Q. The report *entitled Alba Power Inspection Report to Borescope inspection of Avon 37029 1533 70L, Date: June 10 2008* (Attachment 1 of IC-NLH-12) provides recommendations on page 14 of 14. These recommendations address the need to correct the poor condition of the intake plenum, water ingress and flaking corrosion particles which had been causing salt ingress and corrosion, burner leaking due to the failure of the seals in the fuel control unit, the required repair/overhaul due to coating loss, pitting and corrosion, the replacement of combustion cans which, in their condition at that time, could have caused catastrophic failure, increased overhaul/replacement costs, and been a large safety issue. Why were these issues not addressed immediately?

A. The Holyrood GT was 42 years old, in 2008, at the time of the above noted inspection. Due to the substantial work identified, Hydro became concerned that the unit may be approaching the end of its reliable life. However, in 2009 the following work was undertaken to ensure safe operation:

1. Engine removed, cleaned, combustion cans replaced, thermocouples checked;
2. Fuel control unit replaced;
3. Fuel pump repaired;
4. Power turbine inspected and future repairs planned;
5. Fuel control solenoid valve replaced;
6. Nitrogen probe repairs;
7. Fuel control unit tuning; and
8. Exhaust transition lagging replaced.

For the operating season 2009/2010, an Emergency Response Technician was assigned to the Operations Department for fire watch over the gas turbine for all times that the unit was running. In 2010, the following work was performed:

1. Gearbox piping flanges re-gasketed;
2. Gearbox seals modified;
3. Catchment basin installed;
4. Fuel leaks repaired;
5. Engine breather leaks repaired; and
6. Power turbine insulation replaced.

The unit was classified as "for emergency use only" for the 2010/2011 operating season.

Before investing further significant money required as a result of the recommendations listed in the above report and further work/inspection in 2009, it became apparent that a more comprehensive condition assessment was required to accurately determine the condition of the unit and the cost benefit of further refurbishment versus replacement. Detailed inspections were performed by Original Equipment Manufacturers (OEMs) in 2010.[1]

During the OEM inspections in 2010, it was identified that a significant capital investment would be required to sustain the unit and several projects were added to the five-year capital plan including the following:

[1] These reports are included in the report entitled *AMEC Holyrood Thermal Generating Station Gas Turbine Condition Assessment & Options Study, December 19, 2011*, filed as Attachment 1 to Hydro's response to NP-NLH-022 Rev. 1 ("AMEC Report").

2011
HRD - Overhaul Gas Turbine
HRD - Replace Gas Turbine Exhaust Stack

2012
HRD - Replace Gas Turbine Radiator

2013
HRD - Construct Gas Turbine Equipment Enclosure

2014
HRD - Install Sprinkler System at Gas Turbine
HRD - Replace GT Air Intake Structure
HRD - Refurbish Gas Turbine Building Enclosure

2015
HRD - Refurbish Power Turbine Clutch

As a result of the AMEC Report completed in December 2011, it was recommended to discontinue further investment in the unit in favour of another option.