

1 Q. In Order No. P.U. 22(2016) the Board stated:

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3 *WHEREAS the Board notes that the long-term strategy for Hardwoods and*  
4 *Stephenville will be addressed as a part of the ongoing Phase II review process and*  
5 *the Board is satisfied that Hydro should, following the completion of the proposed*  
6 *refurbishment at Hardwoods and Stephenville, file a report addressing the cause of*  
7 *the failures and how the causes and any other relevant findings may impact unit*  
8 *reliability in the short term as well longer term considerations.*

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10 Reference: Gas Turbine Failure Analysis - Final Report, January 11, 2017, page 18.

11 Hydro states that *"As a result of the implementation of the actions identified thus*  
12 *far, along with improved operational controls, increased maintenance and*  
13 *inspection, staffing of plants during operation to allow for increased attention while*  
14 *operating, and aggressive investigation of issues, Hydro expects the short term and*  
15 *long term reliability of these units to improve."* Please explain how the  
16 implementations provided in this report will improve reliability in both the short  
17 and long term as required by the Board in Order P.U. 22(2016).  
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20 A. In the short term, the proposed changes in vibration monitoring, alarms, and trips  
21 will allow earlier intervention and also help to prevent secondary damage in the  
22 event of a component failure. Further, improvements in lube oil handling, sampling,  
23 analysis and filtration will help to ensure the health of the bearings and ensure the  
24 longest life possible.

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26 In the longer term, a review of the entire operation, maintenance, and control of  
27 the units will ensure that all required protection is in place for the units and that the

1 settings are in accordance with current industry standards, not just original  
2 equipment manufacturer (OEM) recommendations. Performance Improvements  
3 Ltd. have been engaged to review all aspects of operation and control and will  
4 provide recommendations that will further improve the monitoring, control and  
5 reliability of these units going forward. Hydro is currently consulting with the major  
6 component OEMs and OEM authorized representatives for the equipment in both  
7 Hardwoods and Stephenville to determine the required maintenance, overhaul  
8 scope and interval to ensure the long term reliability of these plants.