



Transmission Line 146L Gander to Gambo Rebuild Project

Environmental Assessment Registration
Pursuant to the Newfoundland and Labrador Environmental Protection Act

Submitted by:
NL Power Inc.

August 2023

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EXECUTIVE SUMMARY

Newfoundland Power (NL Power) is proposing to rebuild their 146L Transmission Line between Gambo and Gander, Newfoundland (the Project or the Undertaking). Sections of the transmission line have reached the point where continued maintenance is no longer feasible and the line must be rebuilt to continue the provision of safe and reliable service to customers in the area.

Newfoundland Power filed a Transmission Line Rebuild Strategy as part of its 2006 Capital Budget Application. The strategy outlines a long-term plan to rebuild the Company's aging transmission lines. Rebuild projects are prioritized based on physical condition, risk of failure, and the potential impact on customers in the event of a failure. This strategy is updated annually to ensure it reflects the latest condition assessments, inspection information, and operating experience.

Pending approvals, Transmission Line 146L is proposed to be rebuilt over the course of two years starting in 2024 with engineering and pre-construction activities followed by the construction portion of the project in 2025. Pre-construction activities include securing development permits and approvals, brush clearing, surveying, finalizing the engineering design, and procurement of materials.

The project crosses or passes within 200m buffer of a watercourse that is a Scheduled Salmon River under the fisheries act. After an assessment of the sources of pollution and implementation of various mitigation measures, the Project is not expected to have any significant impacts on key environmental features.

The Project represents an undertaking requiring registration under the Environmental Assessment (EA) Regulations of the NL Environmental Protection Act (NL EPA) since it "will occur within 200 m of the high-water mark of a river that is a Scheduled Salmon River under the Fisheries Act (Canada)". This Registration document is being submitted to the EA Division of the Department of Environment and Climate Change (NLDECC) for review.

Construction activities will be conducted in accordance with a project specific Environmental Protection Plan (EPP). The EPP will include erosion and sediment control plans (ESCP), as well as a Spill Contingency Plan. Construction will adhere to best management practices and mitigation measures presented in these Plans, as well as applicable regulatory requirements. Operations will abide by NL Power's existing standard operating procedures.

The project intersects the range of fauna and flora species protected by the Newfoundland and Labrador's Endangered Species Act (NLESA). Measures will be taken to mitigate interference of the project with protected species.

NL Power is committed to continuing to supply reliable services to customers in the region through the reconstruction of Transmission Line 146L in a manner which meets regulatory requirements and minimizes adverse effects on the surrounding environment.

1.0 INTRODUCTION

1.1 NAME OF UNDERTAKING

Transmission Line 146L (146L) Gander to Gambo Rebuild Project (the Project)

1.2 PROPOSER INFORMATION

NL Power operates an integrated electricity generation, transmission, and distribution system throughout the island portion of Newfoundland and Labrador. As the primary distributor of electricity on the island, we operate 12,850 km of transmission and distribution lines on the island, providing service to over 273,000 customers.

Table 1 Proponent and consultant information

PROPOSER	
Name	NL Power Inc A Fortis Company
Address	55 Kenmount Road, PO Box 8910 St. John's, NL A1B 4P2
CEO	Gary Murray, President and CEO
Signature	
Website	https://newfoundlandpower.com/
PRINCIPAL PROPOSER CONTACT	
Name	Kathleen Fillier
Official Title	Environment Analyst
Address	55 Kenmount Road, PO Box 8910 St. John's, NL A1B 4P2
Cell	(709) 691-3808
Office	(709) 737-6127
Email	kfillier@newfoundlandpower.com

1.3 PROJECT OVERVIEW

NL Power (the Proposer) proposes to rebuild Transmission line 146L (the Project, 146L, or the Undertaking). Transmission Line 146L is a 138 kV line running between Gander (GAN) Substation and Gambo (GAM) Substation. The transmission line serves as a critical element of the Central Newfoundland 138 kV looped transmission system which provides power to 35 Newfoundland Power substations. Pending approvals, Transmission Line 146L is proposed to be rebuilt over the course of two years starting in 2024 with engineering and pre-construction activities followed by the construction portion of the project in 2025. Pre-construction activities include securing development permits and approvals, brush clearing, surveying, finalizing the engineering design, and procurement of materials.

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Transmission Line 146L currently lies within a 30m right of way (RoW). The new transmission line will be built in a new parallel RoW adjacent to the current footprint, extending 15m from the current boundary with some variance based on topography. This new RoW will follow the route outlined in this document. Following the project, any areas of the previous RoW that were not rebuilt will be allowed to revegetate. Wood pole structures along this transmission line will be spaced roughly 150m apart, with specific locations varying based on topography. This line exists in an area with multiple Scheduled Salmon Rivers, and at several instances comes within the 200m buffer zone of the Scheduled Salmon Rivers. Vegetation clearing is required in some of these areas.

The replacement of this line is necessary based on the physical condition of the line, risk of failure, and customer impact in the event of a failure. This transmission line serves as a critical element of the Central Newfoundland looped transmission system which is a key transmission supply network providing power to 35 Newfoundland Power substations. Following an outage, all substations in the Eastern half of the system from Port Blandford to Wesleyville would be radially supplied from the series of transmission lines originating from Sunnyside Substation. When radially supplied, any single failure on one of these transmission lines could result in outages to between 4,900 and 8,700 customers downstream of the affected line. Similarly, on the Western portion of the system, Gander Substation would be radially supplied by Transmission Line 144L from Cobbs Pond Substation, increasing the risk of an outage to approximately 1,700 customers. Additionally, a line in this condition poses environmental and safety risks such as forest fire, spillage of deleterious material, or electrical hazards. Continued maintenance is not feasible for this transmission line, and for this reason the rebuild is critical to the reliability of NL Power services.

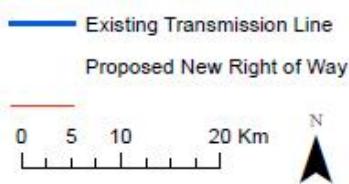
The project requires registration under the following sections of the EA Regulations, 2003:

- Section 28: The transmission line crosses several watercourses that are Scheduled Salmon Rivers under the *Fisheries Act* that cannot be spanned outside of their 200m buffer.

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Legend



**146L Transmission
Line Rebuild -
Environmental Features**



Project Location:
Between Gander and Gambo
Newfoundland

Figure 1 Project Location

1.4 PURPOSE/NEED/RATIONALE FOR THE PROJECT

The replacement of this line is necessary based on the physical condition of the line, risk of failure, and potential customer impact in the event of a failure. Transmission Line 146L does not meet current standards for the construction of overhead lines. The Canadian Standards Association (“CSA”) establishes standards for the construction of overhead systems based on local climatic conditions. At the time of construction in 1964, Transmission Line 146L was designed to withstand sustained winds of 90 km/hour. CSA standards require that overhead lines be constructed based on actual historical climate data. Based on this parameter and actual historical wind speed data provided in the standard, Transmission Line 146L should be designed to withstand winds of upwards of 120 km/hour, which is over 33% higher than its current design.

The historical reliability performance of Transmission Line 146L has been reasonable with only three outage events over the last five years. Two of these were unplanned and due to equipment failure and severe weather respectively, and one was a planned outage due to preventative maintenance. The line’s sub-standard design and deteriorated condition exposes it to an increased probability of failure going forward. The substandard design of this line means it is not built to withstand local climatic conditions, which increases its probability of failure.

Following an outage, all substations in the Eastern half of the system from Port Blandford to Wesleyville would be radially supplied from the series of transmission lines originating from Sunnyside Substation. When radially supplied, any single failure on one of these transmission lines could result in outages to between 4,900 and 8,700 customers downstream of the affected line. Similarly, on the Western portion of the system, Gander Substation would be radially supplied by Transmission Line 144L from Cobbs Pond Substation, increasing the risk of an outage to approximately 1,700 customers.

Transmission Line 146L is required to maintain normal operating voltages on the transmission system under peak load scenarios. Recent analyses showed that a loss of Transmission Line 146L during peak load conditions would result in voltage levels within the looped transmission system dropping into the emergency range, increasing the risk of load shedding and customer outages. The analysis also showed that Transmission Line 146L is essential to operating procedures required to avoid emergency voltage levels and overload conditions in the event of other failures on the looped system. Without Transmission Line 146L, such failures would likely lead to customer outages.

A total of 94 of 160 H-Frame structures have deteriorated poles, with the majority of these structures having both poles deteriorated. The deteriorated condition of these poles is to be expected given they have exceeded the typical useful service life of a transmission line wood pole. Additional signs of wear include deteriorated insulators, deteriorated crossarms, or hardware deficiencies (Figures 2 and 3)



Figure 2 Void in a Pole Top demonstrates a hollow pole



Figure 3 Insulator worn through a significant portion of eye bolt

2.0 PROJECT DESCRIPTION

2.1 LOCATION

NL Power is proposing to rebuild Transmission line 146L (the Project, 146L, or the Undertaking). Transmission Line 146L is a 138 kV line running between the Gander (GAN) Substation and Gambo (GAM) Substation. The line was originally constructed in 1964 and is 40.7 kilometers in length. The line consists of approximately 160 H-Frame structures with a combination of 244.4 ACSR and 397.5 ACSR conductor. Having been in service for almost 60 years the conductor is approaching the end of the typical useful service life for transmission line conductor. Pending approvals, Transmission Line 146L is proposed to be rebuilt over the course of two years starting in 2024.

The transmission line serves as a critical element of the Central Newfoundland 138 kV looped transmission system which is supplied primarily from the Sunnyside (SUN) and Stony Brook (STY) infeed supply points from Newfoundland and Labrador Hydro's (Hydro) bulk power system. The SUN-STY loop is a key transmission supply network providing power to 35 Newfoundland Power substations.

Figure 4 is a diagram of the Central Newfoundland 138 kV looped transmission network.

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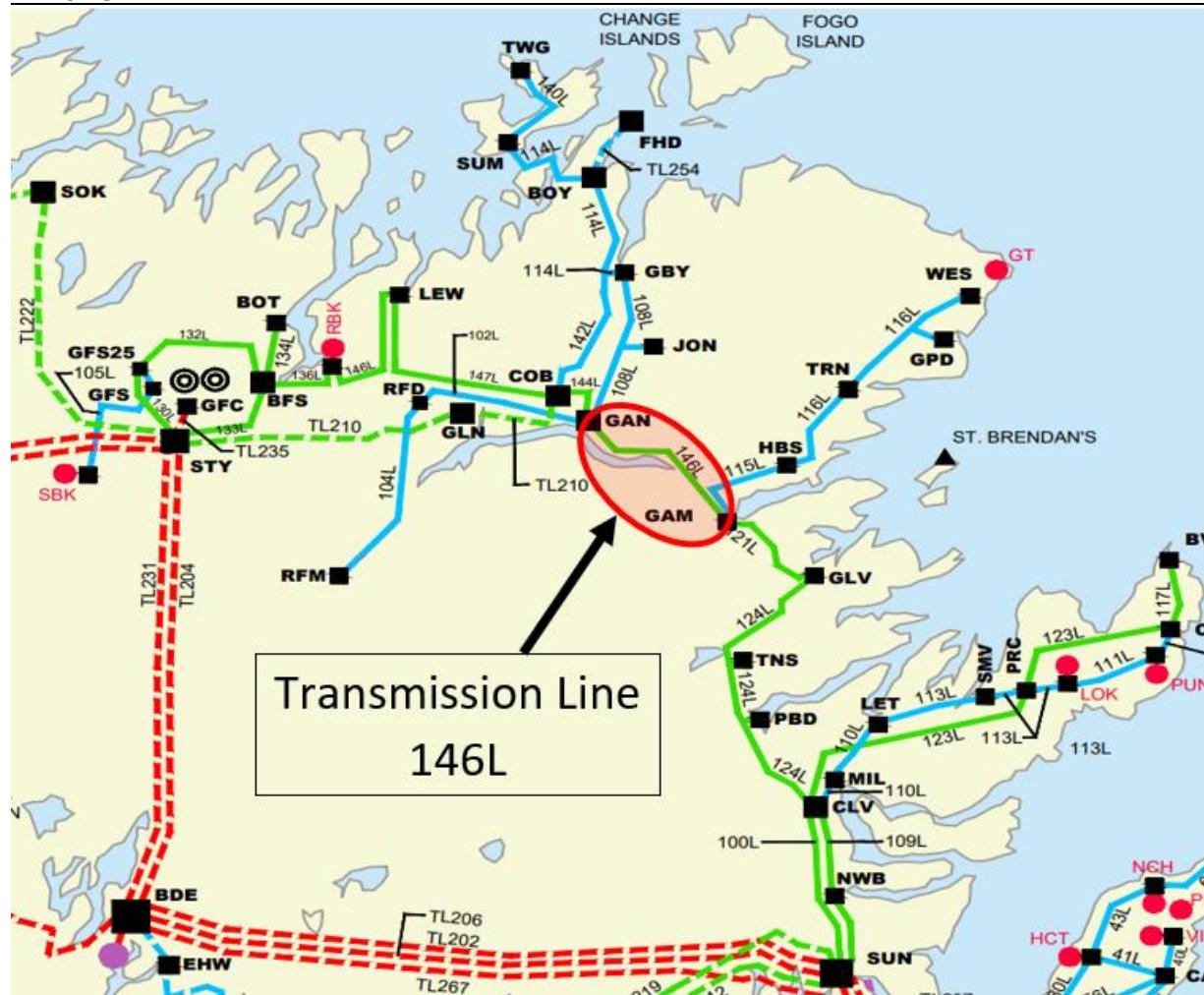


Figure 4 Central Newfoundland 138 kV Loop

Transmission Line 146L currently lies within a 30m right of way (RoW). The new transmission line will be built in a new parallel RoW adjacent to the current footprint, extending 15m from the current boundary with some variance based on topography. This new RoW will follow the route outlined in this document. Following the project, any areas of the previous RoW that were not rebuilt will be allowed to revegetate. Two pole H-frame transmission structures will be located on average 150m apart with specific locations varying based on topography. This line exists in an area with multiple Scheduled Salmon Rivers, and at several instances comes within the 200m buffer zone of the Scheduled Salmon Rivers. Vegetation clearing will be required in some of these areas.

Pending approvals, Transmission Line 146L is proposed to be rebuilt over the course of two years starting in 2024 with engineering and pre-construction activities followed by the construction portion of the project in 2025. Pre-construction activities include securing development permits and approvals, brush clearing, surveying, finalizing the engineering design, and procurement of materials.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

Transmission Line 146L is a 138 kV line running between Gander (GAN) Substation and Gambo (GAM) Substation. The project will be completed on the entire length of the 146L Transmission line, running between Gander (GAN) Substation and Gambo (GAM) Substation (Appendix B). The new transmission line will be constructed in a new RoW that follows existing features where possible.

2.2 PHYSICAL FEATURES

2.2.1 Key Environmental Features

The project site is located within the Northcentral Subregion of the Central Newfoundland Forest Ecoregion. This subregion ranges from Clarenville to Deer Lake and is characterized by rolling hills generally below 200m. The Northcentral Subregion exhibits the most continental climate on the Island, including characteristics such as the highest maximum temperature during the summer, lowest minimum temperature during the winter, lower rainfall and higher fire frequency than anywhere else in Newfoundland. Attributed to its more continental climate, the Northcentral subregion exhibits greater forest density than other regions.

Soils in the Northcentral subregion display moisture deficiency and have lower levels of organic matter relative to other areas of the province. These soil parameters in conjunction with the level of Black Spruce cover contributes to poor regeneration potential in this subregion. The influence of forest fire on the vegetation of this region is evident in natural characteristics such as prevalent stands of Black Spruce, White Birch, and Aspen throughout the area. Disturbed sites such as areas of recurring forest fire are also common areas for the growth of dwarf shrub heath dominated by sheep laurel. The central forest is the only region host to Red Pine, a rare conifer that commonly occupies the driest and post nutrient poor soils of the region usually formed by glacial outwash or lake sediment (Protected Areas Association of Newfoundland and Labrador, 2008). In 2016, the red pine was named under threatened status given the risk of the fungal disease *Scleroderris* Canker in the case of an outbreak, and low regeneration rate (Species Status Advisory Committee, 2016).

The Project primarily follows the developed highway right of way, avoiding watercourses and wetlands where possible. The landscape in the Project area is punctuated by numerous ponds and lakes. The Project intersects multiple waterbodies associated with the Gambo River, Middle Brook, and Mint Brook as well as numerous river crossings (section 2.2.1.1).

2.2.1.1 Scheduled Waters Within 200 meters of Project Site

The proposed Project crosses or passes within 200 m of the following scheduled salmon bearing rivers (Schedule 1, Newfoundland and Labrador Fishery Regulations SOR178-443) at 6 locations (Appendix B):

- Tributaries of Gander Lake (7 crossing locations)
- Middle Brook & tributaries (5 crossing locations)
- Tributary of Gambo River and Mint Brook (1 crossing location)

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Gander Lake is a large inland body of freshwater with multiple streams flowing into and out of the lake. With multiple of these tributaries being scheduled salmon rivers, the waterbody and associated non-scheduled rivers are tributaries of schedule rivers. The RoW intersects three un-named tributaries of Gander Lake near the Thomas Howe Demonstration Forest, one un-named tributary near Soulis Brook, an un-named stream stemming from little pond, an un-named stream stemming from one mile pond, and finally an un-named outflow stream at the easternmost end of Gander Lake. This accounts for a total of 7 crossings associated with tributaries of Gander Lake.

Middle Brook and the Gambo River empty into Freshwater Bay, a sheltered bay on Newfoundland's east coast and is within Salmon Fishing Area (SFA) 5. Freshwater Bay reaches approximately 20 km inland from the larger body of Bonavista Bay, distinguished by a narrow 1km wide channel. The bay is influenced by multiple estuaries and river mouths with Gambo River, Middle Brook, Traverse Brook, and multiple other rivers flowing into the sheltered, inland bay. On July 2nd, 2023, the Middle Brook fishway representative of Freshwater Bay Atlantic Salmon rivers recorded a total of 254 Atlantic Salmon, which is in line with the previous generation average total of 236 Atlantic Salmon counted on this date each year during the period of 2017-2022. The 2022 count was considerable higher than the generation average with 436 Atlantic Salmon counted on July 2nd (DFO, 2023).

Middle Brook and its tributaries originate from multiple large fresh water bodies including Gander Lake, Butts Pond, Square Pond, First Burnt Pond, Second Burnt Pond, and expansive headwaters further inland. The transmission Line 146L RoW will cross tributaries of Middle Brook at four locations, and cross Middle Brook at one location. The RoW intersects two first order streams that run into butts pond, a tributary of Middle Brook, via little butts' pond, as well as one first order stream flowing into Goose Pond. Near the Goose Pond stream crossing, the RoW also comes within 15m of a tributary Square Pond. The RoW crosses Middle Brook at one point between the outflow of Square Pond and inflow of Butts Pond (GC, 2021).

The Gambo River is an outflow stream of the large body of Gambo Pond, with tributaries including Mint Brook, Triton Brook, Riverhead Brook, Parsons Brook, and multiple other waterbodies. At one point, the 146L RoW intersects tributaries of the Gambo River at a wetland area atop Gambo Ridge. This wetland is punctuated by a series of small ponds that empty into two unnamed first order streams which ascend the ridge to the east and west. The western stream is a tributary of Mint Brook which is a tributary of Gambo Pond, while the eastern stream is a direct tributary of Gambo River (see appendix B for crossing location mapping).

Installation of conductor will be completed using tension stringing and no disturbances to waterbodies are anticipated. If necessary, watercourses associated with scheduled salmon bearing rivers and their listed tributaries may be forded. If fording is required, all commissioning and/or decommissioning activities shall adhere to measures and guidelines outlined in the NL Power operating procedure OPR200.07 – Fording of Water Bodies, the project specific EPP, permits issued by DOEC and documents available from DOECC.

Poles will be installed as far away from high water marks as standards allow. This distance will vary between rivers.

2.3 CONSTRUCTION

Construction of each Phase of the Project will consist of the following three components:

- Brush clearing: Brush clearing is planned to begin in 2024 upon the release of the EA and after ensuring all recommendations from the EA review are met.
- Construction: Construction of the new line will be completed over the course of one construction season in 2025 following the completion of the brush clearing, final engineering designs, and material procurement. Construction will involve the installation of poles and anchors; cribbing; framing of structures; conductor stringing and sagging, as well as the installation of vibration dampers on applicable sections.
- Dismantling: Dismantling of the existing 146L Transmission Line will be completed after the new line is constructed. This Phase involves the dismantling, removal, and disposal of the existing line, including poles, anchors, insulators, guys, conductors, and hardware. The decommissioned RoW will be allowed to revegetate following the dismantling phase.

Construction will be completed by both line truck/pickups, tension stringers, excavators, pickup trucks, Nodwell (flatdeck), Nodwell (boom), rock buster, stringing equipment, and muskeg, tractor/trailer/flatbed.

Construction and brush clearing will primarily be completed by contractors, with NL Power crews to assist with distribution crossings and substation connections. A NL Power site supervisor will monitor the site periodically throughout clearing and construction activities.

2.3.1 Access Trails

Specific upgrades required for access trails vary by location. However, typical practice would be to place additional material on the current trails as to provide construction equipment the ability to access the transmission corridor with minimal ground disturbance. Additionally, travelling over bogs or wetland areas would be avoided as much as possible, but if needed, bog mats would be used to help traverse those areas. If required, widening of the trails would be minimized as much as possible, with turn around or laydown areas being located on the ROW to avoid the need to further expand the footprint of existing access trails to allow for two-way traffic. Roughly 20 access trails currently exist to access the transmission line, and are in good condition with only minor upgrades required for use with construction equipment.

The types of equipment that would be using the access trails for this project are mainly tracked, slow moving machines, such as excavators, nodwells, argos and muskegs, along with some pick-up trucks to move workers each day. Due to the short usage window for these trails by NL Power's construction equipment, significant upgrades to the existing trails would not be required.

2.3.2 Potential Sources of Pollution

Potential sources of pollutants into environmental features that may result from construction activities include:

- Sedimentation and siltation from soil disturbance;
- Sedimentation and siltation in small watercourses due to fording;
- Accidental spills from machinery; and
- Disturbance of wildlife and vegetation.

Construction activities will involve brush clearing and soil disturbance within the 200 m buffer of the watercourse during installation of transmission structures which may cause sedimentation and siltation into the Scheduled Salmon Rivers, negatively impacting water quality. Accidental release of deleterious substances, including fuel and lubricants, from construction machinery may also negatively impact water quality.

Due to the sensitivity of the watercourses in the vicinity of the Project, there are no in-water works proposed in Scheduled Salmon Rivers. However, smaller watercourses and streams that are not salmon rivers may be forded during Project construction. Fording may result in alteration to the watercourse substrate as well as the release of fine sediments from the substrate and shoreline which may negatively impact water quality. As required by DFO an Application will be made to DFO for all work involving fording of all water bodies.

Vegetation clearing and construction activities may also disrupt wildlife within the vicinity of the transmission line. Disruption may occur from vegetation clearing, as well as the noise and activity associated with construction equipment. NL Power has operating procedures in place to guide employees if wildlife is encountered on the job site. Vegetative management during migratory bird season will be completed in accordance with NL Power's migratory birds operating procedure.

NL Power will implement a project specific EPP prior to construction, including an ESCP, wildlife management plan, spill prevention plan, and contingency plan (as necessary). Following the completion of construction activities, the areas adversely affected by this project must be restored to a state that resembles natural conditions. Additionally, the environmental management measures outlined in Section 2.3.2 will be implemented to minimize the risk of release of sediment.

2.3.3 Environmental Management Measures

Mitigative measures to minimize the environmental effects of the Project include:

- Implementation of the project specific EPP, including the ESCP, spill prevention plan, and contingency plans (as necessary prior to construction);
- ESC structures will be maintained and inspected regularly with particular emphasis before and after forecasted heavy rain events, and with consideration of the timing and types of activities involved;
- Where necessary, ESC measures will remain in place after work is completed until areas have stabilized and natural re-vegetation occurs;
- All overburden will be removed during the excavation phase and will be stored according to provincial regulations and best practice guidelines;

- Exposed soils and stockpiles capable of producing sediment laden-runoff will continue to be stabilized and/or will be covered;
- A complete oil spill clean-up kit must be on the site at all times when gasoline or fuel powered equipment is being used or refueled;
- Refueling will not be completed within 30 m of a watercourse or waterbody edge;
- Stream banks at fording sites that contain loose or erodible material must be adequately stabilized before crossing to minimize any siltation of stream;
- Fording will be carried out during periods of low water levels;
- The natural course of the stream will not be altered during fording;
- Fording site will be located at shallow sections of channels where there are low approach grades and the channel consists of stable substrate; and
- The fording sites will be restored to their original condition once construction is complete.

2.4 OPERATION

The construction of the Project will be constructed with structures and equipment intended for an operating life of 60 years. Work on the new transmission line during operation will consist of routine maintenance as required and emergency repair.

Vegetation management below the transmission line will be completed manually, no herbicides will be applied. An annual inspection will be completed during the winter months by snowmobile and a survey of the line will be completed every 5 years.

2.4.1 Climate Change Adaptation Measures in Project Design

This line is designed to CSA standards. The hardening measures incorporated into this project design will reduce the level of impact to transmission line infrastructure under the influence of the changing climate. Transmission line infrastructure will be subject to the projected climate trend of more frequent and intense storms, wind events, flooding, ice loading, as well as precipitation. Without adaptation measures more frequent maintenance activities would be required, increasing traffic along the RoW as well as access roads. This would attribute to a greater environmental risk. By hardening infrastructure to meet CSA national standards, this risk will be reduced.

2.4.2 Potential Sources of Pollution

Potential sources of pollutants into environmental features that may result from operation of the Project include:

- Sedimentation and siltation from soil disturbance; and
- Accidental spills from construction equipment.

Operation of the Project will have no potential sources of pollutants into the environment on a daily basis. In the event of emergency repairs, activities may result in sources of pollution similar to construction activities, including sedimentation and siltation from soil disturbance and accidental spills from construction equipment. Environmental management measures outlined for construction activities in Section 2.3.2 also apply to operation activities.

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Preventative measures to avoid pollution where possible are outlined in the Project Specific EPP and ESCP, and include measures such as spill kits on all equipment, secondary containment for containers of deleterious materials, routine maintenance and visual inspection of equipment for leaks before use, and further.

2.5 Local Receptors

The Project RoW departs the Gambo Substation and travels North for roughly 6km before turning to follow the route of the Trans-Canada Highway as far as the Gander Substation where the transmission line ends. Proximity to roadways supports ease of access for inspection, and emergency situations, and reduces the amount of backcountry travel.

Receptors remain the same as those of the original Transmission Line 146L given that the Project is to be built in parallel with the original line. The nearest communities to the RoW include Gander, Benton, Gambo, Pritchett's, and Butts, along with cottage areas near Puncheon Pond, Butts Pond, and Square Pond. Other receptors include the former provincial park Square Pond that is now privately owned. The RoW is primarily located away from developed areas to reduce the impact to local receptors. The nearest areas of development to the Project include residential areas near the Gander Substation, Crown Titles near Puncheon Pond (see figure 5) which are located roughly 80m from the Project, and Crown Titles Near Gambo Pond which are located as near as 300m from the Project end point at the Gambo Substation. The project will intersect the Thomas Howe Demonstration Forest Area, as well as multiple walking trails within the Forest Demonstration Area. Also, nearby is the Gander Rod and Gun Club.

On the southern side of Gander Lake, across the lake from the project, is the proposed Rodney Pond Reserve. This reserve is outside the immediate area of the project with over 2km of distance at the nearest point and is upstream of the project, so no adverse impacts are expected within or near the Rodney Pond Reserve. Approximately 26 km of this project is located within the Gander Lake Protected Surface Water Legal Boundary. The RoW also travels through the Goose Pond PPWSA for approximately 500m.

Residential and commercial receptors located near the proposed RoW could be subject to short term minor disturbances through the creation of noise and dust from construction equipment. The Project also passes through and/or in proximity to numerous watercourses that are used for recreational purposes, particularly fishing.



Figure 5 Proximity of the Project (highlighted in blue) to Crown Titles near Puncheon Pond as shown on the Provincial Land Use Details Atlas (Government of Newfoundland and Labrador, n.d.).

Construction activities have the potential to cause minor disturbances to nearby residences and recreational users through the creation of noise and dust from construction equipment, as well as increased traffic on nearby roads. NL Power has operating procedures in place to guide employees in terms of limiting disturbance during vegetation management (OPR 200.05—Vegetation Management) and vehicular disruptions (OPR 112.14 — Traffic Control). In addition, NL Power will minimize the impact of Project activities on local receptors through the implementation of the following mitigation measures:

- Implementing a Project specific EPP, including detailed identification of impacts to receptors and management plans for noise and air quality;
- Construction activities will be completed during regular daylight working hours;
- Vehicular traffic coming to and from the site will be kept at a required minimum;
- Maintain equipment in good working order and properly muffled; and
- Minimize idling of equipment and vehicles.

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2.6 Occupations

The project has been estimated to require a maximum of 35 crew members on site at any given time, including both contractors and NL Power Employees. Construction of the Project will require the following occupations (with NOC code breakdown) from both NL Power and Contractor staff:

Engineering Technicians:

- 2212 Geological and Mineral Technologists and Technicians
- 2231 Civil Engineering Technologists and Technicians
- 2241 Electrical and Electronics Engineering Technologists and Technicians
- 2253 Drafting Technologists and Technicians
- 2254 Land Survey Technologists and Technicians

Heavy Equipment Operators:

- 7312 Heavy-Duty Equipment Mechanics
- 7412 Heavy Equipment Operators

Line Workers:

- 7212 Contractors and Supervisors, Electrical Trades and Telecommunications Occupations
- 7244 Electrical Power Line and Cable Workers

Ground Workers:

- 0711 Construction Managers
- 7217 Contractors and Supervisors, Heavy Construction Equipment Crews
- 7611 Construction Trades Helpers and Laborers
- 7612 Other Trades Helpers and Laborers

Construction and brush clearing will primarily be completed by contractors, with Newfoundland Power crews to assist with distribution crossings and substation connections.

3.0 APPROVAL OF THE UNDERTAKING

Other permits and authorizations are listed in table 2.

Table 2 Permits and authorizations potentially required by this Project.

Permit	Responsible Authority
Federal	
Compliance Standard pursuant to Migratory Birds Convention Act and Regulations	Environment Canada
Compliance Standard pursuant to Fisheries Act, Section 36(3), Deleterious Substances	DFO
Permit for Construction Within Navigable Water	Transport Canada
Permits Authorizing an Activity Affecting Listed Wildlife Species Regulations	SARA
DFO Blanket Permit	DFO
Provincial	
DOECC Blanket Permit	Department of Environment and Climate Change
Access to Highway Permit	Department of Transportation and Works and/or Service NL
Operating Permit	Fisheries, Forestry, and Agriculture
Commercial Cutting Permit	Fisheries, Forestry, and Agriculture
Certificate of Approval for Storing and Handling Gasoline and Associated Products	Engineering Services Division, Service NL
Compliance Standard pursuant to the Fire Prevention Act	Engineering Services Division, Service NL
Compliance Standard pursuant to Environmental Control Water and Sewage Regulation under the Water Resources Act	Pollution Prevention Division, Department of Environment and Conservation
Compliance Standard pursuant to Environmental Protection Act, Air Pollution Control Regulations	Pollution Prevention Division, Department of Environment and Conservation
Compliance Standard pursuant to Workplace Hazardous Materials Information System (WHMIS) Regulations, under the Occupational Health and Safety Act	Operations Division, Service NL
Compliance Standard pursuant to Occupational Health and Safety Act and Regulations	Service NL
Water Use License	Department of Environment and Climate Change, Water Resources Division
Permit for Alterations of a Body of Water	Department of Environment and Climate Change, Water Resources Division

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Permit to Develop in a Water Supply Area	Department of Environment and Climate Change, Water Resources Division
A Permit to Conduct Research on Specimens Of Threatened and Endangered Species	Department of Fisheries, Forestry and Agriculture, Wildlife Division
Certificate of Approval for a Waste Management System	Department of Environment and Climate Change,
Registration as required in Section 13 of the Storage and Handling of gasoline and associated Products Regulations, 2003	Department of Environment and Climate Change,
Release of the Undertaking under the EA Regulations	Department of Environment and Climate Change,
Crown Lands Application for new Right of Way	Department of Fisheries, Forest and Agriculture
Municipal	
Permit for Development	The Town of Gander
Approval for work within Gander Lake PPWSA	The Town of Gander
Permit for Development	The Town of Gambo

3.1 TREATED POLES IN SENSITIVE HABITATS

The type of poles used within sensitive habitats will adhere to NL Power's OPR 200.03 Chemically Treated Poles and Timbers. When working within environmentally sensitive areas permits shall be obtained from DOECC (see Table3).

Table 3 Restrictions for Sensitive Sites

Type of Treated Wood	Surface Well	Drilled Artesian Well	Rivers, Ponds, Brooks, Lakes and Streams (Outside PPWSA)	Rivers, Ponds, Brooks, Lakes and Streams (Inside PPWSA)
PCP	15m	10m	15m Subject to Regulatory Approval – see notes below	Not Permitted
CCA	5m	3m	5m Subject to Regulatory Approval – see notes below	In Accordance With Table 2

The minimum distances in Table 2 have been established to address concerns as they relate to contamination of water due to the leaching of preservatives. In cases where it is desirable to install closer than 15 meters of a river, pond, brook, lake, stream or ocean, appropriate approvals must be obtained from the regulatory bodies in advance of the work proceeding.

In areas where the buffer zone cannot be maintained in accordance with Table 4, approval for exceptions must be obtained in writing by the Manager responsible for the project from DOECC, Water Resources Division.

Table 4 Go-Forward Policy - DOECC

Water Body	Width of Buffer Zone
Intake pond or lake	Minimum of 150 meters
River Intake	Minimum of 150 meters for a distance of one kilometer upstream and 100 meters downstream
Main river channel	Minimum of 75 meters
Major tributaries, lakes, or ponds	Minimum of 50 meters
Other water bodies	Minimum of 30 meters

3.1.1 Protected Public Water Supply Areas

The proposed RoW runs within the Gander Lake (The Outflow) PPWSA, and Dark Cove Pond PPWSA. During replacements inside a PPWSA, either a CCA, untreated, or steel pole will be installed. CCA poles may be installed providing that the previously outlined buffer zones (see table 3) are maintained, and written permission has been received from the appropriate regulatory agencies.

3.2 SPECIES OF SPECIAL CONCERN

The project intersects the range of numerous fauna and flora species protected by the Newfoundland and Labrador's Endangered Species Act (NLESA), Canada's Migratory Birds Convention Act (MBCA), and/or Canada's Species at Risk Act (SARA). A data study from ACCDC along with data published to the NL Breeding Bird Atlas show that species of conservational concern, or migratory bird species have been detected within 5km of the Project area (table 5). Unobserved species can also appear in the project area and will be considered. Measures will be taken to minimize and mitigate interference of the project with protected species.

Table 5 Flora and Fauna species of Special Concern observed within 5 km of the Project and/or listed under Newfoundland and Labrador's Endangered Species Act in the region of the project (ACCD, 2023); (Birds Canada, n.d.).

Common Name	Scientific Name
Avifauna	
Rusty Blackbird	<i>Euphagus carolinus</i>
Short-billed Dowitcher	<i>Limnodromus griseus</i>
Short-eared Owl	<i>Asio flammeus</i>
Three-toed Woodpecker	<i>Picoides dorsalis</i>
Flora	
American Bur-Reed	<i>Sparganium americanum</i>
American Mannagrass	<i>Glyceria grandis</i>
American Pinesap	<i>Hypopitys monotropa</i>
Beaked Sedge	<i>Carex rostrata</i>
Canadian Yew	<i>Taxus canadensis</i>
Cottongrass Bulrush	<i>Scirpus cyperinus</i>

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Crowded Sedge	<i>Carex adusta</i>
Large Roundleaf Orchid	<i>Platanthera orbiculata</i>
Leafy Pondweed	<i>Potamogeton foliosus</i>
Necklace Sedge	<i>Carex projecta</i>
Perennial Bentgrass	<i>Agrostis perennans</i>
Pointed Broom Sedge	<i>Carex scoparia</i>
Red Pine	<i>Pinus resinosa</i>
Shinleaf	<i>Pyrola elliptica</i>
Southern Running-Pine	<i>Diphasiastrum digitatum</i>
Spotted Coralroot	<i>Corallorrhiza maculata</i>
Stiff Marsh Bedstraw	<i>Galium tinctorium</i>
Thyme-Leaved Speedwell	<i>Veronica serpyllifolia</i>

Limited data is available on fauna species inhabiting the project area, however, this project occurs inside the Middle Ridge Caribou Management Area. Although not listed, encounters with this species will be handled with caution as per the Caribou Management Plan (see appendix D) and measures of impact mitigation will be implemented to minimize any potential impact on the species as a result of the undertaking.

4.0 SCHEDULE

The proposed schedule for the Project is outlined in Table 6.

Table 6 Proposed schedule for the project broken down by phase.

Project Component		Proposed Date
Registration of EA		2023
Phase 1	Brush Clearing	2024
	Construction	2025
Phase 2	Dismantling of Original Line	2025

5.0 EXTERNAL FUNDING

External funding is not required for this project.

6.0 REFERENCES

- ACCDC. (2023, June 19). Species of Special Concern within 5km of the Project Area Data Request.
- Birds Canada. (n.d.). *Atlas Effort Map*. Retrieved from Newfoundland Breeding Bird Atlas: <https://naturecounts.ca/nc/nfatlas/atlaseffortmap.jsp>
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