

November 24, 2021

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

Attention: Ms. Cheryl Blundon  
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

**Re: Application for Approval to Replenish the Allowance for Unforeseen Items Account**

Newfoundland and Labrador Hydro ("Hydro") notified the Board of Commissioners of Public Utilities ("Board") of an unforeseen project related to the failure of the boiler tubes of the Holyrood Thermal Generating Station ("Holyrood TGS") Unit 3 in correspondence dated October 12, 2021.<sup>1</sup> The expenditure for the project was estimated to be \$1.8 million. Hydro had been preparing an application for approval of an additional amount to be added to the Allowance for Unforeseen Items Account when a further unforeseen project occurred. Hydro provided details of the necessary replacement of the Holyrood TGS Unit 2 transformer ("T2") to the Board on November 19, 2021.<sup>2</sup> Hydro's Allowance for Unforeseen Items Account balance has been depleted by the expenditures associated with both of these projects. Further details about the projects are contained in the notifications attached to the enclosed application as Schedules 1 and 2.

Hydro's application proposes the continued recording of the variance above the \$1,000,000 Allowance for Unforeseen Items approved in Board Order No. P.U. 17(2021),<sup>3</sup> associated with the expenditures related to the Holyrood TGS Unit 3 boiler tube failures and the Holyrood T2 replacement, in the existing Allowance for Unforeseen Items Account for future application for recovery. Hydro further seeks approval of a supplemental amount of \$1,000,000 to be utilized as a new unforeseen allowance for any additional unforeseen and emergent issue that may arise in 2021 and meet the requirements of the Allowance for Unforeseen Items.

Hydro believes that its proposals will allow Hydro to proceed expeditiously with the emergency capital expenditures related to the replacement of the Holyrood TGS Unit 3 boiler tubes and the Holyrood TGS Unit 2 transformer while allowing for a remaining balance to address any other unforeseen events that may arise.

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<sup>1</sup> "Unit 3 Boiler Tube Failure – Allowance for Unforeseen Items Notification," Newfoundland and Labrador Hydro, October 12, 2021.

<sup>2</sup> "Holyrood Thermal Generating Station Unit 2 Transformer Failure – Allowance for Unforeseen Items Notification," Newfoundland and Labrador Hydro, November 19, 2021.

<sup>3</sup> *Public Utilities Act*, RSNL 1990, c P-47, Board Order P.U. 17(2021), Board of Commissioners of Public Utilities, May 20, 2021.

Ms. C. Blundon  
Public Utilities Board

2

Should you have any questions, please contact the undersigned.

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**



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

Encl.

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

**Newfoundland Power**  
Dominic J. Foley  
Lindsay S.A. Hollett  
Regulatory Email

**Consumer Advocate**  
Dennis M. Browne, Q.C., Browne Fitzgerald Morgan & Avis  
Stephen F. Fitzgerald, Browne Fitzgerald Morgan & Avis  
Sarah G. Fitzgerald, Browne Fitzgerald Morgan & Avis  
Bernice Bailey, Browne Fitzgerald Morgan & Avis  
Bernard M. Coffey, Q.C.

**Industrial Customer Group**  
Paul L. Coxworthy, Stewart McKelvey  
Denis J. Fleming, Cox & Palmer  
Dean A. Porter, Poole Althouse

**Praxair Canada Inc.**  
Sheryl E. Nisenbaum  
Peter Strong

**Teck Resources Limited**  
Shawn Kinsella



# Application for Approval to Replenish the Allowance for Unforeseen Items Account

November 24, 2021



An application to the Board of Commissioners of Public Utilities

**IN THE MATTER OF** the *Electrical Power Control Act, 1994*, RSNL 1994, c E-5.1 (“EPCA”) and the *Public Utilities Act*, RSNL 1990, c P-47 (“Act”), and regulations thereunder

**IN THE MATTER OF** an application by Newfoundland and Labrador Hydro (“Hydro”) pursuant to s 41(3) of the *Act* for the approval of a capital expenditure to supplement the Allowance for Unforeseen Items for the construction and purchase of certain improvements and additions to its property.

**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*, is a public utility within the meaning of the *Act*, and is subject to the provisions of the *EPCA*.
2. Section 41(3) of the *Act* states that a public utility shall not proceed with the construction, purchase or lease of improvements, or additions to its property where:
  - a) The cost of the construction or purchase is in excess of \$50,000; or
  - b) The cost of the lease is in excess of \$5,000 in a year of the lease, without the prior approval of the Board.
3. Hydro incurred expenditures in early 2021 related to an engine failure at the Port Hope Simpson Diesel Generating Station. The expenditures totalled \$108,000 and the final report was filed on March 23, 2021.<sup>1</sup> On May 4, 2021, Hydro applied for approval of an additional amount of \$108,000 to be added to the Allowance for Unforeseen Items Account to restore the balance of

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<sup>1</sup> “Port Hope Simpson Diesel Engine Failure – Allowance for Unforeseen Items Final Report,” Newfoundland and Labrador Hydro, March 23, 2021.

that account to \$1,000,000.<sup>2</sup> The Board approved Hydro's request in Board Order P.U. 17(2021).<sup>3</sup>

4. Hydro provided details of an unforeseen project related to the failure of the boiler tubes of the Holyrood Thermal Generating Station ("Holyrood TGS") Unit 3 in correspondence to the Board on October 12, 2021.<sup>4</sup> That correspondence is attached to this application as Schedule 1. The expenditure for the project was estimated to be \$1.8 million.
5. In correspondence to the Board dated November 19, 2021, Hydro has provided details of an unforeseen, urgent capital project related to the Holyrood TGS Unit 2 transformer ("T2"), which meets the criteria for the Allowance of Unforeseen Items.<sup>5</sup> That correspondence is attached to this application as Schedule 2. T2 tripped on November 12, 2021 and brought Unit 2 offline. Hydro immediately began the testing and preparations necessary to permit safe inspection of the damaged transformer. On November 18, 2021, Hydro determined that T2 could not be repaired on site and in order to restore Unit 2 to operation, a necessity to ensure reliable supply to customers for winter 2021–2022, the critical spare on site must be installed with as little delay as possible. Hydro notified the Board of its need to utilize the Allowance for Unforeseen Items account as soon as that determination was made. Since that time, Hydro has continued the steps necessary to execute the installation of the spare transformer. Although Hydro continues its work to finalize the details and refine the estimate, current information provided to the Board on November 24, 2021 indicates the expenditure related to the installation of the spare transformer, necessary to return Unit 2 to operation, is estimated to be \$1.4 million.<sup>6</sup>
6. In Hydro's most recent Allowance for Unforeseen Expenditures report, filed on November 15, 2021,<sup>7</sup> Hydro has reflected forecast expenditures of \$1,404,864 as at the end of October 2021 related to the Holyrood TGS Unit 3 boiler tube failures. These and future expenditures related to

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<sup>2</sup> "Application for Approval to Replenish the Allowance for Unforeseen Items Account," Newfoundland and Labrador Hydro, May 4, 2021.

<sup>3</sup> *Public Utilities Act*, RSNL 1990, c P-47, Board Order P.U. 17(2021), Board of Commissioners of Public Utilities, May 20, 2021.

<sup>4</sup> "Unit 3 Boiler Tube Failure – Allowance for Unforeseen Items Notification," Newfoundland and Labrador Hydro, October 12, 2021.

<sup>5</sup> "Holyrood Thermal Generating Station Unit 2 Transformer Failure – Allowance for Unforeseen Items Notification," Newfoundland and Labrador Hydro, November 19, 2021.

<sup>6</sup> "Holyrood Thermal Generating Station Unit 2 Transformer Failure – Allowance for Unforeseen Items Notification – Cost and Schedule," Newfoundland and Labrador Hydro, November 24, 2021.

<sup>7</sup> "Allowance for Unforeseen Capital Expenditures Monthly Reporting," Newfoundland and Labrador Hydro, November 15, 2021.

the Holyrood TGS Unit 3 boiler tube failures, along with the expenditures related to the Holyrood TGS T2 replacement, are forecast to exceed the approved 2021 allowance by at least \$2.2 million.

**B. Application**

7. Where expenditures have been made in a year and the account balance has been eroded, the Capital Budget Application Guidelines permit a utility to apply for approval of an additional amount in the Allowance for Unforeseen Items Account provided the utility shows that usage of the account has been consistent with the guidelines.<sup>8</sup>
8. In Board Order No. P.U. 17(2021), the Board approved the replenishment of the balance of the Allowance for Unforeseen Items Account to \$1,000,000. Hydro proposes to record the variance above this amount associated with the expenditures related to the Holyrood TGS Unit 3 boiler tube failures and T2 replacement and to file an application in early 2022 for the inclusion of this variance in rate base.
9. Hydro submits that it is prudent to maintain an appropriate unforeseen allowance to permit Hydro to address any unforeseen events that may arise. Hydro submits that a supplementary allowance of \$1,000,000 would provide Hydro with a balance to address any other unforeseen events that may arise in the remainder of 2021.

**C. Newfoundland and Labrador Hydro's Request**

10. Therefore, Hydro makes application that the Board make an Order as follows:
  - a) Approving the continued recording of the variance above the \$1,000,000 Allowance for Unforeseen Items approved in Board Order No. P.U. 17(2021), associated with the expenditures related to the Holyrood TGS Unit 3 boiler tube failures and Holyrood T2 replacement, in the existing Allowance for Unforeseen Items Account for future application for recovery; and

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<sup>8</sup> "Capital Budget Application Guidelines," Board of Commissioners of Public Utilities, rev. October 2007 (originally issued June 2, 2005), at p. 10 of 11, s B(2).

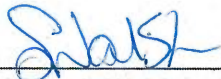
- b) Approving, pursuant to Section 41(3) of the *Act*, a supplemental amount of \$1,000,000 established as a separate unforeseen allowance to be utilized for any unforeseen and urgent capital expenditure necessary for the remainder of 2021.

**D. Communications**

- 11. 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 this 24th day of November, 2021.

**NEWFOUNDLAND AND LABRADOR HYDRO**



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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  
email: shirleywalsh@nlh.nl.ca

## **Schedule 1**

**Unit 3 Boiler Tube Failure**

**Allowance for Unforeseen Items Notification**





Hydro Place, 500 Columbus Drive,  
P.O. Box 12400, St. John's, NL  
Canada A1B 4K7  
t. 709.737.1400 f. 709.737.1800  
www.nlh.nl.ca

October 12, 2021

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

Attention: Ms. Cheryl Blundon  
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

**Re: Unit 3 Boiler Tube Failure  
Allowance for Unforeseen Items Notification**

### **Background**

The Holyrood Thermal Generating Station ("Holyrood TGS") is a thermal generating station providing a capacity of 490 MW on the Island Interconnected System. The Holyrood TGS consists of three thermal generating units; Units 1 and 2, each providing a capacity of 170 MW, and Unit 3, providing a capacity of 150 MW. Each thermal generating unit is supplied with steam generated by a dedicated boiler for each unit. Each boiler contains boiler tubes which carry high pressure steam throughout the boiler.

### **Unit 3 Boiler Tube Failure**

On September 11, 2021, while Newfoundland and Labrador Hydro ("Hydro") was in the process of returning Holyrood Unit 3 to service following a planned maintenance outage, the unit experienced a failure of boiler tube #5 on the unit's east waterwall. To fully understand the scope of the issue and determine steps for refurbishment, a specialized inspection probe had to be manufactured and delivered from the United States. Upon removal of the failed section for metallurgical analysis, it was determined that the mechanism of failure was corrosion fatigue of the boiler tube. Following the failure, Hydro initiated a targeted level 2 condition assessment of waterwall tubes based on the original equipment manufacturer recommendations.

Approximately 60 tube sections, totaling 180 feet of tube, have been removed to allow a specialized probe to be inserted to perform inspections. A specialized boiler tube inspection company has been engaged to complete these inspections. Following inspection of the boiler tubes, each tube removed must be replaced in kind. The number of tubes to be replaced may increase as a result of the findings from the inspection. Unit 3 cannot be returned to service until the refurbishment is complete and this unit is critical to the provision of reliable service for the upcoming winter season.

Hydro anticipates that the remaining inspections and replacement of the boiler tubes will take approximately 6–8 weeks to complete, and is currently targeting mid-November to return Unit 3 to service. This expenditure is estimated to cost \$1,800,000.

Ms. C. Blundon  
Public Utilities Board

2

Should you have any questions, please contact the undersigned.

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**



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

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



## **Schedule 2**

**Holyrood Thermal Generating Station Unit 2**

**Transformer Failure**

**Allowance for Unforeseen Items Notification**



Hydro Place, 500 Columbus Drive,  
P.O. Box 12400, St. John's, NL  
Canada A1B 4K7  
t. 709.737.1400 f. 709.737.1800  
www.nlh.nl.ca

November 19, 2021

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

Attention: Ms. Cheryl Blundon  
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

**Re: Holyrood Thermal Generating Station Unit 2 Transformer Failure  
Allowance for Unforeseen Items Notification**

The Holyrood Thermal Generating Station ("Holyrood TGS") is a thermal generating station providing a capacity of 490 MW on the Island Interconnected System. The Holyrood TGS consists of three thermal generating units; Units 1 and 2, each providing a capacity of 170 MW, and Unit 3, providing a capacity of 150 MW.

On November 12, 2021, Unit 2 transformer ("T2") tripped, bringing Unit 2 offline. During the period November 12–17, 2021 Newfoundland and Labrador Hydro ("Hydro") completed the necessary testing and preparations to permit for safe inspection of the damaged transformer. Internal inspection of T2 by the original equipment manufacturer ("OEM") took place on November 18, 2021. Early results of the inspection indicate evidence of a winding failure which cannot be repaired on site. As such, to restore Unit 2 to operation, Hydro must install the critical spare it keeps in inventory in the event of a transformer failure. Once the spare transformer is commissioned, Holyrood TGS Unit 2 will have a maximum operating capacity of 150 MW.<sup>1</sup> The derating of Unit 2 from 170 MW to 150 MW will remain in effect so long as the spare transformer is installed. This will be the case for at least the winter 2021–2022 operating season.

Due to the criticality of the Holyrood TGS to the reliability of the Island Interconnected System, particularly during the winter months, Hydro must execute this work without delay and must therefore advance the installation and commissioning of the spare transformer using the Allowance for Unforeseen Items Account. If required, any work related to the refurbishment or replacement of the damaged transformer will be proposed in a separate supplemental application.

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<sup>1</sup> The spare transformer has been in inventory since 1989, when Unit 2 had a maximum operating capacity of 150 MW. Hydro does not currently have a spare transformer available which can restore Unit 2 to its current maximum operating capacity of 170 MW.

Ms. C. Blundon  
Public Utilities Board

2

Hydro is working with the OEM to make arrangements to install the spare transformer and commission it for service. At this time, Hydro does not have details regarding estimated costs and schedule. Hydro will provide a further update to the Board of Commissioners of Public Utilities including this information once it becomes available.

Should you have any questions, please contact the undersigned.

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**



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

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



## Affidavit

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

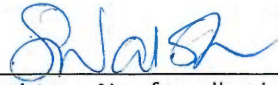
**IN THE MATTER OF** an application by Newfoundland and Labrador Hydro ("*Hydro*") pursuant to s 41(3) of the *Act* for the approval of a capital expenditure to supplement the Allowance for Unforeseen Items for the construction and purchase of certain improvements and additions to its property.

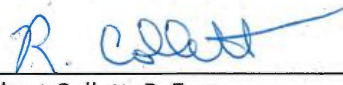
**AFFIDAVIT**

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, Hydro Engineering & NLSO for Newfoundland and Labrador Hydro, the applicant named in the referenced 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 24th day of )  
November 2021 before me: )

  
\_\_\_\_\_  
Barrister – Newfoundland and Labrador

  
\_\_\_\_\_  
Robert Collett, P. Eng.