

July 28, 2020

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: Charlottetown Generator Failure  
Allowance for Unforeseen Items Notification**

### **Background**

Newfoundland and Labrador Hydro ("Hydro") has 24 diesel generating stations, 19 of which are prime power stations<sup>1</sup> serving a total of approximately 4,400 customers. One of these diesel generating stations is located in Charlottetown and serves the communities of Charlottetown and Pinsent's Arm. The Charlottetown Diesel Generating Station ("Charlottetown DGS") was destroyed in a fire on October 7, 2019 and options for replacement are under review by Hydro. The Charlottetown DGS site presently has three mobile diesel generating units ("gensets") serving the community: Unit 2088 (910 kW), Unit 2089 (725 kW), and Unit 2102<sup>2</sup> (910 kW). Isolated diesel generating stations are designed to ensure that firm power<sup>3</sup> can be delivered in the event of failure of the largest generation unit.

### **Charlottetown Unit 2102**

Hydro sourced Unit 2102 as part of its initial response to the Charlottetown fire,<sup>4</sup> and the unit has remained on-site since that time. On July 20, 2020, Unit 2102 was placed online to support maintenance and operating requirements, as well to ensure periodic start-up testing.<sup>5</sup> During that time, Unit 2102 tripped offline causing an outage. Hydro inspected the unit between July 20, 2020 and July 27, 2020 and confirmed that the generator portion of the genset has shorted windings in the rotor.

As a result of this failure, Hydro currently does not have adequate backup at this site as the remaining two gensets are required to be in service to serve the town load, which includes the shrimp plant<sup>6</sup> that is resuming production this week. The remaining two gensets have a combined capacity of 1,635 kW. Peak

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<sup>1</sup> Prime power stations are not interconnected to the grid and rely on the power supplied by the diesel generation units for capacity and energy.

<sup>2</sup> Unit 2102 is on loan from the Lower Churchill Project. It is Hydro's intent to submit an application for approval of the acquisition of this unit.

<sup>3</sup> Firm power is calculated as the summation of the capacity of all units minus the capacity of the largest unit.

<sup>4</sup> The unit was deemed to be a viable option given its availability, low level of operating hours (500 hours prior to relocation), and compatibility with other units in Hydro's fleet.

<sup>5</sup> Unit 2102 has incurred approximately 400 hours of operation since its relocation.

<sup>6</sup> The shrimp plant employs upwards of 100 people and is the economic driver in the area.

load while the shrimp plant is operating is forecast to be 1,544 kW and is not expected to exceed available generation capacity.

### **Unit 2102 Generator Replacement**

With Unit 2102 out of service, failure of a second genset will result in outages for the communities and/or the shrimp plant. Of the two remaining gensets, Unit 2089 has recently undergone a planned overhaul, while Unit 2088 is scheduled for overhaul later this year. To ensure an acceptable level of reliability in this area, a replacement generator is required. Assessment and refurbishment of the existing generator was considered, however due to the greater lead time associated with this alternative and, thus, increased risk to the provision of reliable service to the customers of Charlottetown and Pinsent's Arm, this alternative was deemed unacceptable.

Hydro is undertaking immediate action to purchase a new generator so as to avoid any delay that could have serious negative consequences to the delivery of safe, reliable service in Charlottetown and Pinsent's Arm. To complete this purchase, Hydro will utilize the Allowance of Unforeseen Items Account pursuant to the guidelines for the use of that account. The new generator will be compatible with both Units 2102 and 2088, as well as other units in Hydro's fleet, and is estimated to cost \$88,500. Hydro has sourced a new replacement generator and expects to have it installed by August 7, 2020.

Should you have any questions, please contact the undersigned.

Yours truly,

### **NEWFOUNDLAND AND LABRADOR HYDRO**



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