

1 Q. Reference: Gas Turbine Failure Analysis - Final Report, January 11, 2017. Describe  
2 the steps being taken to determine why the vibration detection system failed to  
3 activate early enough to prevent damage of the Stephenville gas turbine and  
4 describe any steps being taken to prevent such failures in the future.

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7 A. Hydro has completed a review of the vibration monitoring and control system at  
8 the Stephenville gas turbine. The vibration monitoring system was upgraded in  
9 2014 which implemented changes in alarm and trip settings for gas turbine  
10 vibration. While the correct settings were input to the vibration monitoring portion  
11 of the system, the settings in the gas turbine control system were not updated. This  
12 resulted in the alarm and trip settings remaining as set prior to the upgrade. These  
13 original settings were in accordance with the original package original equipment  
14 manufacturer recommendations. The new alarm and trip settings are now fully  
15 implemented and tested.

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17 A review of the Hardwoods settings was also completed to ensure that the same  
18 situation did not exist, as the vibration monitoring had also been upgraded  
19 previously to a similar system. The Hardwoods alarm and trip settings were found  
20 to be correctly set in both the monitoring and control systems.

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22 A further review of the current monitoring and control systems at all sites is also  
23 being completed, to ensure that the settings applied are in accordance with current  
24 industry practice.