each cause code for power interruptions.**
- (c) Please explain when (e.g., what year) NS Power’s operations and vegetation management subject matter experts provided the estimate that up to 40 percent of CHI coded as “Adverse Weather” can be further attributed to tree contacts based on the noted impact to trees throughout the province during severe weather.**
- (d) If the date provided in response to part (c) is earlier than 2025, please explain why it has not been updated.**
- (e) Does NS Power expect that its right-of-way clearing and other related vegetation management programs will reduce the number and percentage of outage events due to tree contacts during adverse weather? If not, why not?**
- (f) Does NS Power collect and review any data regarding events coded as “Adverse Weather” to determine the attribution to tree contacts? If so, please provide relevant documents.**
- (g) Does NS Power agree that it is important to understand the underlying causes of power interruptions during adverse weather events for distribution system design, maintenance and other decision-making? If so, please provide a narrative of how NS**

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1 **Power analyzes these underlying causes and include supporting documentation that**
2 **exists of any such review processes.**

3
4 Response IR-24:

5
6 (a) The report filed in December 2024 was a five-year average of the years 2019-2023. The
7 report filed in December 2025 was a five-year average of the years 2020-2024.

8
9 (b) NS Power follows the cause code definitions included in Electricity Canada methodology
10 for outage coding:

- 11
12 • Unknown - Customer interruptions with no apparent cause or reason which could
13 have contributed to the outage.
- 14
15 • Loss of Supply - Customer interruption due to problems in the Bulk Electricity
16 System (BES) such as interruptions to transmission elements, underfrequency load
17 shedding, transmission system transients, or system frequency excursions.
- 18
19 • Tree Contacts - Customer interruptions caused by faults due to trees or tree limbs
20 contacting energized circuits.
- 21
22 • Lightning - Customer interruptions due to lightning striking the distribution system
23 resulting in an insulation breakdown and/or flashovers.
- 24
25 • Defective Equipment - Customer interruptions resulting from equipment failures
26 such as deterioration due to age, inadequate maintenance, or manufacturing defects.
- 27
28 • Adverse Weather - Customer interruptions resulting from rain, ice storms, snow,
29 winds, extreme ambient temperatures, freezing fog, or frost, and other conditions.

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- Adverse Environment - Customer interruptions due to equipment being subjected to abnormal environment such as salt spray, industrial contamination, humidity, corrosion, vibration, fire, or flooding.
- Human Element - Customer interruptions due to the interface of utility staff with the system such as incorrect records, incorrect use of equipment, incorrect construction, installation or maintenance, incorrect protection settings, switching errors, commissioning errors, deliberate damage, or sabotage.
- Foreign Interference - Customer interruptions beyond the control of the utility such as birds, animals, vehicles, dig-ins, and foreign objects.

(c) The estimate that up to 40% Adverse Weather events can be further attributed to tree contacts was originally provided by NS Power's subject matter experts in 2019.¹

(d) This estimated value for the contribution to events coded as adverse weather from contact by trees continues to be confirmed by subject matter experts based on field reviews of large events coded as adverse weather. Based on their expertise and assessment, there are no indications that this estimate has changed substantially since the original estimate was developed. As an estimate of these impacts, NS Power does not consider the result to be exact across all circuits on its system, but it does provide an important directional measure of these additional outage impacts. Should subject matter experts indicate a substantial change in these estimates, NS Power would update accordingly.

(e) Yes, NS Power does believe that creating distance between the treeline edge and power lines will contribute towards improving outage performance compared with a do-nothing approach. NS Power's expectation is that with continued execution of targeted vegetation management, these clearances will prevent and lessen outages on targeted feeders during

¹ M09656, NS Power 2019 Distribution Routines ATO, Exhibit N-3, NSPI (NSARB) RIR-2, June 9, 2020.

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1 both blue sky days and adverse weather events by reducing to tree contacts caused by high
2 winds or snow. Over time, this is expected to contribute to reducing the overall instances
3 of events coded as adverse weather on these circuits for equivalent storms as vegetation-
4 related contributions are reduced.

5
6 (f) No. NS Power does not specifically collect additional data on events coded Adverse
7 Weather to determine further attribution to tree contacts. If clear evidence of a tree contact
8 is found (such as tree on the line), the event would be coded as Tree Contact. The estimate
9 referenced above would be based on professional assessment as outlined in part (d).

10
11 (g) NS Power agrees that information collected from frontline employees during adverse
12 weather events is important to review and is used by multiple teams for decision-making.
13 Crews and damage assessors in the field report the cause of outages. As an example, this
14 review by NS Power field resources and other subject matter experts has supported the
15 analysis that trees are a leading cause of outages during adverse weather events. Due to
16 this review and analysis, NS Power continues to invest in its vegetation management
17 program to mitigate the risks of these outages.

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Request IR-25:

With respect to Appendix G, Figures 3 and 4:

- (a) Please explain how and why the outage event count has been reduced by more than 50% since 2022 for tree contacts and by nearly 50% for failure of equipment, but the CHI has decreased by a far lesser percentage and not at all for failure of equipment.
- (b) The five-year reliability plan describes how NS Power expects to reduce outage events, please elaborate on how execution of the plan is expected to reduce both outage events and customer hours of interruption.

Response IR-25:

- (a) While CHI is improving at a different pace than outage event count, NS Power expects that the investments that are preventing outage events will continue to drive further gains in CHI improvements over time. CHI is not always directly correlated to event count and CI, as it is a function of the duration of outages and can depend strongly on the same factors influencing restoration time such as the remoteness of an area, timing of an outage (including those outside regular business hours) resource availability, and complexity of repairs. These factors can all impact restoration and consequently the influence on CHI.
- (b) The Five-Year Reliability Plan includes targeted equipment upgrades and/or replacement of distribution, transmission, and substation equipment. Upgrading and/or replacing equipment before failure is expected to continue to reduce the instances of large-scale and long-duration outages from occurring, especially in remote areas where it can be difficult for equipment and resources to reach. Similarly, continuing investment in vegetation management is being completed to reduce unplanned interruptions caused by trees contacting power lines and reducing both customers impacted and the hours of interruptions. Finally, investment in Grid Modernization will support faster fault locating,

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- 1 limit the number of customers impacted by unplanned interruptions, and aid in quicker
- 2 restoration of customers in these locations.

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Request IR-26:

With respect to Appendix G, Figures 5 and 7, and p. 21-22:

- (a) Please explain what is meant by the vegetation management team’s “careful management of resources” in the note to Figure 5.**
- (b) Please reconcile the statement in the note to Figure 5 that the “vegetation management team was able to exceed the planned Kms” with the statement that there was a “reduction in the number of kms of vegetation managed under the program in 2025” (p. 21-22).**
- (c) The statement on p. 21-22 references two figures which refer to corridor widening and new rights-of-way. It appears that vegetation management around existing powerlines (Figure 14) exceeded planned Kms. How was this program able to exceed the plan given the wildfire risk described on p. 21?**
- (d) Please provide a breakdown of planned Kms corresponding to each row in Figure 7.**
- (e) Is vegetation management covered by the Project Delivery Model? If so, please provide any available documentation of identified cost minimization actions and post project review(s). If the amount of information is large, it may be limited to a reasonable subset of the most recent information.**
- (f) Has NS Power adopted the “careful management” practices into its budget forecast?**
- (g) Will the reduced cost per km be used to increase the amount of storm hardening in the reliability program or reduce the cost of the forecast investment in the reliability program?**

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1 Response IR-26:

2
3 (a) Careful management of resources refers to contractor resources and includes activities such
4 as leveraging geographical homebases of contractor resources to reduce per diems and
5 hotel stays and maximize travel efficiency, increasing oversight of contractors to ensure
6 productivity targets are being met, and confirming workers are performing tasks they are
7 most efficient in completing. Additionally, from a financial perspective NS Power
8 undertakes careful management of assigned hourly work, unit rate work, and lump sum
9 work to ensure the most cost-effective options are pursued to execute the overall vegetation
10 management plan.

11
12 (b) The portion of the vegetation management program that focuses on trimming trees around
13 existing lines is generally limited to urban areas where ROW widening is not attainable.
14 That trimming work is an operating expense and therefore not included in the capital
15 routine (D010) or considered “new ROW” (i.e., Phase 10 or Phase 11 project work). As
16 outlined in 2026 ACE Plan Appendix G Figure 5, NS Power’s trimming goal was to
17 achieve 177 km in 2025. That goal was exceeded, but both D010 and the Phase 10 project
18 did not meet the original kilometer goals established for 2025 mainly due to the wildfire
19 work restrictions implemented by the Department of Natural Resources between August 5
20 and October 31.

21
22 (c) Please refer to part (b) above. As a result of the wildfire restrictions NS Power augmented
23 its work plan to focus instead on areas where machinery (mowers) was not required. These
24 areas would generally be less expensive to complete since less equipment and labour is
25 needed to trim trees than to widen or establish a new ROW. The careful management of
26 contractor resources described in part (a) enabled the Company to exceed the initial target
27 kilometers identified at the start of the year.

28
29 (d) Please refer to 2026 ACE Plan Appendix G, Figure 5 for planned kilometers for each row.
30

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- 1 (e) Yes, vegetation management is covered by the Project Delivery Model. Cost minimization
2 actions in the past have included working with the Provincial Department of Public Works
3 to combine efforts in areas where roadside vegetation management is taking place for
4 public safety and working with communication companies such as Bell Aliant to create
5 synergies while completing vegetation management work for rural internet and other Make
6 Ready projects. In areas where vegetation risk is assessed to be lower, reducing ROW
7 widening to 15 feet instead of the typical 20 feet can be an effective approach reduce costs
8 while still mitigating the risk of tree contacts. Documentation that illustrates the cost
9 minimization actions is unavailable due to impacts from the cyber security incident.
10 However, an example of cost minimization includes working with Bell Aliant to complete
11 two rural internet projects (Big Baddeck and Maitland) where NS Power cost shared
12 vegetation management resources to maximize the width of the right of way, in those
13 examples NS Power was able to recognize about a 20% offset in costs.
14
- 15 (f) Yes, careful management is a constant in the management of the vegetation program and
16 is factored into budget forecasts. The intent is to complete more kilometers or exceed
17 targets set for 2026 with the same level of resources.
18
- 19 (g) The goal is to increase the amount of vegetation management (storm hardening) work
20 executed in the reliability program, leveraging the allocated funding.

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1 **Request IR-27:**

2
3 **With respect to Appendix G, Section 5.1.2 and the referenced Appendix C:**

4
5 **(a) Please confirm that of the five feeders identified in Appendix C, only feeder 85S-401**
6 **is listed as one of the “Highest Priority Distribution Feeders” in 2025 (Appendix G,**
7 **Appendix A) or 2026 (Appendix G, Figure 32). In other words, why hasn’t NS Power**
8 **prioritized these pole replacement projects for feeders on these lists?**

9
10 **(b) Will the poles included in CI 0080612 (57C-426H) and CI 0-080104 (365V-303)**
11 **include poles that align with the current CSA C22.3 overhead line standards?**

12
13 **(c) If the answer to part (b) is yes, why are these poles not included in the Appendix C**
14 **table?**

15
16 **(d) Please explain how the priorities demonstrated by the referenced work complies with**
17 **the Board’s direction in M12012 that “installations should be prioritized in areas that**
18 **are more frequently exposed to the highest winds and have the greatest impact on**
19 **customer outages” (para 89, page 31). If the list in Appendix C was not prioritized in**
20 **this manner, please explain NS Power’s plan for complying with this direction.**

21
22 **(e) Please provide NS Power’s plan to “provide a post-storm evaluation to determine pole**
23 **status, survival rate, impact on customer outages, and whether the upgraded class**
24 **improved the resilience of the wooden poles,” (M12012, para 90, page 31) including**
25 **definitions of quantified metrics, data collection plans (pre- and post-storm), and**
26 **other elements of the plan necessary to provide a fulsome evaluation.**
27

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1 Response IR-27:

2
3 (a) Projects chosen for the new pole class monitoring locations were based on projects ready
4 for early 2026 execution and also including at least 10 consecutive poles to be replaced.
5 Several projects on the Highest Priority Distribution Feeders often have other issues to
6 resolve and may not meet the above-mentioned criteria.

7
8 (b) Yes.

9
10 (c) CI C0080612 (57C-426H) will be executed later in 2026 therefore it was not included as
11 there is some risk that it would not be fully completed in 2026. CI C0080104 (36V-303)
12 has several pole replacements; but they are not all consecutive.

13
14 (d) The poles that are part of the monitoring project are not the only poles that are being
15 replaced by NS Power in the province. As described in part (a) above, projects selected for
16 the monitoring were driven by those locations that had scoping complete, ready for early
17 2026 execution, and had at least 10 consecutive poles to be replaced. Additionally, projects
18 that have been selected comply with the Board direction to have a monitoring project in
19 each of the four operating regions, are routinely exposed to high winds and are expected to
20 have a meaningful impact on customer outages.

21
22 (e) For ongoing monitoring, NS Power will use a GIS layer to flag field crews that if a pole
23 within monitoring locations is broken, the Company's standards team must be advised of
24 the cause of failure (e.g. tree on line, vehicle collision, etc) and replacement. This
25 information will be compiled and reported back through the Five-Year Reliability Plan
26 updates going forward as the work is completed.

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1 **Request IR-28:**

2
3 **With respect to Appendix G, Section 5.3 and Exhibit N-7, RIR-12 in M12012:**

4
5 **(a) Is NS Power a member of Grid Assurance's sparing service program or any other**
6 **program to subscribe to that allows for immediate access to spare transmission**
7 **equipment at original cost in emergency circumstances? If so, please explain the scope**
8 **of NS Power's membership.**

9
10 **(b) If the answer to part (a) is no, please explain whether NS Power has considered any**
11 **such programs and why it has not joined.**

12
13 **Response IR-28:**

14
15 **(a) NS Power is not currently a member of Grid Assurance's sparing program or a similar**
16 **subscription-based spares program.**

17
18 **(b) NS Power has previously investigated spare inventory pooling opportunities (although not**
19 **Grid Assurance specifically) but did not find that it was a more effective approach than**
20 **existing sparing strategies given the potentially high costs. While pooling arrangements**
21 **can be beneficial, such programs can not necessarily guarantee that the required spares will**
22 **always be available in the pool and that they would be released to NS Power in a timely**
23 **manner. For spares stored in the US as Grid Assurance approach appears to be, border**
24 **crossings could create additional complications. Overall effectiveness would depend on the**
25 **ability for the program to procure and maintain suitable spare assets, replace spares as they**
26 **are used by other members, and the logistics of obtaining a suitable spare by the impacted**
27 **utility. Further study would ultimately be necessary to evaluate the appropriateness of Grid**
28 **Assurance's offering to cover NS Power's fleet. For highly critical assets like step-up**
29 **transformers, NS Power believes that its self-managed sparing program provides an**

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1 appropriate support to overall system reliability but continues to explore opportunities to
2 improve as applicable.

3
4 NS Power continues to evaluate opportunities to enhance its sparing strategy, including
5 participating in industry discussions on potential alignment of Canadian equipment
6 standards where feasible, noting that this work is exploratory and not yet reflected in formal
7 sparing program decisions.

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Request IR-29:

With respect to Appendix G, Section 7.3.2

(a) Please confirm that the improved reliability performance anticipated from the FLISR projects is expected to be caused by faster outage response (reduced power interruption duration) across the distribution network (clarifying p. 65 lines 15-17). If there is any other driver of improved reliability that NS Power anticipates being provided by FLISR projects, please explain.

(b) In the Board’s decision in M12417, it stated that NS Power “offered a very general approach to measuring the collective performance of all reliability measures, rather than focusing specifically on [the FLISR] technology,” and encouraged NS Power “to develop metrics to measure and validate the technology’s performance.” Please describe any steps that NS Power has taken or plans to take in response to the Board’s direction, including a timeline for completion and reporting to the Board and federal government.

Response IR-29:

(a) Yes, NS Power confirms that the improved reliability performance anticipated from the FLISR projects is expected to be caused by faster outage response (reduced power interruption duration) across the distribution network. This is particularly relevant on radial feeders where there is no opportunity for reconfiguration to reduce outage extents.

NS Power anticipates additional reliability drivers from FLISR beyond faster response/reduced duration, primarily through the automation and isolation that limit outage extent and impacts to the minimum number of customers possible as well as enhancing overall system reliability.

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1 (b) NS Power will incorporate the Board's direction into the evaluation of FLISR. The team is
2 currently determining necessary metrics above the standard utility measures for FLISR
3 scheme validation to track performance of each scheme.

4
5 As the schemes come online the team will be tracking metrics and evaluating reliability
6 improvements through the end of Q1 2028 where a report will be created summarizing the
7 outcomes for the federal government as part of the funding requirements through NRCan.

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1 **Request IR-30:**

2
3 **With respect to Appendix H, please explain who is responsible for conducting reviews of**
4 **PDM documentation and how completion of the PDM documentation review, including that**
5 **of the post-project review, will be assured, as through tracking or some other management**
6 **practice.**

7
8 **Response IR-30:**

9
10 The Capital Program Manager is responsible for conducting the final review of all PDM
11 documentation for all capital projects submitted for approval, both internally and to the Board.

12
13 For all projects submitted for approval, the current management practice is to review the request
14 via the PDM Checklist and confirm all relevant documents have been uploaded to the system of
15 record for storage of project documentation (PowerPlan). Once the Capital Program Manager
16 confirms all relevant documents are attached in PowerPlan, the documents are reviewed to ensure
17 completion and reasonableness as part of the request for approval.

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Request IR-31:

With respect to Appendix H:

(a) Please provide a list of all post-project reviews conducted over the past 18 months and identify any that have previously been filed (e.g., in an ATO or in the 2024 ACE Plan proceeding). Please provide a copy of a sample comprising at least 25% of any post-project reviews that have not previously been filed. Please ensure that the sample includes at least one example from each category (and subcategory), as follows:

(i) Projects with actual spending > \$5M.

(ii) Projects with actual spending between \$1M and \$5M, where at least one of the following criteria are met:

(1) Unique or first-time undertaking

(2) Significant safety or environmental risk management deployed

(3) Significant schedule/budget under performance

(4) Significant schedule/budget over performance

(iii) Projects activated between \$250K and \$1M that are over-spent by more than 30% from original activated amount.

(iv) Projects whose budget is principally comprised of sole-source procurement.

(v) Projects initiated by the Project Manager for sharing or recognition.

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- 1 **(b) Please explain, and provide examples of, how these post-project reviews have been**
2 **effective in NS Power’s continuous improvement process. If they have not been**
3 **effective, or a good use of resources, please explain the basis for reaching that**
4 **conclusion and any planned or proposed changes to the process.**
5
- 6 **(c) Please identify one or more examples from the post-project reviews supplied in**
7 **response to (a) of the following considerations in the review process leading to an**
8 **actionable finding (recognizing success or identifying opportunity for improvement):**
9
- 10 **(i) Internal project coordination practices, including whether they were effective,**
11 **efficient, or problematic;**
12
- 13 **(ii) Project risk registers, including identifications of risks that were overlooked,**
14 **overstated, or successfully mitigated; and**
15
- 16 **(iii) Staff response to emerging problems, such as whether internal communication**
17 **was effective and whether mid-course action mitigated those problems.**
18
- 19 **(d) If, for any of the subparts to item (c), no specific examples can be identified, please**
20 **confirm that NS Power still “agrees that the items listed above are important**
21 **considerations with respect to the post-project review process” (2024 ACE Plan**
22 **Rebuttal Evidence, p. 25) and explain why those important considerations are not**
23 **evident in post-project reviews.**
24
- 25 **(e) Please include any available evidence of the quality control process illustrated in**
26 **Appendix H for each of the post-project reviews submitted in response to this**
27 **question.**
28

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1 Response IR-31:

2
3 No post-project reviews can be provided at this time, for two reasons. Due to the cyber incident,
4 all post-project reviews that were completed since the filing of the 2025 ACE Plan and April 2025
5 have been lost. Additionally, after the cyber incident, the internal requirement to complete post-
6 project reviews was temporarily paused due to the temporary loss of PowerPlan and NS Power's
7 financial systems, as priorities of project managers were shifted to ensure core capabilities around
8 financial management and reporting were taking place. As outlined in the Company's monthly
9 reporting relating the cyber incident (M12273), while PowerPlan was unavailable, the Capital
10 Planning teams at NS Power utilized detailed spreadsheets in the interim for business continuity,
11 which allowed for uninterrupted monthly capital filings, the development of the 2026 ACE Plan,
12 and continued financial reporting requirements. As a result of implementing this change for
13 business continuity, the decision was made to temporarily pause the requirement to formally
14 complete post-project reviews, although project managers remained encouraged to informally
15 share learnings on their projects with others within their functional area as well as in broader
16 sessions with other capital leads to allow for significant learnings to be utilized by others wherever
17 possible.

18
19 With PowerPlan back to operational status, the requirement to formally complete these reviews
20 has returned in 2026 and post-project reviews that would have been required in 2025 will also be
21 documented wherever resourcing allows.

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1 **Request IR-32:**

2
3 **Reference: 2024 ACE Plan Rebuttal Evidence, p. 17, stating, “NS Power will continue to**
4 **assess how this data could be obtained,” referencing a recommendation to breakdown**
5 **distribution costs into four new categories, and Exhibit N-7, CA RIR-14(a)(i), M12012.**
6

7 **(a) Please describe actions taken by NS Power since April 2024 to assess how it could**
8 **acquire historical and forecast distribution cost data for the following categories.**
9 **Please respond to each item regarding both historical data and forecast data,**
10 **explaining what type of historical cost data are available or and what type of forecast**
11 **cost data could be created:**
12

13 **(i) New customers by single-family, multi-unit, and residential additions**
14

15 **(ii) Increased load capacity at existing residential and commercial sites**
16

17 **(iii) Unmetered services, such as streetlights; and**
18

19 **(iv) External factors driving costs, including supply chain issues, shifts in the**
20 **regular/overtime labour breakdown due to other utility programs.**
21

22 **(b) In the referenced RIR, NS Power stated:**
23

24 **NS Power has data on single-family and multi-unit completions from**
25 **the Conference Board of Canada, however, internal work orders do not**
26 **distinguish between this type of work. NS Power does not currently**
27 **have a means of tracking residential additions. To that end NS Power**
28 **has created a continuous improvement initiative to analyze current**
29 **internal data to identify gaps in data. This information will be used to**
30 **determine if data could be accessed elsewhere, whether system**
31 **enhancements are possible or if the required data is better suited for**
32 **future system upgrade initiatives.**
33

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- 1 **(i) Please identify any changes that have been made to the format of internal work**
2 **orders since January 1, 2025.**
- 3
- 4 **(ii) Please provide an update on NS Power’s “continuous improvement initiative,”**
5 **with any results or findings that have occurred.**
- 6
- 7 **(iii) Please explain whether NS Power has determined if data could be accessed**
8 **elsewhere, whether system enhancements are possible or if the required data**
9 **is better suited for future system upgrade initiatives.**
- 10
- 11 **(iv) Please explain whether any relevant future system upgrade initiatives are**
12 **planned and, if so, provide documentation of the relevant portion of the scope**
13 **for such initiatives.**
- 14
- 15 **(c) Please describe any other actions that NS Power intends to undertake in the next three**
16 **years for the same purpose.**

17

18 Response IR-32:

19

- 20 **(a)** Forecasting methodologies for these routines have been discussed in many filings over the
21 past few years. Most recently, the forecasting methodologies were discussed in NS
22 Power’s 2024 Distribution Routines ATO proceeding (M12319); please refer to CA IR-1,
23 NSEB IR-4, and NSEB IR-9 in that proceeding for additional detail. NS Power has
24 observed success in 2025 with the new forecasting methodology developed for these
25 routines, which has resulted in no ATO being required for a New Customer routine for the
26 first time in a number of years. If this approach proves to be inaccurate over time, NS
27 Power will reassess its methodology which may include incorporating some of the data
28 alluded to above; however, at this time, neither revised methodologies nor methods of
29 capturing the data outlined above are being considered.
- 30

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1 (b)

2 (i) There have been no changes to the format of internal work orders since January 1,
3 2025.

4
5 (ii) This initiative was not meaningfully advanced in 2025 and is currently not a priority
6 for the business given the initial success of the revised forecasting methodology as
7 well as the ongoing recovery efforts related to the cyber incident. However, this
8 functionality will remain as a consideration as NS Power continues preliminary
9 planning for future system upgrade initiatives.

10
11 (iii) At this time there are no simple solutions within NS Power's existing operational
12 technology to enable this sort of tracking, and given the relative low priority
13 outlined above, this type of enhancement is better suited for future system upgrade
14 initiatives.

15
16 (iv) There are no specific system upgrade projects that are aimed at addressing this, but
17 this kind of tracking and reporting will be a consideration in future system
18 upgrades.

19
20 (c) Given the initial success of the revised forecasting methodology, there are no other actions
21 NS Power plans to undertake over the next three years other than continuing to monitor the
22 effectiveness of the new forecasting methodology.