Q. In the report "Rose Blanche Hydro Plant Turbine No. 1 Refurbishment", in Schedule C, Section 1.3, page 2, it is written "*In March 2016, the T1 runner had been subjected to an event where the runner had come in contact with the bottom seal ring. At that time, the T1 unit was operating in air when cooling water was lost to the runner band seal areas due to blockage in the cooling water supply line. This resulted in overheating and expansion of the components.*"

Was there instrumentation in place that should have picked up the reduction in cooling water flow and caused the unit to trip before the seal and runner fused? If so, why did it not trip the unit?

A. No. The original equipment design did not include instrumentation to pick up the reduction in cooling water flow to the seal areas.

The existing cooling water system supplies a large volume of cooling water to the bearing oil heat exchanger and a smaller volume to the seal areas. The system includes a flow switch on the main cooling water supply line, which would detect a significant drop in the total cooling water supply. The original design did not include flow switches dedicated to monitoring the supply of cooling water to the seal areas.

The new cooling water system to be installed as part of this project will include flow switches dedicated to monitoring the supply of cooling water to the seal areas. This should provide adequate protection to prevent future damage to the seal area as a result of the failure or blockage of the cooling water line.