NEW BRUNSWICK
ENERGY & UTILITIES BOARD

COMMISSION DE L'ÉNERGIE ET DES SERVICES PUBLICS
NOUVEAU-BRUNSWICK

DECISION

IN THE MATTER OF an Application by New Brunswick Power Corporation for approval of its 2025 Large Capital Transmission Projects, being the Saint John Corridor Reinforcement Project, the Coleson Cove Tie Transformer Project and the Dynamic Reactive Support (STATCOM) Project in accordance with subsection 107 of the *Electricity Act*.

(Matter No. EL-001-2025)

July 25, 2025

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ORAL HEARING: June 9-11, 2025

NEW BRUNSWICK ENERGY AND UTILITIES BOARD:

Presiding Chair	Christopher Stewart
Member	John Logan
Member	Kenneth McCullogh, K.C.

PARTICIPANTS:

New Brunswick Power Corporation	John Furey
Galbraith Equipment Co. Ltd	Stephen Horgan
Liberty Utilities (Tinker Transmission) LP	Robert Blank Brandy Gellner
Utilities Municipal	Ryan Burgoyne

PUBLIC INTERVENER: J.M. Alain Chiasson

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1 Introduction and Summary Conclusion

[1] NB Power's application for approval of three large capital projects was heard on June 9, 10 and 11, 2025. Utilities Municipal, Galbraith Equipment Co. Ltd., and Liberty Utilities (Tinker Transmission) LP had previously been granted leave to intervene in the matter.

[2] Only NB Power, the Public Intervener and Utilities Municipal appeared and participated at the hearing.

[3] NB Power applies to the Board pursuant to s.107 of the *Electricity Act* (the "*Act*") for approval of three large capital projects it submits are the most prudent of several options it has evaluated to address violations of applicable reliability standards. The violations were identified in its 2023 Planning Assessment for the years 2024-2033. The Board approves each of the projects for the following reasons.

2 Overview

[4] NB Power seeks approval of three separate but related transmission projects. The first is the augmentation of transmission lines through the Saint John region with two new 138 kV lines from Coleson Cove to Fairvale, east of Saint John. The second project is the addition of a third 345/138kV tie transformer at Coleson Cove. Finally, NB Power proposes the installation of a static synchronous compensator at its substation near Salisbury.

[5] NB Power submits that the projects are necessary to ensure the reliability of the transmission system and to comply with North American reliability standards.

2.1 NERC Standard

[6] NB Power is the registered Planning Authority and Transmission Planner in New Brunswick. Consequently, the corporation is responsible for complying with the reliability standard developed by the North American Electric Reliability Corporation ("NERC") and approved by the Board. The NERC standard, TPL-001-5.1, (the "Standard") is in place to ensure the integrity of the transmission system under normal operating circumstances and in challenging circumstances.

[7] Among other things, the Standard requires NB Power to conduct annual assessments by running simulations to test how the transmission system will respond to different contingencies such as the failure of one or more of the components of the system. Where the assessment reveals situations in which the integrity of the system will be compromised, the Standard requires NB Power to evaluate possible actions to reduce the likelihood or mitigate the consequences of such events. In some cases, the Standard

requires NB Power to implement corrective action plans within the near-term planning horizon for the assessment.

2.2 2023 Planning Assessment

[8] NB Power completed its 2023 Assessment for the years 2024-2033 in September of 2023 (the "Planning Assessment"). The Planning Assessment, NBP 1.29C, is a confidential document, but its findings are fairly summarized in NB Power's evidence, NBP 1.01. The Planning Assessment found performance deficiencies in both the near-term and long-term horizons. For the Planning Assessment, the near-term ends in 2028 and the long-term ends in 2033. The deficiencies included future violations of voltage limits and thermal ratings of transmission equipment. In some cases, the violations would result in load shedding or load loss, that is, controlled or uncontrolled power outages, which are not permitted by the Standard.

[9] The Standard requires that all these violations be addressed in one way or another. NB Power developed a Corrective Action Plan to address how it will meet the performance requirements without load shedding or load loss. The Corrective Action Plan anticipates, among other things, that all three capital projects for which Board approval is sought will be implemented by the end of 2028.

3 Prudence Determination

[10] The *Act* directs the Board to approve any proposed capital project it determines to be prudent. As part of this determination, the *Act* sets out five considerations the Board must take into account and gives it the latitude to examine any other factors it considers relevant.

3.1 Government Policy

[11] Section 68 of the *Act* is a statement of New Brunswick government policy.

[12] Government policy is that NB Power should earn enough revenue to increase its equity to 20%. It also requires NB Power to manage the electrical system in an efficient manner that results in the lowest cost to consumers in the province.

[13] These projects will increase the debt of the corporation and, to some extent or another, will be borne by future ratepayers. For these reasons, the projected capital cost of each of the projects is a significant factor in the Board's prudence analysis.

[14] Addressing the violations identified in the Planning Assessment is also in line with government policy.

3.2 Integrated Resource Plan

[15] The Integrated Resource Plan sets out NB Power's estimate of load growth over the next 25 years. It also describes the ways in which NB Power plans to serve the growing demand. The most recent plan was released in 2023. The plan does not specifically set out the transmission challenges attributed to load growth, nor does it specify the regions where growth is expected. However, the proposed projects are not inconsistent with the 2023 Integrated Resource Plan.

3.3 Requirements imposed by Law

[16] Subsection 120(2) of the *Act* requires NB Power to comply with the Standard. Where violations of performance requirements of the sort identified in the Planning Assessment are identified, the Standard requires NB Power to address them in one way or another. The application for approval of the projects is consistent with these requirements.

3.4 Directives of Executive Council

[17] The Executive Council can and does, from time-to-time, issue directives to NB Power. The NB Power's proposed capital projects are consistent with existing Executive Council directives.

3.5 Policy Established by Regulation

[18] The proposed projects are consistent with the requirements of the *Reliability Standards Regulation – Electricity Act.*

3.6 Other Considerations

[19] Assessing the prudence of a project must include consideration of the factors discussed above and any other factors the Board considers relevant.

[20] A project will be considered prudent if it is within the range of solutions that a reasonable Planning Authority and Transmission Planner in the position of NB Power could have selected based on the circumstances known to it at the time of the application for approval.

[21] A positive net present value assessment of the sort adopted in Matter 375 is not an appropriate measure of prudence in cases where the purpose of a proposed project is to meet performance requirements imposed by a standard to which NB Power is bound.

[22] The purpose of the proposed projects is to effectively mitigate the compliance requirements identified in the Planning Assessment.

4 Sufficiency of Planning Assessment

[23] The Board must be satisfied that the need for the projects is justified. It follows that the Board must determine the adequacy of the Planning Assessment.

[24] RLC Engineering independently reviewed the Planning Assessment. The report's author, David Green, was qualified without objection to give his expert opinion in the area of transmission planning, including compliance with transmission reliability standards.

[25] Using NB Power's assumptions, Mr. Green replicated the Planning Assessment. He confirmed that, in his opinion, NB Power has performed the assessment in accordance with the Standard. He testified that the several violations of thermal and voltage criteria identified in the Planning Assessment are correctly described and must be addressed. The Board accepts Mr. Green's evidence and finds that the Planning Assessment complies with the Standard.

5 Saint John Corridor Reinforcement Project

[26] NB Power applies for approval of the Saint John Corridor Reinforcement Project consisting generally of the construction of two new 138 kV transmission lines from the terminal at Coleson Cove Generating Station to a point on the transmission system near Fairvale, a distance of approximately 32 kilometers together with related transmission system changes. The projected cost is approximately $116.2 million.

[27] The existing Saint John Corridor consists of a combination of 345 kV, 138 kV and 69 kV transmission lines between Coleson Cove and Norton. The Planning Assessment identified several thermal and voltage performance criteria violations in some contingencies. NB Power evaluated five options to address the violations. The option proposed addresses the violations and allows for some load growth in the southern region.

[28] The proposal is for the construction of two new 138 kV transmission lines from Coleson Cove, adjacent to existing corridors through Saint John and tapping into existing lines near Fairvale. A phase-shifting transformer in Norton will be moved from one line to another. Additionally, NB Power proposes to transfer two Saint John Energy substations from one transmission line to another with provision to transfer a third in the future; interchanging one section of transmission line with another.

[29] Among the other options considered was a variation of the proposed project differing only in that the phase-shifting transformer in Norton would not be relocated. The projected cost of this alternative would be less than the project proposed.

[30] NB Power asserts that the higher capital investment is justified by the enhanced near and long-term benefits it would provide. The preferred option would accommodate up to 150 MW of additional load growth above the current 10-year forecast in the southeastern portion of its system. It would also enhance operational flexibility in the Saint John corridor.

[31] NB Power also considered a single 138 kV line through Saint John rather than two 138 kV lines. While less expensive, this would not solve the performance violations identified in the planning assessment.

[32] A fourth option explored by NB Power was the construction of a new 345 kV transmission line parallel to the existing lines between Norton to Coleson Cove. However, with a projected cost of greater than $500 million, this option was ruled out.

[33] Finally, NB Power considered replacing existing 138 kV and 69 kV lines with higher capacity lines. This reconductoring would require the replacement of a number of transmission towers. NB Power's preliminary estimate was that the cost of this project would be close to $300 million.

[34] Mr. Green testified that the proposed plan would solve all the thermal and voltage violations that must be addressed. He also agreed that the small incremental cost between NB Power's preferred option and the less expensive option that excludes the transfer of the Norton phase-shifting transformer is prudent.

[35] Jeffrey Palermo was qualified without objection to give his expert opinion in the fields of the analysis of large transmission capital projects in the power system field specializing in transmission analysis and planning, reliability analysis, and market design issues.

[36] In his direct evidence, Mr. Palermo expressed reservations about the prudence of the proposed project. He noted that NB Power is proposing a new 345 kV line between Coleson Cove and Salisbury as part of Phase 2 of the Interprovincial Transmission Line. He said if that project is taken as given, it would be reasonable to consider its implications on the Saint John Corridor project. He suggested that the 345Kv line in conjunction with reconductoring should be considered.

[37] In rebuttal evidence and at the hearing, NB Power stated that the 345 kV line that is part of Phase 2 of the Interprovincial Transmission Line is a "conceptual, uncertain, project at this time." If Phase 2 is to proceed, it would do so under entirely different assumptions than the ones addressed in this application.

[38] NB Power's rebuttal evidence was that reconductoring existing lines as Mr. Palermo proposed is not only expensive but technically challenging in terms of execution and managing the system over the course of construction.

[39] At the hearing, Mr. Palermo agreed that, given the rebuttal evidence and clarifications about reconductoring, NB Power's proposal is reasonable. He recommended that NB Power should build the new transmission lines as proposed.

[40] Both the Public Intervener and Utilities Municipal agreed that the Saint John Corridor Reinforcement Project as proposed is prudent.

[41] Having considered all the evidence, the Board is satisfied that the Saint John Corridor Reinforcement Project is prudent.

6 Coleson Cove Tie Transformer Project

[42] NB Power applies for approval of the Coleson Cove Tie Transformer Project consisting generally of the procurement and installation of a 345kV/138 kV tie transformer at the Coleson Cove Generating Station. The projected capital cost is approximately $51.4 million

[43] There are two large tie transformers at Coleson Cove that supply Saint John area loads and provide a path for power to flow to the east through the 138 kV corridor. The Planning Assessment revealed that the Coleson Cove transformation performance criteria will not be met for several design criteria contingencies. As a result, the Standard requires NB Power to make a Corrective Action Plan to address the violation. NB Power asserts that the only viable corrective action is to install a new third tie transformer at Coleson Cove.

[44] The RLC report considered potential conceptual alternative solutions but did not recommend them. Mr. Green concluded that, along with the other two proposed capital projects, the addition of a third tie transformer at Coleson Cove would effectively mitigate the violations identified in the Planning Assessment and was an appropriate alternative based on the resolution of criteria violations and cost.

[45] Mr. Palermo also concluded that an additional tie transformer at Coleson Cove was the best option for solving violations identified in the Planning Assessment.

[46] At the conclusion of the hearing, both the Public Intervener and Utilities Municipal supported NB Power's application for approval of the project.

[47] Having considered all the evidence, the Board is satisfied that the Coleson Cove Tie Transformer Project is prudent.

7 Dynamic Reactive Support Project

[48] NB Power applies for approval of the Dynamic Support (STATCOM) Project, consisting generally of the procurement and installation of a +/-300 megavolt-amperes reactive support ("MVARS") power electronic STATCOM device at Salisbury. The projected capital cost is approximately $133.4 million.

[49] The Planning Assessment identified several performance deficiencies and instances of unavoidable power outages in the eastern region of the transmission system under the cases analyzed. These violations are due to a deficiency in dynamic reactive resources in the eastern region of the system. The largest dynamic resources to the eastern region are near Saint John and at Belledune. In winter demand peaks, all these resources are near their maximum reactive output even before any contingency is introduced. Furthermore, their distance from the Moncton area means that they cannot effectively mitigate eastern region load collapse.

[50] The Planning Assessment determined that, taking into account its existing topology, forecasted load, and normal operations, the addition of 600 MVARS at Salisbury would maintain adequate voltages and ensure sufficient margin for uncertainty and growth.

[51] NB Power's Corrective Action Plan is to add the required reactive support by installing 300 MVAR of dynamic reactive support at Salisbury. It intends to make up the remaining 300 MVAR requirement with steady state static support in the form of capacitor banks at various terminals in the eastern region. However, NB Power states that the need for these may be mitigated by the new generation that is planned in the eastern region. As a result, it proposes to wait until more information about the additional generation is available.

[52] NB Power studied three options for providing the required dynamic reactive support. Of these it asserts that the installation of a +/- 300 MVAR static synchronous compensator or STATCOM had the lowest projected capital cost and would effectively resolve all identified violations.

[53] Mr. Green's evidence confirmed that corrective action is necessary and that the STATCOM solution proposed by NB Power is appropriate.

[54] Leslie Recksiedler was qualified without objection to give opinion evidence as a professional engineer with expertise in the design, operation and performance of semiconductor transmission devices, including static VAR compensators, STATCOMs, HVDC, IBRs, and synchronous machines such as synchronic condensers. Mr. Recksiedler, Mr. Green, and Mr. Palermo agreed that where, as is the case here, there is no need for additional inertial support to help maintain grid frequency, the STATCOM is the current state of the art for dynamic reactive support.

[55] In his evidence, Mr. Palermo questioned the reasonableness of the STATCOM solution based on cost. Based on his experience in other jurisdictions, he cautioned that STATCOMs can be significantly more expensive than NB Power's estimated cost. In rebuttal, NB Power disclosed that, since filing its application, it had received quotes from suppliers of STATCOMs. The quotes ranged between $57 million and $79 million, which is within the initial cost estimates. Upon learning of the quotes, Mr. Palermo agreed that the concerns he had expressed over the dependability of NB Power's projected costs had been ameliorated.

[56] The projected capital cost for the Dynamic Support Project was based on early estimates. However, evidence of bids for the STATCOM itself, which comprises more than half of the projected capital cost, provides significant comfort as to the dependability of NB Power's cost projection.

[57] At the conclusion of the hearing, both the Public Intervener and Utilities Municipal supported approval of the proposed Dynamic Reactive Support Project.

[58] Having considered all of the evidence, the Board is satisfied that the Dynamic Reactive Support Project is prudent.

8 What the Board Must Approve

[59] Having determined that the three capital projects for which NB Power seeks approval are prudent, s. 107(9) of the *Act* directs the Board to approve them.

[60] In closing submissions, Utilities Municipal took the position that the projected capital cost of a project at the time of Board approval is integral to its definition. It submitted that the moment project costs exceed the projected costs, the project ceases to be an approved

project and a fresh application for approval is required. The Public Intervener "tended" to favour that interpretation. The Board does not.

[61] While the projected capital cost of a project at the time an application is made is relevant to the assessment of prudence, it is not part of the project's scope.

[62] Scope defines the extent of a project. It sets out its objectives, identifying deliverables, tasks and constraints. Its purpose is to permit all involved to know what is to be achieved and what is not a part of a project.

[63] Where an application for approval of a large capital project, such as those contemplated in this matter, is driven by the need to comply with a mandatory standard that imposes deadlines for corrective action, and NB Power is not permitted to incur capital expenditures beyond 10% of the projected capital cost of the corrective action without Board approval, it is more likely than not that the application will have to be made at a relatively early stage of the implementation process. In such cases, projected capital costs will have to be estimated based on the best information available at the time of the application. At that stage, such information may not include a complete detailed design, exact quantities or locked-in material and equipment costs. High accuracy estimates may be impossible.

[64] Even when the scope of an approved capital project remains the same, the project cost could change as the design is further developed and as construction progresses. An incremental increase in the projected capital cost during project execution does not, by itself, change the scope of a project.

[65] The Board's approval of the three proposed large capital projects is just that. It is approval of the projects within the scope described in the application. It is not approval of any undertaking which is not fairly encompassed by the scope as described in the application. Approval of the projects is not approval of any capital expenditures associated with the execution of the projects - whether at, below or above the projected capital costs set out on the application. The prudence of such capital expenditures is to be assessed by the Board in the context of a future pertinent general rate application or applications.

9 Reporting Requirement

[66] In his closing submission, Mr. Furey informed the Board that NB Power was open to a continuous reporting process to enable the Board to remain apprised of the status of each of the projects and the costs being incurred. Such a process would be helpful to the Board. The Board accepts NB Power's offer to provide an initial proposal for what the

frequency and content of the continuous reporting would entail within 60 days of this decision.

10 Order

1. The Saint John Corridor Reinforcement Project is approved.

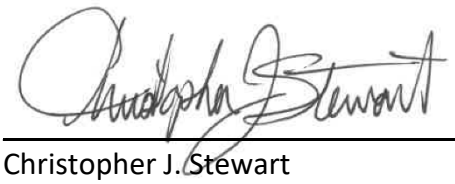
2. The Coleson Cove Tie Transformer Project is approved.

3. The Dynamic Reactive Support Project is approved.

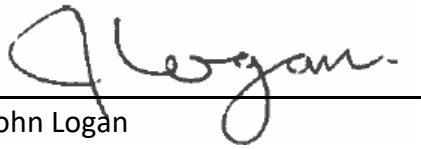
4. Within 60 days hereof, NB Power will deliver its initial proposal for a continuous periodic reporting process which will include the type of information it proposes to provide and the proposed frequency of reporting. At a minimum, the Board would expect the proposal will provide for reports:

    - to be filed at least quarterly and within 30 days of the end of the quarter to which they pertain,
    - to include a comparison of the as-planned (baseline) schedule and cost to the actual schedule and cost to date, together with an updated schedule and cost forecast to completion,
    - to identify any material changes within the scope of each of the three projects that would, individually or cumulatively, increase the final project cost by more than 10% above the projected project costs stated in the application in this matter,
    - to identify any changes in project schedules that would push project completion beyond the near-term planning horizon, that is beyond the end of 2028.

Dated at Saint John, New Brunswick, this 25th day of July, 2025.



Christopher J. Stewart
Chairperson



John Logan
Member

Kenneth McCullogh, K.C.
Member