

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF: *The Public Utilities Act*

– and –

IN THE MATTER OF: To obtain a cost reasonableness review of NS Power - CI
C0051815 – \$5,959,515 - RTU Replacements Program – Phase
6, as outlined in Section 2.1 of the 202 ACE Plan Decision
(M12012)

INFORMATION REQUESTS

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From: The Consumer Advocate

Responses Due: March 18, 2026

Copies: 1 electronic copy (PDF searchable)

Contact Person: **David J. Roberts**
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1 **Request IR-1:**

2 With respect to Midgard's statement that NS Power's execution strategy uses "sequential
3 execution" (p. 13) and that:

4
5 The installation sequence does not appear optimized to maximize work crew
6 efficiency through progressive skill development. While NSPI employs process
7 optimizations such as parallel design work and equipment standardization, the
8 physical installation schedule is primarily dictated by risk mitigation (asset condition
9 and criticality) rather than managing sequencing to compound learning and
10 productivity in the service of managing Program costs and execution risk. (p. 14)
11

- 12 (a) Please provide Midgard's opinion of NS Power's choice to use sequential execution rather
13 than multiple crews based in different parts of Nova Scotia (multiple crews could provide
14 greater operational efficiency). (Please ensure that this response is reconciled with or
15 considered in your response to CA IR-8 below.)
16 (b) Please explain Midgard's understanding of the reason that NS Power used Phases for the
17 RTU Replacements Program rather than proposing full systemwide replacement in one
18 multi-year capital project.
19 (c) Please provide any information that Midgard is aware of that supports the project schedule,
20 as proposed in the 2025 ACE Plan, as optimal with respect to an earlier filing.
21 (d) Please explain whether NS Power could have emphasized operational efficiency and work
22 crew efficiency through progressive skill development by proposing and implementing
23 Phase 6 at an earlier date (e.g., in the 2024 ACE Plan rather than the 2025 ACE Plan).
24 (e) Please provide Midgard's opinion as to whether NS Power could have reduced the cost of
25 Phase 6 by filing the project earlier and using techniques such as (i) optimized scheduling
26 of multiple work crews as discussed in your response to part (a) to achieve operational
27 efficiency, (ii) use of contract term labour as discussed in your response to CA IR-4(c), and
28 (iii) increased work crew efficiency through progressive skill development as discussed in
29 your response to part (d).
30 (f) Considering your response to part (e) above, please provide Midgard's opinion as to a
31 reasonable estimate for any cost reduction that could have occurred through reduced travel
32 time, reduced labour hours, and reduced labour rates (due to reduced overtime labour or
33 contract term labour, including consideration of administrative overhead rates). Please
34 provide supporting analysis in an excel workbook, such as a variant scenario based on
35 Exhibit N-3(i)(C).
36

37 **Request IR-2:**

38 With respect to Midgard's finding (p. 21) stating, "Using materials cost as the proxy for the
39 complexity of the equipment, Phase 6 materials costs are comparable with those in Phase 5," please
40 provide the supporting analysis in an excel workbook.
41

42 **Request IR-3:**

43 With respect to Midgard's finding (p. 30), stating "Consequently, a technical comparison between
44 Phase 1 and Phase 6 scope, complexity, or execution methods cannot be supported by primary
45 documentation":

- 1 (a) Please explain why Midgard did not attempt a technical comparison between Phase 6 and
2 phases other than Phase 1.
- 3 (b) On p. 17, Midgard references NS Power's statement that "key personnel involved in earlier
4 phases are no longer with the Company."
5 i. Please confirm that NS Power's response appears to refer to key personnel involved
6 in Phase 1, given the context of the question. If not confirmed, please explain the
7 basis for Midgard's understanding.
8 ii. Please explain why Midgard did not seek information on whether key personnel
9 involved in more recent phases (e.g., Phases 4 and 5) are involved with Phase 6
10 work and, if so, in what capacity.
- 11 (c) Please identify any other analysis that was constrained by difficulties in comparing Phase
12 6 to Phase 1 that were not resolved by a technical comparison between Phase 6 and phases
13 other than Phase 1.
- 14 (d) Please explain whether Midgard is satisfied with the sufficiency of data for topics discussed
15 in part (c) of this information request.
- 16 (e) If Midgard had the opportunity to obtain additional information from NS Power that was
17 not requested prior to completing its report, please identify what additional information
18 would be useful and how it would assist Midgard in improving the definitiveness or other
19 qualities of its report.
20

21 **Request IR-4:**

22 With respect to Midgard's recommendation (p. 36) stating, "Midgard recommends a 30%
23 reduction in labour hours to align the estimate with reasonable productivity levels supported by
24 technical documentation":

- 25 (a) On p. 18, Midgard finds that, "Overtime Labour rose by approximately 228%, indicating a
26 materially higher reliance on premium hours relative to historical norms." On p. 25,
27 Midgard quotes NS Power as stating that, "Risks intended to be covered by the contingency
28 are overtime work that may be required ..." On p. 31 in footnote 65, "Midgard's estimates
29 reflect regular hours only, with overtime expected to be minimal under normal execution
30 conditions."
31 i. Please provide a revised project budget based on applying the recommended
32 reduction in labour hours, reducing overtime hours first consistent with footnote
33 65. Please supply this document as an excel spreadsheet with all primary data
34 included and formulas intact.
35 ii. If not all overtime hours are removed in the revised project budget provided in the
36 response to part (i) above, please explain how the 30% reduction in labour hours is
37 consistent with the finding on footnote 65 and how both points may be reconciled.
38 iii. Assuming that all contingency cost is represented by overtime hours, please provide
39 an estimate of how many overtime hours would be provided for in the contingency
40 cost and how that compares to the 30% reduction recommended by Midgard.
- 41 (b) With respect to the comparison between "NSPI's 25-32 day estimate and its reconciliation
42 to RFW-documented durations" (p. 30):
43 i. Is it mathematically possible that NS Power's budgeted overtime labour explains
44 the difference?

- 1 ii. Considering the lower end of the percentage difference calculated by Midgard (line
2 20), what would be the reduction if this value were the basis for Midgard's
3 recommendation?
- 4 iii. Please explain why the comparison between NS Power's estimate and the RFW-
5 documented durations was not used as the basis for Midgard's labour hour
6 reduction recommendation. In your response, please state whether such a decision
7 would, in Midgard's opinion, be reasonable even if it is not Midgard's
8 recommendation.
- 9 (c) With respect to Table 21 in Appendix A, how did Midgard evaluate labour hours for
10 contractors in its analysis? Please clarify Midgard's recommendation with respect to
11 internal labour and external contract resources (term labour). In your response, please
12 provide any opinion that Midgard may have as to reasonable assumptions regarding the
13 productivity of term labour as compared to internal labour.
- 14 (d) On p. 35, Midgard reports the internal labour overhead rate for regular hours as 53.98%
15 and the contractor overhead rate as 10.45% for 2026+.
- 16 i. Please confirm that Midgard understands the effective internal overtime labour
17 overhead rate for all overtime hours as 26.99% (50% of the regular hour overtime
18 rate). If not confirmed, please provide Midgard's understanding.
- 19 ii. Is Midgard concerned that the higher effective internal overtime labour overhead
20 rate as compared to contractor overhead rate may create an incentive for use of
21 overtime as opposed to contractors (term labour)? Please explain.
- 22

23 **Request IR-5:**

24 With respect to Midgard's discussion of the contingency amounts and budget (p. 19, 25-27):

- 25 (a) Please provide Midgard's opinion regarding whether NS Power's 10% contingency budget
26 is consistent with NS Power's non-binding contingency guidelines, as directed by the
27 Board in its 2020 ACE Plan Decision, Matter No. M09499 (June 25, 2020), pp. 33-37,
28 using the most recent version of the guidelines submitted by NS Power in Exhibit N-4,
29 Matter No. M12012, CA RIR-15, Attachment 1. In your response, please consider both the
30 scenario in which the Board accepts Midgard's 30% reduction recommendation as further
31 elaborated on in response to CA IR-4 and the scenario in which the Board rejects that
32 recommendation.
- 33 (b) Considering the referenced material and any other information from NS Power proceedings
34 that the Midgard staff involved in this project are familiar with, please provide any opinion
35 that Midgard may have as to:
- 36 i. Material weaknesses in the non-binding contingency guidelines; and
37 ii. NS Power's application of those guidelines.
- 38 (c) Please confirm that the only risk register documentation provided by NS Power to Midgard
39 is found in NSEB RIR-2, Attachment 1. If not confirmed, please identify relevant
40 documents.
- 41 (d) In a previous proceeding, NS Power explained that transmission line replacement projects
42 with a 15% contingency "are routine in nature and do not present a higher level of cost
43 risk," further pointing out that, "There are contracts with set pricing in place to control the
44 costs of executing the work," and that "While outage windows for transmission lines can
45 fluctuate, this typically does not have a material impact on completion timelines or overall
46 cost." (Exhibit N-5, M11458, CA RIR-17) Please provide Midgard's opinion as to whether

1 the RTU replacement projects can be considered “routine in nature,” “do not present a
2 higher level of cost risk,” “have set pricing in place to control costs,” and that costs and
3 completion timelines are not materially affected by any outage windows for transmission
4 lines.

- 5 (e) Similarly, in the 2026 ACE Plan proceeding, NS Power justifies the lack of a risk matrix
6 and detailed schedule for transformer addition projects on the basis that, “NS Power has
7 significant experience completing [the transformer addition projects] and the risks to the
8 project are well understood, as they are generally very consistent across all transformer
9 addition projects.” (Exhibit N-3, M12619, CA RIR-16) Please provide Midgard’s opinion
10 as to whether the NS Power has significant experience completing RTU replacement
11 projects and whether risks to the Phase 6 project are generally very consistent across all
12 transformer addition projects.
- 13 (f) Please provide Midgard’s opinion as to whether it would have been reasonable for NS
14 Power to not prepare a risk matrix for the Phase 6 project.
- 15 (g) Considering your response to parts (c), (d) and (e) above, please provide Midgard’s opinion
16 as to whether the risk matrix documentation demonstrates a recommended level of
17 attention to potential drivers of cost, completion timeline, and any other categories of risk
18 that Midgard considers relevant to RTU replacement projects.
- 19 (h) In Exhibit N-2, NSEB RIR-9, NS Power does not refer to the Project Delivery Model as
20 applied to current RTU projects that did not apply to Phase 1. As the Board summarized in
21 its 2024 ACE Plan decision,

22 The PDM serves as the overarching framework that provides guidance on
23 documenting and sharing cost minimization expectations and practices
24 within NS Power’s business. The PDM also describes the process for the
25 proactive review and tracking of cost minimization opportunities during all
26 stages of the project life cycle. (NSUARB, *2024 ACE Plan Decision*, Matter
27 No. M11458 (August 13, 2024), para. 183.)

28 In its approval of the PDM as submitted, it directed NS Power to “revise its PDM to include
29 a quality control step to verify that maturity matrices, risk registers, and other relevant
30 documents are accurate ...” (*Id.*, para. 198) Please provide Midgard’s opinion as to NS
31 Power’s compliance with the 2024 ACE Plan decision with respect to the RTU
32 Replacement Phase 6 project.
33

34 **Request IR-6:**

35 With respect to Midgard’s conclusion that “Learning occurred through ad-hoc channels rather than
36 formal post-project reviews or lessons-learned assessments, creating organizational risk given
37 recent personnel turnover” (p. 20):

- 38 (a) Please explain why Midgard did not provide a recommendation related to post-project
39 reviews or lessons-learned assessments.
- 40 (b) Please provide any recommendations or best practices regarding post-project reviews or
41 lessons-learned assessments that may be useful to improve planning and execution of
42 capital projects with execution practices and challenges similar to RTU replacements.
43

44 **Request IR-7:**

45 With respect to Table 14 (p. 31), please explain the differences between data in column Total
46 Hours/RTU-NSPI and the data in Exhibit N-2, NSEB RIR-6(b), p. 5. For example, SM Electrician

1 is reported as 272 hours in Table 14 and 240 hours in NSEB RIR-6(b). The same total hourly data
2 in NSEB RIR-6(b) appear to be included in NSEB RIR-10(a), RIR-12(b). Note that Exhibit N-
3 3(i)(C), tab Labour, does not appear to include formula support to reconcile these data. In your
4 response, if there are any other material differences between the data in Exhibit N-3(i)(C) and
5 supporting data provided by NS Power that are not explained by existing formulas in the
6 workbook, please provide support for those differences as well.

7
8 **Request IR-8:**

9 In Appendix A, p. 40, Midgard discusses the average commute time for RTU replacement project
10 staff. Related to operational efficiency in dispatching staff and other resources, NS Power has
11 reported on the initial impacts of its Work Management and Scheduling & Dispatch project, which
12 upgraded deployment of IBM Maximo and Salesforce software. NS Power stated that savings were
13 achieved through outcomes such as enhancing “operational efficiency by eliminating redundant
14 trips and unnecessary site visits” (Exhibit N-1, M12253, M10400 CI46075 – IT – T&D WAM
15 Phase 2 – Work Management and Scheduling & Dispatch Application Benefits Report, p. 3).

- 16 (a) Please describe the familiarity of the Midgard team that worked on the RTU Replacements
17 Program report with this type of software and its application by any utilities.
18 (b) Based on the Midgard team’s professional experience, is it likely that the
19 Maximo/Salesforce software could improve operational efficiency in the RTU
20 Replacements Program, such as by reducing the average commute time by scheduling
21 resources located proximately to the RTU projects?
22 (c) Please describe any evidence identified by Midgard as to how NS Power sought to
23 minimize costs through improved operational efficiency including, but not limited to, use
24 of the Maximo/Salesforce software.
25 (d) How would Midgard recommend reconciling any compromise between operational
26 efficiency, criticality, and opportunities for learning-curve benefits?

27
28 **Request IR-9:**

29 In Exhibit N-2, NSEB RIR-8(a), NS Power provides its “most reasonable estimate” of the
30 qualitative factors that affect the overall labour effort for the RTU replacements project.

- 31 (a) Please confirm that Midgard did not include discussion that relies on this evidence in its
32 report and provide an explanation for this decision. If not confirmed, please explain how
33 this evidence is included in its report.
34 (b) Please provide Midgard’s opinion as to the reasonableness of NS Power’s estimates. In
35 your response, please specifically discuss the following:
36 i. The 104 hour labour increase for RTU technicians due to infrastructure complexity.
37 ii. The 104 hour labour increase for RTU technicians due to scope change.
38 iii. The 80 hour labour increase for engineering due to infrastructure complexity.
39 iv. The 80 hour labour increase for scope change due to infrastructure complexity.
40 v. Any other specific estimates included by NS Power in this table that Midgard finds
41 questionable.