NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF the PUBLIC UTILITIES ACT and the MARITIME LINK ACT and the MARITIME LINK COST RECOVERY PROCESS REGULATIONS

- and -

IN THE MATTER OF AN APPLICATION by **NSP MARITIME LINK INCORPORATED** for approval of its 2024 revenue requirement and cost assessment

BEFORE: Stephen T. McGrath, K.C., Chair

Roland A. Deveau, K.C., Vice Chair

Steven M. Murphy, MBA, P.Eng., Member

APPLICANT: NSP MARITIME LINK INC.

Colin J. Clarke, K.C.

David Landrigan, Counsel

INTERVENORS: CONSUMER ADVOCATE

David J. Roberts, Counsel Michael Murphy, Counsel

SMALL BUSINESS ADVOCATE

E.A. Nelson Blackburn, K.C. Melissa MacAdam, Counsel

INDUSTRIAL GROUP

Nancy G. Rubin, K.C.

Brianne Rudderham, Counsel Dylan MacDonald, Counsel

NOVA SCOTIA DEPARTMENT OF NATURAL

RESOURCES AND RENEWABLES

Daniel Boyle, Counsel Jeremy P. Smith, Counsel **BOARD COUNSEL:**

William L. Mahody, K.C.

FINAL SUBMISSIONS:

December 5, 2023

DECISION DATE:

December 21, 2023

DECISION:

Application for 2024 revenue requirement and cost assessment of \$163.5 million approved. The \$4 million

monthly holdback will continue.

TABLE OF CONTENTS

SUMMARY	
RATE BASE	
Findings	6
OPERATING AND MAINTENANCE COSTS	7
Findings	10
RETURN ON EQUITY AND EQUITY FINANCING	12
Findings	14
HOLDBACK	14
Findings	15
2024 SUSTAINING CAPITAL COSTS	15
Findings	
TECHNICAL MARINE CABLE REQUIREMENTS	18
Findings	19
REPORTING	20
CONCLUSION	20
	RATE BASE Findings OPERATING AND MAINTENANCE COSTS Findings RETURN ON EQUITY AND EQUITY FINANCING Findings HOLDBACK Findings 2024 SUSTAINING CAPITAL COSTS Findings TECHNICAL MARINE CABLE REQUIREMENTS Findings REPORTING

1.0 SUMMARY

[1] NSP Maritime Link Incorporated (NSPML) applied to the Nova Scotia Utility and Review Board under s. 64 of the *Public Utilities Act* and s. 8 of the *Maritime Link Cost Recovery Process Regulations* for approval of its 2024 revenue requirement and its recovery through a cost assessment against Nova Scotia Power Inc., effective January 1, 2024. The cost assessment is the amount that NS Power will pay to NSPML to finance the Maritime Link (ML) and pay for 2024 depreciation, operating and maintenance expenses.

[2] NSPML requested approval to:

- set the 2024 annual cost assessment, effective January 1, 2024, at \$163.5 million, which is lower than the 2023 annual assessment of \$163.7 million set by the Board; and
- approve a regulatory deferral account to allocate 2024 comprehensive survey costs over a three-year period.

[3] NSPML's cost assessment request is broken down as follows:

Table 1: Components of the 2024 Assessment

Description	\$M
Operating & Maintenance	\$22.2
Depreciation	\$56.6
Debt Financing Costs • Interest (Net)	\$39.2
Amortization of Deferred Financing Costs	\$1.4
Equity Financing Costs	\$44.1
Total Costs	\$163.5

[Exhibit N-1, p. 5]

- [4] NS Power includes the assessment amount in its revenue requirement and recovers it through the rates paid by its customers. The proposed \$163.5 million cost assessment is similar to the amount already included in these rates (\$164.8 million).
- [5] This proceeding was conducted by way of a paper hearing, including Information Requests (IRs) to NSPML. No other party filed evidence in the matter. Written submissions by the parties were completed by December 5, 2023.
- The Board approves NSPML's application for its \$163.5 million 2024 cost assessment against NS Power and the allocation of the 2024 comprehensive marine survey costs over a three-year period. The \$4 million monthly holdback will continue. The Board also directs NSPML's continued reporting.

2.0 RATE BASE

In its Order dated February 25, 2022, following the *Final Project Costs* decision [2022 NSUARB 18 (M10206)], the Board confirmed NSPML's opening rate base, after adjustments, of \$1,752.4 million (this amount was erroneously stated as \$1,742.4 million in the Board's decision last year). In its response to NSUARB IR-8 in its 2023 annual cost assessment application (M10708), NSPML stated that no further reconciliation or adjustments had been made to rate base for the 2023 cost assessment for outstanding insurance, warranty, expropriation and contract claims. It stated any such adjustments would be made after the claims have been settled. Further, NSPML stated it would address the rate base treatment of any 2023 sustaining capital expenditures when it files its rate base reconciliation for outstanding insurance, warranty, expropriation and contract claims.

[8] In the present application, NSPML stated its proposed equity financing costs were based on a forecast opening 2024 rate base of \$1,631.7 million, but it provided no further reconciliation from its opening rate base amount.

Findings

In its application, NSPML said it would address the rate base treatment of any 2024 sustaining capital expenditures when it files its rate base reconciliation for outstanding insurance, warranty, expropriation and contract claims, which is now expected in late 2023 or early 2024. It said the same in last year's application for 2023 sustaining capital costs and prior adjustments to its opening rate base. NSPML has not filed a reconciliation of its rate base since its opening rate base of \$1,752.4 million was approved by the Board in its Order dated February 25, 2022, following the Board's *Final Project Costs* decision. In response to NSUARB IR-5 in this application, NSPML provided an estimated rate base continuity schedule for closing year-end amounts. The response noted that capital additions for 2024 do not include costs for pending rock protection of the submarine cables.

[10] According to the commercial agreements between Emera (including NSPML), Nalcor and other parties about the construction of the Maritime Link Project and its integration with the Muskrat Falls Project, NSPML must convey the Maritime Link facilities to Nalcor at the end of 35 years for \$1. As a result, the Maritime Link Project is somewhat unique from other utilities in that the Project's rate base will decline to zero over the course of 35 years, as more fully described in the Board's original approval of the Maritime Link Project [2013 NSUARB 154, see paras. 31, 380-388] and the *Final Project Costs* decision [see paras. 79-85]. NSPML's depreciation policy was also developed on the overriding assumption that all assets must be fully depreciated at the

end of the 35-year duration of the NS Block when the Maritime Link is to be transferred to Nalcor. As a result, the Board considers it important to monitor sustaining capital expenses and other capital projects to ensure its impact on rate base does not unduly cause rate pressures or raise intergenerational equity concerns.

- [11] The Board directs NSPML to provide a rate base continuity schedule in its future applications for Board approval of its revenue requirement and cost assessment applications.
- [12] The Board will consider any of the above adjustments (i.e., outstanding claims and sustaining capital) to NSPML's rate base in later proceedings, including any adjustments made in 2022, 2023 and 2024.

3.0 OPERATING AND MAINTENANCE COSTS

[13] In its application, NSPML projected its 2024 operating and maintenance (O&M) costs would be \$22.2 million, as described in the following table:

Table 2: Operations and Maintenance Forecast – 2024 vs 2023 (\$ millions)

Operating & Maintenance Costs (Amounts in Smillions)	2024	2023 approved
Maintenance & Inspections (Note 1)	8.5	6.8
Labour and Administration	8.6	7.2
Insurance	4.6	4.0
Independent Engineer	0.3	0.3
Environmental Assessment	0.2	0.2
Contingency	•	-
Total	22.2	18.5

[Exhibit N-1, p. 6]

This is an increase of about \$3.7 million compared to NSPML's approved 2023 O&M costs. The overall contingency amount was removed last year, given NSPML's better understanding of operational risks and cost pressures.

NSPML stated that the main item contributing to the increase to O&M costs was a planned marine survey in 2024 covering the full length of the cables and cable protection elements. There was no similar survey conducted (or forecasted) in 2023. After 2024, the next full scope marine survey is scheduled for 2027. Given the expected cyclical nature of conducting these marine surveys, NSPML proposed that the 2024 survey costs be spread over three years (2024, 2025 and 2026) to smooth the year-by-year cost variability of including 100% of these costs in 2024 and then again in 2027. While acknowledging that this is not a capital cost, the proposal is that NSPML's regulated statements account for the deferral in the same manner as a capital investment or NS Power's FAM account through the establishment of a regulatory deferral account.

[16] The cost estimate for the 2024 full scope marine survey is based on indicative pricing and the cost of past surveys. NSPML expects to have final costing prior to year-end 2023. NSPML added that the planned 2024 marine survey does not foreclose the possibility of other surveys or marine inspection work during this period. Depending on the results of the full scope survey or other requirements, other localized marine inspections might be required to confirm any remedial work or to assess storm impacts.

[17] NSPML stated that the Labour and Administration cost category of O&M expenses are expected to increase by \$1.4 million (\$7.2 million to \$8.6 million) due to a few factors. NSPML forecasted an increase in legal and regulatory costs compared to the approved 2023 budget, training and development for NSPML employees assuming work

previously provided by contractors or consultants, and restructuring and inflationary pressures for labour.

[18] The Consumer Advocate had concerns about the increased Labour and Administration costs. He noted that the "labour subcomponent stands out as having a significant cost increase" and recommended two main courses of action:

-the Board could require NSPML to retain a consultant with relevant expertise to audit
 the staff size and verify, for example, that the portion of shared staff allocated to
 NSPML is a reasonable representation of the shared work responsibilities. Any such
 audit should also review productivity, particularly in comparison to comparable units at
 NS Power.
- 2. ...the audit described...above could also review NSPML's staffing structure.
- 3. An overall above-inflation-rate increase in staff compensation. The Consumer Advocates states that the Board should request comparative analysis of NSPML and NSP's salary structures for comparable positions. The Board should also request any labour market studies in the possession of Emera or its subsidiaries that identifies competitive compensation rates. The Board should direct NSPML to apply it to its current staffing structure and compensation to identify material deviations.

[CA Submissions, November 21, 2023, p. 4]

[19] In its Reply Submission, NSPML replied:

NSPML notes that the labour numbers the CA is referring to in their closing submission in Table 2 are total Labour and Administration costs. These do not reflect labour costs exclusively, but rather also include costs such as legal and regulatory, travel, and hardware and software as indicated in further detail in the refiled CA IR-2 response.

When looking exclusively at labour, one of the major discrepancies when comparing year-over-year that needs to be considered is the allocation of employee's labour to capital versus O&M. When considering true labour costs, 2022 is the first full year of all labour cost being allocated to O&M (as opposed to capital and O&M), and as such it is not an "apples to apples" comparison to compare labour in O&M from 2018-2022.

As detailed in the table below, the number of staff for NSPML has remained relatively consistent since 2019. However, prior to August 2021 and submission of the Final Cost Application (M10206), the costs for several employees who had been with NSPML during the construction phase of the Maritime Link were allocated to capital versus O&M.

[NSPML Reply Submission, December 5, 2023, pp. 6-7]

Findings

[20] NSPML is now entering its seventh year with the Maritime Link being in service and it has previously said it continues to refine its O&M costs as it gains experience operating and maintaining the Maritime Link.

The Board accepts NSPML's explanation for the increase of Labour and Administration costs in 2024. Since the start of the NS Block, there has been a change in the allocation of labour costs to entirely being assigned to O&M costs, rather than partly to capital during the construction phase. Also, this category is not limited to labour, but also includes administration costs. However, the Board agrees with the Consumer Advocate's suggestions that NSPML's labour costs should reflect a reasonable allocation of shared staff costs and responsibilities, an efficient staffing structure, and reasonable market-based compensation rates. NSPML noted in its application that it plans to file a multi-year assessment in 2024 rather than a single year assessment as has been the practice to date.

The Board finds that the proposed O&M costs are reasonable and appropriate. However, the Board has some concern about the proposal to collect the costs for the marine survey to be conducted in 2024 over a three-year period. In the normal course, these costs would be expensed in 2024. As proposed, unrecovered costs in 2024 would be deferred and NSPML would earn a return on the outstanding balance. The Board questions whether the smoothing of this amount warrants the additional payment to NSPML but is prepared to approve it in this instance. If the full amount was included in the 2024 assessment, this cost would flow to NS Power's fuel costs and given the current amount of NS Power's outstanding fuel costs, would potentially attract a similar return in the near term. If NSPML believes it is appropriate to smooth this expense

over a regularly recurring period, the Board expects the company to explore other options, such as normalizing the survey costs in its expenses, rather than an option that would attract a rate of return. NSPML should not interpret the approval of its request in this application as any precedent for the treatment of this cost in future applications. As an aside, the Board is also concerned that had the Board determined that the full amount of the survey costs should be included in the 2024 assessment, the final assessment amount would have been public and could have been used to estimate the confidential survey costs. In the future, NSPML must take better care to ensure that information it believes to be confidential would not be put in jeopardy if the Board declines to accept one of the company's proposals.

- [23] Finally, on another issue, in its Closing Submissions, counsel for the Nova Scotia Department of Natural Resources and Renewables stated:
 - 3. Second, NRR notes that NSPML's Financial Statements for 2022 show an increase of \$9.4M in OM&G cost resulting from disapproval of NSPML project cost in 2022. Exhibit N-1 of M11072, at page 13, provides as follows:

Regulatory Updates

On August 9, 2021, NSPML filed a final capital cost application with the UARB seeking approval to recover capital costs associated with the Maritime Link and approval of NSPML's 2022 annual assessment. In December 2021, NSPML obtained an interim decision from the UARB approving interim rates beginning January 1, 2022, until receipt of the UARB's decision on the application. On February 9, 2022, the UARB issued its decision relating to the Maritime Link Project, approving NSPML's requested rate base of approximately \$1.8 billion less approximately \$9.4 million (\$7.1 million net of tax) of costs that would not otherwise have been recoverable if incurred by NSPL. The \$9.4 million of costs that were not approved was reflected as a reduction in the Company's Property, plant and equipment and increase in OM&G. The disallowed costs consist of \$7.2 million of incentive compensation, \$1.2 million of AFUDC interest and equity, \$0.7 million of rent expense, and \$0.3 million of donations and sponsorships. [Emphasis added]

4. The Board should be aware of NSPML's accounting treatment of disallowances while considering the 2024 cost assessment, to ensure that the Board's disallowances are not circumvented by subsequent accounting treatment.

[NRR Closing Submissions, November 21, 2023, p. 2]

The Board notes that NSPML, in the matter related to its 2022 annual financial statements (Matter M11072), confirmed that these costs were excluded from its regulatory financial statements, and therefore that the costs were borne by the shareholder:

The total \$9.4 million of disallowed costs is excluded from NSPML's requested opening rate base. These disallowed costs were expensed in the US GAAP statements, and as a cost to the Shareholder. For purposes of the regulated statements, the \$9.4 million of disallowed costs were excluded from OM&G as a regulated adjustment, therefore reducing OM&G to the \$20.2 million as stated in the regulated income statement.

[M11072, Exhibit N-3, IR-20]

4.0 RETURN ON EQUITY AND EQUITY FINANCING

The Board approved a return on equity (ROE) of 9.0% for NSPML for ratemaking purposes in its initial Maritime Link decision, 2013 NSUARB 154 (2013 Maritime Link decision) (M05419). The Board observed that NSPML was a single purpose entity created to take advantage of the federal government's loan guarantee (FLG) because financing restrictions on NS Power prevented it from providing the specific charge on assets required for the FLG. The Board reasoned that, absent this requirement, NS Power would have built the Maritime Link and the 9.0% ROE set for NS Power only a few months earlier would have applied. In the circumstances, the Board concluded the same ROE was appropriate for NSPML for ratemaking purposes, within the same range of 8.75% to 9.25% used for NS Power. The Board also approved the 70:30 debt to equity capital structure requested by NSPML to take advantage of the low cost of debt and benefits associated with the FLG for the Maritime Link.

[26] In its NSPML Final Project Costs decision, the Board stated:

[239] The Board concurs with Ms. Rubin that it is appropriate to schedule a review of NSPML's ROE. Indeed, the Board found NSPML's responses to Ms. Rubin's inquiries to be inconsistent with its pre-hearing request to remove ROE from the Issues List in this matter. Consistent with its finding in the 2013 ML Decision, and given NSPML's decision not to include a review of the ROE in this proceeding, the Board finds that NSPML's ROE should be as determined in NS Power's current general rate application (M10431). Unless

demonstrated otherwise, NSPML's rate of return shall be that set for NS Power in that hearing.

[Final Project Costs decision, para. 239]

NS Power filed a settlement agreement on many of the issues covered in its 2023-2024 GRA, including setting the utility's rate increases and maintaining its ROE at its present level of 9.0% for ratemaking purposes within an earnings band of 8.75% - 9.25%. The other signatories to the settlement agreement were the Consumer Advocate, Small Business Advocate, Industrial Group, the municipal electric utilities, the Affordable Energy Coalition, the Ecology Action Centre and Dalhousie University. The Board approved the settlement agreement on most issues, including on the ROE.

[28] NSPML has applied to maintain its ROE at 9.0% in this application.

The Board has initiated a proceeding for NS Power under s. 30(5) of the *Public Utilities Act*, an amendment passed in 2022. This provision contemplates that different levels of return on equity may be set for NS Power's different classes of capital assets in a future rate hearing. Historically, NSPML's ROE has been tied to NS Power's ROE, but in the future NS Power may have different ROEs for different classes of assets. In its *2023 Annual Cost Assessment* decision, the Board directed NSPML to assess the impact of s. 30(5) in its 2024 cost assessment application, including whether its ROE should continue to be tied to any ROE determined for NS Power, and if not, identify what it considers to be the appropriate ROE for NSPML.

[30] In the present application, NSPML submitted that "as this 2024 Assessment does not align with the process to determine NS Power's respective ROE, NSPML will address this matter in the 2025 Assessment".

Findings

[31] The Board approves NSPML's ROE at 9.0% for ratemaking purposes for 2024, within an earnings band of 8.75% - 9.25%.

5.0 HOLDBACK

- [32] The Board's *Final Project Costs* decision directed that a \$2 million monthly holdback be applied to account for the continuing delivery delays of the NS Block. The condition read as follows:
 - 4(i) Starting April 1, 2022, and in each subsequent month of 2022, NS Power is to holdback \$2 million from the monthly assessment. If in that month NSPML/NS Power achieve and receive 90% of the basic NS Block and Supplemental Energy, the holdback can be released to NSPML in the following month. If 90% of the basic NS Block and Supplemental Energy is not achieved, the holdback monies shall be used to pay for the cost of any replacement energy that may be required as a result of the failure to achieve the 90%, to a maximum of \$2 million per month. Any portion of the \$2 million not utilized to pay for replacement cost energy can be paid over to NSPML. This holdback mechanism will continue in each and every month during 2022 and will be reviewed by the Board in January 2023.

[Board Order, February 25, 2022]

- In its 2023 cost assessment application, NSPML provided an update on the deliveries of the NS Block, which were hampered by continuing delays in the commissioning of the Labrador Island Link (LIL). As a result, NSPML proposed that the \$2 million monthly holdback continue as directed in the Board's *Final Project Costs* decision.
- [34] In its 2023 Annual Cost Assessment decision, the Board concluded:
 - [44] Accordingly, the Board will initiate a proceeding in January 2023 to consider the disposition of the holdback in all months during 2022 in which NSPML/NS Power failed to receive 90% of the total basic NS Block and Supplemental Energy, as measured in MWh. In that proceeding, the Board will request submissions from the parties, including on whether makeup energy received during the month should be permitted to offset the costs of replacement energy that would otherwise be incurred.
 - [45] The Board directs that the \$2 million monthly holdback will continue into 2023 on an interim basis, until directed otherwise. The January 2023 proceeding will also consider the administration of the holdback on a prospective basis, including any potential increase of the holdback, such as the \$3 million monthly amount proposed by the Industrial Group.

[46] Evidence or submissions filed in this matter will also be considered by the Board in the new proceeding, as supplemented by the parties. Pending completion of the Board's review, the Board directs that no holdback funds for 2022 or 2023 be released to NSPML, except in those months in which 90% of the contracted volumes (in MWh) of the Base Block and Supplemental Energy has been received (excluding any makeup energy).

The Board initiated a new proceeding in 2023 (Matter M11009) to consider the disposition of the holdback in all months during 2022 and 2023 in which NSPML/NS Power failed to receive 90% of the NS Block, as measured in MWh. The matter also considered the administration of the holdback on a prospective basis, including any potential increase of the holdback and the end of the holdback. In its decision dated October 4, 2023 [2023 NSUARB 175], in addition to confirming the disposition of the holdback for 2022 and 2023, the Board directed that the "monthly holdback will increase from \$2 million to \$4 million effective December 1, 2023. The holdback will continue until at least 90% of the NS Block measured in MWh (excluding Make-up Energy) is received for 12 consecutive months and the net outstanding balance of undelivered energy is less than 10% of the contracted annual amount of the NS Block".

Findings

[36] Accordingly, the \$4 million monthly holdback will continue to be applied and administered as directed by the Board.

6.0 2024 SUSTAINING CAPITAL COSTS

NSPML expects to incur sustaining capital expenditures of about \$1.6 million in 2024 for Insulated Gate Bipolar Transistor (IGBT) replacements, an asset management upgrade for converter and transition stations, and various small system upgrades or additions to continue optimization of the Maritime Link HVDC facilities. The largest components of these expenses will be \$0.6 million for the IGBT replacements and \$0.5 million for a converter ventilation project (which will help reduce summer ambient

temperatures on the top level of the converter station). While the aggregate of these sustaining capital expenses are expected to total about \$1.6 million, none of the separate projects are anticipated to exceed \$1 million, so no separate capital approval will be required from the Board. These additional sustaining capital costs will add depreciation expenses to the depreciation amount already approved by the Board in the *Final Project Costs* decision.

Both the Consumer Advocate and Small Business Advocate raised concerns about the sustaining capital costs for the replacement of IGBTs and the accumulation of IGBT spares. Based on NSPML's IR responses, the Consumer Advocate noted that the actual average failure rate has been 0.124% per year, or about 6.6 IGBTs failed and replaced. While he acknowledged that it may be reasonable for NSPML to budget for the purchase of IGBT spares, depending on its existing inventory, the Consumer Advocate stated that it is not reasonable for NSPML to base its budget on the "expected maximum quantity of IGBTs to fail annually" given that their five years of operating experience demonstrate a lower actual failure rate.

[39] The Small Business Advocate raised a concern about what he perceived as NSPML using unspent O&M funds on spares:

There is no mention in NSPML's applications for either 2024 or 2023 regarding actual or budget cost of spares or NSPML's spares policy. NSPML's explanation to use unspent O&M funds on spares appears to be equivalent to a contingency but without reporting it as such.

In fact, NSPML provides in Section 2.2 of each application Table 2 Operations and Maintenance Forecast with a line item for Contingency, which has been set equal to \$0 for 2024 and 2023, ...

...

Also, it is not clear if spares should be maintained by NSPML or provided for as part of any maintenance agreement it is currently negotiating with third parties, as discussed in NSPML (CA) IR-4, pp. 1-2.

[Small Business Advocate Closing Submissions, November 21, 2023, pp. 3-4]

[40] NSPML replied to the IGBT issue, in part, as follows:

NSPML has 74 IGBT spares on hand which represents approximately 1.4% of the 5,376 IGBT's currently in-service across the Maritime Link. The lead time to acquire units is 12 months at a minimum. As an example of a failure event, consider an incident that involves a valve arm of an IGBT, which contains 224 IGBTs. NSPML's target inventory for IGBTs is 224 to ensure coverage for such an in-service failure, and given that the actual failure rate could potentially be higher than [redacted] in a year (while acknowledging that the failure rate to date has been below [redacted]), and that IGBT units are increasing in age along with an increased utilization of the Maritime Link, failure rates may increase. However, NSPML appreciates advocates' concerns with respect to past failure rates being less than forecast and, as such, proposed that if actual failures are less than the manufacturer's forecast, the variance will be used to purchase additional spares.

[NSPML Reply Submission, December 5, 2023, p. 9]

[41] NSPML added that these IGBT parts were under warranty with Hitachi from 2018-2023. All replacements during that period were covered by warranty, so there were no expenditures (or budget) for those parts during that time. The Board notes that \$0.6 million is also budgeted by NSPML for IGBT replacements in 2025 and 2026.

In the *Final Project Costs* decision, the Board directed NSPML to provide a detailed accounting of final costs associated with close-out work for some small outstanding insurance, warranty, expropriation and contract claims, and to include in such accounting any resulting adjustment to the approved Maritime Link Project capital cost determined in that proceeding. NSPML advised that some of these close-out matters remain outstanding and the timing to finalize them is dependent on third parties (e.g., land expropriation panels). NSPML expects to file its final accounting shortly after the conclusion of these matters, which is expected later in 2023 or early 2024. NSPML noted these adjustments are not expected to have a material impact on its approved Maritime Link Project costs, or NSPML's rate base or 2024 revenue requirement.

Findings

[43] The Board is satisfied that NSPML requires a budget for IGBT replacements and that it is reasonable to accumulate an inventory of spares in the event they are

required. While these parts were under warranty until now, there is a five-year history to help gauge a replacement frequency. Increased experience with operation of the Maritime Link will also provide additional data. Further, NSPML stated in its response to NSUARB IR-4 that it expects to conclude its Long-Term Asset Management Plan in 2024. Once finalized, this should also help inform the maintenance and replacement program for IGBTs, among other operational items.

[44] The Board finds that it is appropriate for NSPML to include the forecast sustaining capital expenses of \$1.6 million in its 2024 revenue requirement.

[45] NSPML noted it would address the rate base treatment of any 2024 sustaining capital expenditures when it files its rate base reconciliation for outstanding insurance, warranty, expropriation and contract claims. It stated the same in last year's application for 2023 sustaining capital costs. The Board so directs. As noted earlier in this decision in the discussion about rate base, the Board expects NSPML to provide a reconciliation of its rate base on a regular basis.

7.0 TECHNICAL MARINE CABLE REQUIREMENTS

In the *Final Project Costs* proceeding, Board Counsel engaged Laurence Trim of Cable Consulting International (CCI) to independently assess the integrity of the ML cables, both the submarine and land components, to ensure they met contractual design requirements. In his final report, he made the following three recommendations:

[77] Mr. Trim also presented three recommendations in his updated evidence:

 NSPML develop a document to describe the thermal characteristics of the ML cables using as measured soil thermal resistivity data, appropriate sea bottom temperatures (as determined from the 2011 survey and seasonal swing information) and distributed temperature sensing (DTS) data;

- NSPML periodically review the cable failure rate and RAM [Reliability Availability Maintainability] study using the most up to date data; and
- For planning purposes, NSPML consider adopting the CIGRE TB815 industry failure rate of 0.0029 failures/100 circuit km/year, or 1 failure every 10 years.

In its final submission, NSPML agreed to implement these recommendations.

[Final Project Costs decision, para. 77]

The Board directed NSPML to implement Mr. Trim's recommendations and to provide an implementation schedule in its Compliance Filing. The Board also directed that NSPML continue to report on these items. In its Compliance Filing, NSPML indicated that it would file a report about Recommendation #1 by September 30, 2022. NSPML filed this document on October 3, 2022, and the recommendation was addressed to the Board's satisfaction.

[48] For Recommendations #2 and #3, NSPML stated:

As a component of its ongoing asset integrity management, NSPML will periodically review and, as appropriate, update the cable failure rate and RAM study using the most current industry and asset-specific data available. NSPML will identify any revisions to the cable failure rate or RAM study through its quarterly reports filed with the UARB.

- • •

For planning purposes, NSPML will include the most current CIGRE-published industry failure rate in any predictive failure rate assessments.

[Compliance Filing, M10206, February 16, 2022, p. 9]

Findings

[49] There have been no updates about Recommendations 2 and 3 in NSPML's 2023 quarterly reports. The Board notes the importance of maintaining the technical integrity of the ML submarine cables. The Board repeats its prior direction that NSPML continue to report on the implementation of Mr. Trim's recommendations.

8.0 REPORTING

[50] NSPML's quarterly reports and NS Power's ML Benefits Reports have been useful to the Board and all participants in these proceedings. The Board directs that these reports continue as outlined in paragraph 232 of the *Final Project Costs* decision, including hour-by-hour marginal costs and other documentation described in the Board's 2023 *Annual Cost Assessment* decision, at para. 40.

9.0 CONCLUSION

[51] Taking into account all of the evidence, the Board is satisfied that all of the components of the proposed 2024 revenue requirement and cost assessment are reasonable and appropriate.

The Board approves the 2024 cost assessment of \$163.5 million against NS Power. The Board also approves the allocation of the 2024 comprehensive marine survey costs over a three-year period. As outlined earlier in this decision, the \$4 million monthly holdback will continue into 2024.

In the *Final Project Costs* proceedings, Mr. Rendell of NSPML testified that NSPML was still uncertain about the type of assessment filings in future years, i.e., whether to ask for annual cost assessments similar to the practice to date, or to seek approval of a test year filing that presumably could remain in place for a number of years. He indicated that NSPML is still reviewing operational matters, including its Long-Term Asset Management Plan and sustaining capital needs. The Board agrees that there should be certainty about these matters before a multi-year assessment is considered.

[54] The Board notes that the 2024 cost assessment approved in this decision will only remain in effect until December 31, 2024. NSPML is to manage its regulatory calendar to ensure the Board can address any future filing before 2025.

[55] An Order will issue accordingly.

DATED at Halifax, Nova Scotia, this 21st day of December, 2023.

Stephen T. McGrath

Roland A. Deveau

Steven M. Murphy