

1 **Q. (Reference Application, 4.2 Mobile Hydro Plant Refurbishment)**

- 2 **a) Did Newfoundland Power have an outside expert assess the condition of**  
 3 **the plant?**  
 4 **b) Did Newfoundland Power (or any other entity with the necessary**  
 5 **expertise) quantify the risk of deferral of this project?**  
 6 **c) Please provide the resume of the person with overall responsibility for the**  
 7 **plant condition assessment.**  
 8

9 A. a) No, Newfoundland Power did not have an outside expert assess the condition of the  
 10 Mobile Hydro Plant. Newfoundland Power has employees, including Professional  
 11 Engineers, with the expertise necessary to complete condition assessments of its  
 12 small hydro plants. Newfoundland Power typically engages outside expertise when  
 13 the required expertise does not exist within its staff. Examples from recent years  
 14 include expertise in woodstave penstock condition assessment and climbing  
 15 inspections of surge tanks.<sup>1</sup>  
 16

- 17 b) Newfoundland Power provided quantitative information relating to the risk of  
 18 deferring the proposed *Mobile Hydro Plant Refurbishment* project. This included a  
 19 statistical analysis of the lifetime of hydro generators with shellac-based windings  
 20 and the economic cost of an unplanned failure if that were to occur. The analysis  
 21 showed that, based on the plant's age and condition, the probability of equipment  
 22 failure is high. The loss of a year of production from the Mobile Hydro Plant  
 23 resulting from an unplanned failure is approximately \$1.2 million. For more  
 24 information, see *Section 4.0 Risk Assessment* and *Section 5.0 Assessment of*  
 25 *Alternatives* of report *4.2 Mobile Hydro Plant Refurbishment*.  
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27 Newfoundland Power also assessed the risk of deferring the *Mobile Hydro Plant*  
 28 *Refurbishment* project using its risk matrix methodology. The assessment  
 29 determined that deferring the project would pose a high risk to the delivery of least-  
 30 cost service to customers. For more information, see pages 116 and 117 of  
 31 Schedule B to the Application.  
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- 33 c) The plant condition assessment was completed by the Company's Supervisor,  
 34 Generation Maintenance and Manager, Protection and Control Engineering.  
 35

36 The Supervisor, Generation Maintenance was responsible for all aspects of the  
 37 mechanical condition assessment. He is a professional engineer with over 10 years  
 38 of experience in hydro generation and has held the position of Supervisor,  
 39 Generation Maintenance since 2016.  
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41 The Manager, Protection and Control Engineering was responsible for all aspects of  
 42 the electrical, protection and controls condition assessment. He is a professional  
 43 engineer with over 33 years of utility experience and 16 years of experience in hydro  
 44 generation. He has held the position of Manager, Protection and Control  
 45 Engineering since 2017.

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<sup>1</sup> In 2021, the Company engaged Kleinschmidt Associates Canada Inc. to conduct a woodstave penstock condition assessment for Sandy Brook plant. In 2019, the Company engaged Tacten International to conduct a climbing visual inspection of the Rattling Brook surge tank.