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October 7, 2022

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Cheryl Blundon
Director of Corporate Services and Board Secretary

Re: Application for Approval of Capital Expenditures Necessary to Address Supply in Charlottetown and Pinsent's Arm, Labrador

Please find enclosed Newfoundland and Labrador Hydro's ("Hydro") application for approval of capital expenditures necessary to address supply in Charlottetown and Pinsent's Arm, Labrador. This project is required to meet peak demand and support the provision of reliable service for the residents of Charlottetown and Pinsent's Arm. The estimated cost of this project is approximately $1.3 million with an estimated completion date of January 2023.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Shirley A. Walsh
Senior Legal Counsel, Regulatory
SAW/sk

Encl.

ecc:

Board of Commissioners of Public Utilities
Jacqui H. Glynn
PUB Official Email

Labrador Interconnected Group
Senwung F. Luk, Olthuis Kleer Townshend LLP
Nicholas E. Kennedy, Olthuis Kleer Townshend LLP

Newfoundland Power Inc.
Dominic J. Foley
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Island Industrial Customer Group
Paul L. Coxworthy, Stewart McKelvey
Denis J. Fleming, Cox & Palmer
Dean A. Porter, Poole Althouse

Consumer Advocate
Dennis M. Browne, KC, Browne Fitzgerald Morgan Avis & Wadden
Stephen F. Fitzgerald, Browne Fitzgerald Morgan Avis & Wadden
Sarah G. Fitzgerald, Browne Fitzgerald Morgan Avis & Wadden
Bernice Bailey, Browne Fitzgerald Morgan Avis & Wadden
Bernard M. Coffey, KC

Application for Approval of Capital Expenditures Necessary to Address Supply in Charlottetown and Pinsent's Arm, Labrador

October 7, 2022

An application to the Board of Commissioners of Public Utilities

IN THE MATTER OF the *Electrical Power Control Act, 1994*, SNL 1994, Chapter E-5.1 ("*EPCA*") and the *Public Utilities Act*, RSNL 1990, Chapter P-47 ("*Act*"), and regulations thereunder; and

IN THE MATTER OF an application by Newfoundland and Labrador Hydro ("Hydro") for an Order approving capital expenditures necessary to address supply in Charlottetown and Pinsent's Arm, Labrador, pursuant to Section 41(3) of the *Act.*

To: The Board of Commissioners of Public Utilities ("Board")

THE APPLICATION OF HYDRO STATES THAT:

A. Background

1. Hydro is a corporation continued and existing under the *Hydro Corporation Act, 2007*,[1] is a public utility within the meaning of the *Act*, and is subject to the provisions of the *EPCA*.

B. Application

2. Hydro provides electrical service to approximately 290 customers in the communities of Charlottetown and Pinsent's Arm, located on the southern Labrador coast.

3. The Charlottetown Diesel Generating Station was constructed in 1989 and housed three gensets[2] inside the powerhouse to provide electrical service to the communities. The largest customer on the Charlottetown Distribution System is a shrimp processing plant that has been in service for 20 years.

[1] *Hydro Corporation Act, 2007*, SNL 2007 c H-17.

[2] A diesel generator is also referred to as a "genset."

4. The Charlottetown Diesel Generating Station and its three gensets were destroyed by a fire on October 7, 2019. Power was restored to the communities through the use of one of the two mobile generators that were located outside the building, onsite to meet the summer peak load from the local shrimp processing plant. A third mobile unit was procured[3] to allow Hydro to meet the annual peak load and ensure reliable energy supply for the communities.

5. On July 20, 2020, a total system outage occurred due to a partial failure on one of the three mobile gensets. The unit was repaired and placed back into service on August 2, 2020. On July 2, 2022, another fire occurred that resulted in the total loss of another one of the three mobile units.

6. As the unit that was destroyed by fire in July 2022 was a winterized unit, there is a shortage of winterized units in Charlottetown that must be addressed. Hydro must proceed to winterize one of the units to allow it to function properly during the winter months and ensure reliable service for the communities.

7. Hydro has identified continued use of mobile gensets as a substantial reliability risk. As discussed in Schedule 1 to this application, mobile units such as those in Charlottetown can typically accumulate up to 100,000 hours of service prior to requiring replacement. However, utilizing mobile units for firm capacity gives rise to increased risk. The reliability risk associated with the use of mobile gensets for firm capacity can be partially mitigated by installation of a sufficient quantity of gensets to allow for demand to be met in the event of an outage or failure of one or more units.

8. Hydro has proposed a long-term solution for southern Labrador, including Charlottetown and Pinsent's Arm; however, that review is pending the provision of further analysis currently underway. Hydro does not anticipate a decision on its proposal before 2023 and any long-term solution would take some time to implement thereafter.

[3] Approved as per *Public Utilities Act*, RSNL 1990, c P-47, Board Order No. P.U. 20(2021), Board of Commissioners of Public Utilities, June 10, 2021.

9. To mitigate the significant reliability risks associated with mobile generation and ensure reliable service can be provided in circumstances where there are outages to one or more of the mobile gensets, Hydro is proposing to utilize mobile generation in such a way that peak load can be supplied with the two largest units out of service. This is known as N-2 redundancy.

10. Schedule 1 details the reliability risks posed by mobile generation, the limited availability of suitable and economical rental units, and long lead time associated with procurement of a new mobile genset. Of the four options considered by Hydro, and detailed in Schedule 1, Hydro's analysis and evidence support the procurement of a used mobile genset.

11. Currently, there is a used mobile genset available for purchase from the Lower Churchill Project ("LCP"). However, this genset ("LCP genset") is not compatible with the system in Charlottetown. Hydro proposes to install the LCP genset in L'Anse-au-Loup, a compatible system, and move the unit currently in L'Anse-au-Loup to Charlottetown. The transfer costs would not be capitalized and not included in the budget for this proposed project.

12. Hydro believes that increasing the level of redundancy required for service to Charlottetown and Pinsent's Arm to N-2 is necessary to ensure reliable service. Hydro believes that purchasing a used mobile genset to allow for the relocation of another used mobile genset to Charlottetown is the least-cost option to provide reliable service.

13. Hydro's proposed project, as discussed in Schedule 1, has an estimated completion date of January 2023 with an estimated project cost of approximately $1.3 million.

B. Hydro's Request

14. Hydro requests that the Board make an Order pursuant to Section 41(3) of the *Act* approving the following:

    (i) Hydro's acquisition and repair of the LCP genset for use in L'Anse-au-Loup;

    (ii) Relocation of Unit 2082 from L'Anse-au-Loup to Charlottetown; and

    (iii) Winterization of Unit 2102 at Charlottetown.

C. Communications

15. Communications with respect to this Application should be forwarded to Shirley A. Walsh, Senior Legal Counsel, Regulatory for Hydro.

DATED at St. John's in the Province of Newfoundland and Labrador on this 7th day of October 2022

NEWFOUNDLAND AND LABRADOR HYDRO

Shirley A. Walsh
Counsel for the Applicant
Newfoundland and Labrador Hydro,
500 Columbus Drive, P.O. Box 12400
St. John's, NL A1B 4K7
Telephone: (709) 685-4973

Schedule 1

Capital Expenditures Necessary to Address Supply in Charlottetown and Pinsent's Arm, Labrador

newfoundland labrador hydro

Capital Expenditures Necessary to Address Supply in Charlottetown and Pinsent's Arm, Labrador

newfoundland labrador hydro

Executive Summary

The towns of Charlottetown and Pinsent's Arm, located in Southern Labrador have been relying on mobile generation since the Charlottetown Diesel Generating Station was lost to a fire in October 2019. Newfoundland and Labrador Hydro ("Hydro") has experienced two mobile diesel generator ("genset") failures in Charlottetown since November 2019, including another fire in July 2022 that resulted in the loss of a mobile genset, Unit 2089. Due to Hydro's experience with mobile gensets, Hydro anticipates that more failures could occur before a permanent generation solution is implemented.

Hydro has firm capacity criteria that require N-1 redundancy, allowing Hydro to meet peak demand even if the largest unit is unavailable. To restore N-1 redundancy following the July 2022 fire, Hydro rented a 725 kW mobile genset from CAT. This unit was connected in Charlottetown on July 14, 2022. With this unit in service, firm capacity was restored to 1,635 kW, allowing Hydro to maintain N-1 redundancy for the remainder of the summer shrimp processing season. As this unit is not winterized, Hydro plans to return this unit to the vendor following the conclusion of the 2022 shrimp processing season. To ensure N-1 redundancy over the winter, Hydro proposes to winterize Unit 2102.[1]

Due to reliability concerns associated with utilizing mobile generation as a source of firm capacity and the additional time necessary to achieve a long-term supply solution[2] necessitating the continued use of mobile diesel generation in the interim, Hydro is proposing to increase the level of redundancy in Charlottetown, from N-1 to N-2[3].

The following alternatives were considered.

- Alternative 1: Status quo;
- Alternative 2: Purchase a used mobile genset and relocate an existing mobile genset;
- Alternative 3: Purchase a new mobile genset; and
- Alternative 4: Rent a mobile generator.

[1] Unit 2102 is a mobile genset that is currently in use in Charlottetown.
[2] At the request of the Board of Commissioners of Public Utilities ("Board"), Hydro is in the process of hiring an independent expert to review, develop, and compare alternative supply options for southern Labrador.
[3] A redundancy of N-1 refers to the ability to supply peak load with the largest unit out of service. N-2 refers to the ability to supply peak load with the two largest units out of service.

Hydro is proposing Alternative 2, which will achieve N-2 redundancy on the Charlottetown system through the purchase of a 1,825 kW genset from the Lower Churchill Project ("LCP") for installation in L'Anse-au-Loup, to allow the relocation of an existing 1,825 kW genset from L'Anse-au-Loup to Charlottetown. The estimated project cost, including the winterization of Unit 2102, is $1,314,700 and will be completed by the end of January 2023.

The fire and total loss of Unit 2089 have further demonstrated the reliability concerns associated with mobile gensets in a prime power application. Hydro, therefore, believes it is prudent to increase redundancy in Charlottetown to mitigate these reliability risks. This project was not proposed in the 2022 Capital Budget Application,[4] as the need for a replacement unit was not determined until after filing the application. Deferring the proposed project until the 2024 Capital Budget Application would not be prudent, as the delay would present an unacceptable reliability risk for the interim period.

[4] "2022 Capital Budget Application," Newfoundland and Labrador Hydro, rev. September 17, 2021 (originally filed August 2, 2021).

Contents

1.0 Introduction

On October 7, 2019, the Charlottetown Diesel Generating Station experienced a catastrophic fire that resulted in the total loss of the building, including three diesel generating units ("gensets"). Since this fire, three mobile gensets have been used to supply power to the customers of Charlottetown and Pinsent's Arm.[5] On July 2, 2022, another fire occurred that resulted in the total loss of a mobile genset, Unit 2089.

While Hydro has continued to provide service to its customers in this region, there are reliability concerns with utilizing mobile generation as a source of firm capacity. These concerns have been noted in Hydro's "Long-Term Supply for Southern Labrador – Phase 1" application[6] and are further demonstrated by the catastrophic failure of the generator component of Unit 2102 on July 20, 2020,[7] and by the fire on July 2, 2022, which resulted in the total loss of Unit 2089.

Hydro's proposed long-term supply solution for the southern Labrador region is currently under review within the regulatory process. Given the timeframe for the conclusion of this process is currently unknown, and in consideration of the reliability concerns associated with the utilization of mobile gensets for firm capacity, Hydro is proposing an interim solution to ensure it is meeting its mandate to supply least-cost, reliable service to its customers.

As the most recent fire in Charlottetown destroyed a winterized genset and two units are necessary for sufficient firm capacity with an N-1 redundancy for the winter season, [8] Hydro proposes the winterization of an existing mobile genset, Unit 2102.[9] Hydro is further requesting to improve reliability by increasing the firm capacity in Charlottetown to N-2, allowing Hydro to supply peak load with the largest two units out of service and reducing the risk of not being able to serve customers in that area. The lowest-cost solution to facilitate an N-2 redundancy would be the installation of a fourth mobile genset.

Hydro considered a number of alternatives to achieve N-2 redundancy for Charlottetown. The least-cost alternative is the purchase of a 1,825 kW mobile genset from LCP. As the mobile genset purchased from

[5] Unit 2088, Unit 2089, and Unit 2102.
[6] "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch.1, att. 1, Table 3
[7] The Unit 2102 generator component was subsequently replaced, and the unit remains in operation.
[8] Following completion of the proposed project there will be two winterized mobile gensets on site.
[9] Unit 2102 has been selected for winterization due to its size relative to winter peak demand.

LCP cannot be utilized directly in Charlottetown, as the high-voltage winding (25 kV) of the step-up transformer supplied with the LCP unit does not match the distribution system voltage of Charlottetown (4,160 kV), the LCP unit would be installed in L'Anse-au-Loup as a replacement for another 1,825 kW unit, Unit 2082. Unit 2082 would then be relocated to Charlottetown.

2.0 Background

2.1 Existing System

Charlottetown is a summer-peaking system that is driven by a large shrimp processing plant that operates during the summer. The Charlottetown system has a summer peak load of approximately 1,547 kW and a winter peak load of approximately 756 kW.

2.2 Charlottetown Diesel Generating Station Fire (October 2019)

On October 7, 2019, the Charlottetown Diesel Generating Station experienced a catastrophic fire that resulted in a total loss of the building and three diesel generating units within the engine hall. The interim solution subsequent to the fire was to utilize three mobile gensets (Units 2088, 2089, and 2102), within the Charlottetown Diesel Generating Station yard. Units 2088 and Unit 2089 were installed in Charlottetown in 2011 and 2012 to support load growth at that time; Unit 2102 was installed in Charlottetown in 2019 following the fire. This temporary configuration had a firm capacity of 1,635 kW, which satisfied Hydro's N-1 firm capacity criteria in Charlottetown Additionally, Hydro's spare mobile diesel genset (Unit 2044), which is typically located in Port Hope Simpson, was relocated and parked in the Charlottetown Diesel Generating Station yard. [10]

2.3 Partial Unit 2102 Failure (July 2020)

Charlottetown Unit 2102 was taken out of service on July 20, 2020, after a partial failure of the unit caused a total system outage. Following an inspection of the genset, it was determined that the unit had suffered a catastrophic failure of its generator component. The generator replacement was completed and the unit was released for service on August 2, 2020.

[10] This spare unit is typically located at the Port Hope Simpson Diesel Generation Station and is not required in Port Hope Simpson to meet its firm capacity criteria. This unit was not connected in Charlottetown prior to the failure of unit 2089, as Charlottetown was already achieving its N-1 firm capacity criteria.

2.4 Unit 2089 Fire (July 2022)

On July 2, 2022, a fire occurred inside the enclosure of Unit 2089, making it no longer operable, and resulting in a violation of the N-1 firm capacity criteria in Charlottetown. A 725 kW mobile genset was rented from Toromont CAT[11] to meet the N-1 firm capacity criteria for summer 2022. Additionally, Hydro decided to connect Unit 2044 for additional redundancy.[12]

Generating capacity in Charlottetown before and immediately after the fire in July 2022, as well as the capacity following initial restoration efforts is provided in Table 1.[13]

Table 1: Historical and Forecast Charlottetown Mobile Generation Capacity (kW)

Unit Number	Before Fire	Immediately After Fire	Summer 2022	Winter 2022–2023	Summer 2023
2088	910	910	910	910	910
2089	725	-	-	-	-
2102	910	910	910	910	910
2044	-	-	600	600	600
Rental[14]	-	-	725	-	725
Total Installed Capacity	**2,545**	**1,820**	**3,145**	**2,420**	**3,145**
N-1 Firm Capacity	1,635	910	2,235	1,510	2,235
N-2 Capacity	725	-	1,325	600	1,325
Forecast Peak Demand	N/A	N/A	N/A	756	1,547
Forecast N-2 Shortfall	N/A	N/A	N/A	156	222

3.0 Justification

3.1 Reliability Increase in Charlottetown

As noted in Hydro's "Long-Term Supply for Southern Labrador – Phase 1" application, continued use of mobile gensets in Charlottetown poses a substantial reliability risk.[15] Since the October 2019 fire, Unit 2102 had only accumulated approximately 900 hours when the generator failed on July 20, 2020. Unit 2089 had accumulated 30,000 hours of generation when it was destroyed by a fire on July 2, 2022,

[11] Hydro plans to return the rented mobile genset to the vendor following the conclusion of the 2022 shrimp-processing season, as it is not winterized.
[12] At the time of this application, work to connect Unit 2044 is ongoing.
[13] Not including the capacity provided by the proposed additional mobile genset.
[14] Hydro expects to either rent or purchase additional generation to ensure N-2 can be maintained during each summer shrimp-processing season until the completion of the Southern Labrador Interconnection project. Should either option be determined to require capital expenditure, Hydro will apply for approval in a further supplemental application.
[15] "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch.1, att. 1, Table 3, p. 16.

caused by the failure of its generator. Units of this type can typically accumulate up to 100,000 hours of service prior to requiring replacement. The reliability risk associated with the use of mobile gensets for firm capacity can be partially mitigated by ensuring a sufficient quantity of gensets are installed to continue to meet demand in the event of an outage or failure on one or more units.

Hydro has proposed the "Long-Term Supply for Southern Labrador – Phase 1" Project for the supply of reliable and least-cost electricity service to the southern Labrador region, which includes Charlottetown and Pinsent's Arm; however, the Board of Commissioners of Public Utilities ("Board") has requested Hydro provide additional information supported by an independent third-party consultant. Due to the time required to analyze and compile this additional information, Hydro does not anticipate receiving a decision from the Board until 2023. To mitigate the significant reliability risks associated with mobile generation, the limited availability of suitable and economical rental units, and the long lead-time associated with procurement of a new mobile genset, Hydro is proposing to increase the level of redundancy from N-1 to N-2 in Charlottetown.

As demonstrated in Table 2, without the additional capacity proposed by the installation of Unit 2082, there will be an N-2 firm capacity deficit of 156 kW during the winter of 2022–2023[16] and 222 kW during the summer of 2023.[17]

Table 2: Charlottetown Forecast Gross Peak Load (kW)

	2023 Summer[18]		2022–2023 Winter	
Year	Forecast	N-2 Capacity Deficit	Forecast	N-2 Capacity Deficit
2022	1,540	215	756	156
2023[19]	1,547	222	761	161
2024	1,553	228	767	167
2025	1,559	234	771	171
2026	1,562	237	774	174
2027	1,567	242	777	177

[16] This capacity deficit is partially due to the return of the rental unit.
[17] This capacity deficit is the amount remaining with the inclusion of a 725 kW mobile genset rental. Hydro's firm capacity requirements during the summer are primarily driven by a shrimp processing facility that is the largest load in the summer.
[18] Including the 725 kW mobile genset rental
[19] Hydro is evaluating whether it would be appropriate to rent additional mobile generation for the shrimp processing season or purchase an additional mobile genset that could provide additional redundancy for the entire year. Hydro will file a supplemental application setting out the full details and justification for the Board's consideration if it is determined that purchasing additional mobile generation beyond the planned 1,825 kW genset is an appropriate next step.

3.2 Operational Savings in Charlottetown

In addition to the reliability benefits associated with N-2 redundancy, adding a larger-sized mobile genset will reduce the total amount of operating hours and fuel consumed at the Charlottetown site, thus reducing maintenance and fuel costs. Additional information is provided in Section 4.1.2

4.0 Analysis

4.1 Alternatives

To achieve N-2 firm capacity criteria during the winter of 2022–2023, the following four alternatives were considered.

1) Status quo;

2) Purchase a used mobile genset and relocate an existing mobile diesel genset;

3) Purchase a new mobile diesel genset; and

4) Rent a mobile generator.

Hydro will also require an additional unit to be winterized, as one was destroyed during the July 2022 fire. For each alternative outlined, it is necessary to winterize Unit 2102. Unit 2102 is recommended for winterization, as it will be the most appropriately sized unit on site for winter operation.

4.1.1 Alternative 1: Status Quo

This alternative involves maintaining the existing N-1 firm capacity criteria for Charlottetown. If Hydro continues with this criteria and one of the mobile gensets were to fail, then Hydro would have to acquire and install an additional mobile genset to restore N-1 redundancy. Hydro does not have access to any appropriately sized mobile gensets that could be acquired and installed in response to a unit failure and would have to acquire additional generation from an outside party. This process could take upwards of two years due to an increase in lead times for the procurement of new mobile gensets. In the event of another mobile genset failure prior to the purchase and installation of additional generation, Hydro would be unable to meet the peak load of the system.

Given the reduced reliability of mobile gensets and the difficulty and delay associated with the purchase of a replacement unit, Hydro believes that there is a significant risk of multiple units becoming

unavailable simultaneously. Hydro does not believe that it would be prudent to continue operating with N-1 redundancy.

4.1.2 Alternative 2: Purchase a Used Mobile Genset and Relocate an Existing Mobile Genset

This alternative involves purchasing and repairing a 1,825 kW mobile genset from LCP to replace Unit 2082, which will be moved from L'Anse-au-Loup to Charlottetown.

The unit available for purchase was manufactured in 2012 and has approximately 1,000 lifetime operating hours. The unit has been visually inspected and will require an off-site teardown as well as the replacement of internal seals. The LCP unit cannot be installed in Charlottetown as it is 480 V and has a 480 V to 25 kV transformer, whereas Charlottetown is a 600 V to 4,160 V system. Unit 2082 in L'Anse-au-Loup is 600 V and can be installed in Charlottetown without a transformer. Hydro does not have the necessary transformer in stock to install the LCP unit in Charlottetown and purchasing such a transformer would require a one-year lead time; however, the LCP unit can be used to supply the L'Anse-au-Loup system. Hydro has also contacted all major suppliers as well as Newfoundland Power Inc. ("Newfoundland Power") to inquire about the availability of suitable (i.e., winterized) rental units that could be directly utilized in Charlottetown for the winter season. As no such units are available, the purchase of an available mobile genset is required under this alternative.

In addition to achieving an N-2 redundancy, economic analysis shows that operating a single 1,825 kW genset during the summer peak season instead of multiple smaller gensets will result in a significant reduction in the overall number of operating hours. This reduction would create a savings of approximately $257,000 in overhaul costs[20] and $247,000 in fuel costs, for a total savings of $504,000 over the next four years.[21]

4.1.3 Alternative 3: Purchase a New Mobile Diesel Genset

This alternative involves purchasing a new mobile genset to be located at the Charlottetown site. The in-service date for this alternative would be post-September 2024, as the lead time for mobile gensets

[20] Due to this reduction in operating hours, Hydro expects to be able to avoid an overhaul of a 910 kW genset, saving approximately $257,000.
[21] Due to uncertainty regarding Hydro's "Long Term Supply for Southern Labrador - Phase 1" application, Hydro has completed an economic analysis through 2026.

ranging from 1 to 2 MW is currently greater than two years. If this alternative were selected, Hydro would not have sufficient capacity for a redundancy of N-2 for at least two years. Given the history of mobile unit failures in Charlottetown since 2019, Hydro does not consider this option viable or prudent.[22]

4.1.4 Alternative 4: Rent a Mobile Generator

This alternative involves renting a mobile diesel genset to be located at the Charlottetown diesel generation site until the interconnection of Southern Labrador is complete. The estimated cost to rent a non-winterized mobile diesel genset ranging from 1 to 2 MW would be at least $65,000/month. Availability of a mobile genset rental of this size is limited; Hydro has also contacted all major suppliers and Newfoundland Power to inquire about availability of suitable (i.e. winterized) rental units that could be directly utilized in Charlottetown for the winter season; however, no suitable winterized units have been identified. An economic analysis concluded that the total rental fees for a non-winterized unit would be in excess of $3,000,000, assuming that a long-term solution for southern Labrador was not in-service prior to 2026.

4.2 Recommended Alternative

Hydro completed a comparison of the alternatives based on technical viability (the ability to provide N-2 redundancy), least cost, and implementation time frame. Alternative 1 was eliminated duringinitial screening based on poor reliability. Alternative 3 was removed from consideration due to long procurement lead time, and Alternative 4 was not deemed to be least cost due to the associated rental costs. Hydro recommends proceeding with Alternative 2, the purchase of a used mobile genset from LCP and the relocation of an existing mobile genset to Charlottetown.

5.0 Project Description

The proposed alternative will involve the following work:

- Replacement of seals and performance of required maintenance on the LCP mobile genset;
- Transfer of the 1,825 kW mobile genset (Unit 2082) from L'Anse-au-Loup to Charlottetown;[23]

[22] Following implementation of a long-term supply solution, in the event there is remaining life on the proposed mobile genset, Hydro would assess its mobile genset fleet requirements at that time and consider keeping the unit as backup or for operation elsewhere on Hydro's system. If Hydro does not determine a future use for the unit, Hydro would consider selling the unit.
[23] The transfer of Unit 2082 from L'Anse-au-Loup to Charlottetown will not be capitalized and is not included in the project budget.

- Installation of the required cables, breakers, and fuel piping material;
- Installation of remote radiator/aftercooler;
  - Transportation of LCP genset to L'Anse-au-Loup;
  - Completion of required protection and control upgrades at Charlottetown and L'Anse-au-Loup; and
  - Winterization of Unit 2102 at Charlottetown by upgrading its ventilation system.

The estimate for this project is shown in Table 3.

Table 3: Project Estimate ($000)

Project Cost	2022	2023	Beyond	Total
Material Supply	752.5	30	0	**782.5**
Labour	326.8	9.3	0	**336.1**
Consultant	0	0	0	**0**
Contract Work	85	0	0	**75**
Other Direct Costs	45.5	1.5	0	**47**
Interest and Escalation	0	0	0	**0**
Contingency	71	4.1	0	**74.1**
Total	**1,280.8**	**44.9**	**0**	**1,314.7**

The anticipated project schedule is shown in Table 4.

Table 4: Project Schedule

Activity	Start Date	End Date
Planning:		
Open project, kick-off meetings, and site visit planned.	Oct 2022	Oct 2022
Design:		
Specification for aftercooler and modifications to the piping system.	Oct 2022	Oct 2022
Procurement:		
Purchase all required materials and components. All materials on site.	Oct 2022	Jan 2023
Construction:		
New unit installed.	Nov 2022	Dec 2022
Winterization and installation of Unit 2102.	Nov 2022	Jan 2023
Commissioning:		
Run units to confirm operation at both locations.	Dec 2022	Dec 2022
Run newly winterized unit.	Dec 2022	Jan 2023
Close Out:		
Project closeout documents and lessons learned.	Dec 2022	Jan 2023

6.0 Conclusion

Hydro recommends increasing the level of redundancy required in Charlottetown to N-2 due to the reliability concerns associated with utilizing mobile generation as a source of firm capacity. Hydro proposes winterizing Unit 2102 in Charlottetown, purchasing a 1,825 kW mobile genset from LCP for use in L'Anse-au-Loup, and relocating Unit 2082 from L'Anse-au-Loup to Charlottetown to achieve N-2 redundancy. Hydro believes this is the least-cost solution to provide reliable service to the communities of Charlottetown and Pinsent's Arm. This project is an interim solution for the reliable provision of service until Hydro implements a long-term supply solution for the southern Labrador region.

Affidavit

newfoundland labrador hydro

IN THE MATTER OF the *Electrical Power Control Act, 1994*, SNL 1994, Chapter E-5.1 ("*EPCA*") and the *Public Utilities Act*, RSNL 1990, Chapter P-47 ("*Act*"), and regulations thereunder; and

IN THE MATTER OF an application by Newfoundland and Labrador Hydro ("Hydro") for an Order approving capital expenditures necessary to address supply in Charlottetown and Pinsent's Arm, Labrador, pursuant to Section 41(3) of the *Act*.

AFFIDAVIT

I, Robert Collett, of St. John's in the province of Newfoundland and Labrador, make oath and say as follows:

1. I am Vice President, Engineering and NL System Operator for Newfoundland and Labrador Hydro, the applicant named in the attached application.
2. I have read and understand the foregoing application.
3. To the best of my knowledge, information, and belief, all of the matters, facts, and things set out in this application are true.

SWORN at St. John's in the Province of Newfoundland and Labrador this 7th day of October, 2023 before me:)

Commissioner for Oaths, Newfoundland and Labrador

Robert Collett

SAMANTHA KEATS
A Commissioner for Oaths in and for
the Province of Newfoundland and Labrador.
My commission expires on December 31, 2022