

March 3, 2026

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Lana Myatt
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P.O. Box 910
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Dear Ms. Myatt:

**M12592 – Nova Scotia Power Inc. – CI 47751 – ECC Dynamic Line Rating (DLR)
Implementation – \$2,148,364**

The Nova Scotia Energy Board (Board) has reviewed the capital expenditure application filed by Nova Scotia Power Inc. (NS Power), dated December 1, 2025, requesting Board approval for the above work order.

Board staff issued Information Requests (IRs) on January 6, 2026, and NS Power's responses were received on January 27, 2026.

NS Power requested confidential treatment for certain information contained in its IR responses. The Board accepts, as filed, the portions of those responses that are marked confidential.

This project was included in the 2025 Annual Capital Expenditure (ACE) Plan as a carryover project with an estimated budget of \$968,222 supported by federal funding. Due to scope changes, the project cost increased by \$1,180,142.

The Board notes that NS Power has included a version of this project in each ACE Plan since 2016. In 2020, the project was submitted for Board approval with a budget of \$4,978,090 (M09508). That application was rejected because the Board was not able to conclude that the benefits of the project outweighed its costs, although the Board encouraged NS Power to reapply once the concerns were addressed. The current application is almost \$3,000,000 less than the 2020 application, largely a result of the increased federal funding. Also, both grid conditions and the overall energy strategy have evolved since the earlier filing. According to NS Power's 2025 10-Year System Outlook report (M12386), renewable energy production is forecast to increase from 5,432 GWh in 2026 to 8,286 GWh in 2030 with the phase-out of coal-fired electricity generation, and firm capacity requirements are expected to rise from 2,582 MW in 2026 to about 2,900 MW by 2030.

NS Power re-applied for the project in 2024 (M11889), with a budget of \$2,079,661. This application was later withdrawn after securing federal funding which reduced the budget below the \$1 million threshold required for Board approval.

The current proposal expands the scope of the project compared to prior applications by adding the New Brunswick Import Transmission Line (NB Import Line) and extending the project to include seven of NS Power's bulk power transmission lines, L-6415a, L-6415b, L-7003, L-7004, L-7005, L-8001, and L-8004. NS Power stated these lines are critical infrastructure for the province's energy supply, which support both in-province and out-of-province energy flows.

NS Power stated the utility currently relies on Seasonally Adjusted Ratings (SAR) approaches to manage these transmission lines, which limit system operators' ability to proactively manage the system under varying weather conditions, including not being able to maximize the capacity of proposed bulk power transmission lines. NS Power further explained that the proposed Dynamic Line Rating (DLR) system will provide real-time visibility into line conditions, which will improve system reliability, reduce transmission system congestion, improve system situational awareness, and support increased integration of renewable energy.

The DLR sensors can measure the following metrics:

DLR Metric	Description
Maximal Sag (ft)	The decrease in clearance between the line and the ground.
Ambient Temperature (deg C)	The recorded temperature at the selected span.
Load (MVA)	The real time load of the line.
Ice Weight (kg/ft)	The amount of ice on the line per foot.
Rotation Angle (deg)	The change in the rotational angle of the sensor.

[Exhibit N-2, RIR20, Page 1 of 1]

NS Power justifies the project as improving reliability and grid stability of the system, in particular by:

- Providing real-time visibility into line conditions to support more accurate rating analysis and enabling proactive transmission system management;
- Identifying additional capacity during system operation to assist in developing plans to avoid impacts from emerging events; and
- Assisting with proactively resolving system issues before they escalate to larger issues.

In response to IR-5, NS Power explained that the selected DLR vendor met all technical and business requirements and offered the lowest bid. NS Power further explained that the accepted technology is internationally recognised and used by several utilities across North America.

In response to IR-9 and IR-11, NS Power said that the DLR technology provides early warning indicators to system operators, allowing them to take proactive measurements to mitigate the potential loss of transmission capacity and activate remedial plans to restore or transfer load to other available resources, which could ultimately reduce the impact on customers.



In response to IR-11, NS Power provided a table of the unplanned interruptions from 2015 to 2025 caused by weather on the transmission lines that will be part of this project. The Board notes that during the 2020-2025 period, both the total number of unplanned interruptions and the number of sustained outages were significantly higher than in the first half of the decade (2015-2019).

NS Power says that the DLR technology will allow operators to take proactive actions to improve system reliability by either eliminating or reducing customer impacts by up to 50%, during extreme events such as ice storms in 2018 and 2023. However, NS Power did not provide evidence to support the statement.

In response to IR-10, NS Power noted that regardless of the implementation of DLR, the utility has utilized the Ambient Adjusted Rating (AAR) solution on all 69kV and above transmission lines. Based on vendor experience from other utilities, the AAR solution can potentially increase load capacity “up to 10% up to 50% of the time” compared to the traditional seasonal rating method. However, the DLR will provide a more accurate measurement of environmental conditions, which can increase load capacity “up to 40% up to 50% of the time and 20% up to 90% of the time”. NS Power stated that the combination of both technologies offers a comprehensive solution for critical transmission lines.

In its response to several IRs, including IR-2, IR-9, IR-12 and IR-15, NS Power stated that in addition to supporting grid reliability, the DLR technology also enhances the capability of the transmission system to meet customer demand and supports both the Evergreen Integrated Resource Plan (IRP) and the Path to 2030 renewable electricity targets. With the increased line capacity that the DLR technology will enable, the transmission system can accommodate additional wind energy during high-wind periods without requiring the curtailment of wind generation. NS Power indicated that maintaining grid reliability is critical to facilitating the integration of new wind resources to meet customer demand and to achieve the 2030 renewable energy targets.

The Board notes that NS Power’s 2020 IRP modeling identified that the transmission interconnection between Nova Scotia and New Brunswick system can provide grid stability and support the integration of renewable energy into the Nova Scotia grid. The Board accepts that including the NB Import Transmission Lines in this project is reasonable and consistent with the IRP.

Based on the information provided, the Board accepts that this project is necessary and finds the associated costs to be justified. Accordingly, the Board approves NS Power’s request for \$2,148,364 in relation to this work order.

The Board also notes that NS Power acknowledged that the actual benefits or impacts of the new technology will require further evaluation once it is implemented, as the benefits identified to date are theoretical or based on vendor experience from other utilities. As such, the Board directs NS Power to file, on an annual basis, a report addressing the performance of the transmission lines included in this project that must include:



- An updated table of unplanned interruptions for the listed transmission lines comparing historical performance to performance after DLR implementation;
- A load report analyzing the observed DLR capacity increase and comparing the results with SAR and AAR capacities; and
- A summary of the magnitude of capacity gains, and operational outcomes, such as curtailment avoidance and congestion relief.

The first annual report is to be submitted by April 15, 2027.

Yours truly,



Marc L. Dunning, P.Eng., LL.B.



NSEB APPROVAL SHEET

Project Title: ECC Dynamic Line Rating Implementation

CI Number: 47751

Date: December 1, 2025

Expenditure Profile			Type of Filing	
Year	Budget Amount	Project Estimate	☒	Capital Project Authorization
			☐	Unforeseen and Unbudgeted (U&U)
			☐	Planned & Advanced (P&A)
			☐	Subsequent Approval Item
2015		312		
2016		753		
2017		51,159		
2018		100,800		
2019		66,798		
2020		7,098		
2021		42,060		
2022		17,299		
2023		(3,049)		
2024	133,979	18,817		
2025	716,102	1,846,317		
2026	118,141			
Total	\$968,222	\$2,148,364		

COMMENTS

This project was originally submitted in September 2024 as a P&A project for \$2,079,681, and subsequently withdrawn due to additional funding bringing the total project cost to <\$1M. The project was therefore included in the 2025 ACE Plan as a carryover project <\$1M, and is now forecasting to be >\$1M.

Submitted on behalf of NOVA SCOTIA POWER INCORPORATED



Authorized Signatory
Dave Pickles
Chief Operating Officer

DATE

November 27, 2025

Approved on behalf of NOVA SCOTIA ENERGY BOARD



DATE

March 3, 2026