

1 Q. On page 22 of the *Supply and Install 100 MW (Nominal) of Combustion Turbine*
 2 *Generation* report, Hydro states:
 3 ***“The parameters used in Strategist software, the program used to perform this***
 4 ***analysis, for Thermal Generation (Holyrood) are Derated Adjusted Forced Outage***
 5 ***Rate (DAFOR) and, as a sensitivity, the rate was increased by 2 per cent above the***
 6 ***Base Case assumption of 9.6 per cent to 11.64 per cent. The parameter used for***
 7 ***combustion turbines is the Utilization Forced Outage Rate (UFOP) and this was***
 8 ***increased by 10 per cent above base case of 10.62 per cent to 20.6 per cent.”***

9 What were the actual DAFOR and UFOP values experienced for Hydro’s thermal
 10 generation and combustion turbines in 2013 and 2014 YTD?
 11
 12

13 A. The following table lists the actual DAFOR values for Hydro’s thermal generation in
 14 2013 and 2014 year to date.
 15

DAFOR (%)	2013	2014 YTD*
Thermal Units		
Holyrood 1	75.70	9.52
Holyrood 2	6.44	0.84
Holyrood 3	12.77	11.51
Holyrood Plant	36.58	6.81

*Data to May 31, 2014

16
 17 The DAFOR for Holyrood Unit 1 was higher in 2013 due to a major bearing failure
 18 and fire on January 11, 2013. The improvements in Holyrood Units 1 and 2 are
 19 related to a reduction of the number of forced outages on both units in the first five

months of 2014. Both of these reductions have significantly reduced the overall plant's DAFOR, from 36.58% in 2013 to 6.81% for the first five months of 2014.

The following table lists the actual UFOP values for Hydro's combustion turbines in 2013 and 2014 year to date (up to and including May 31, 2014).

UFOP (%)	2013	2014 YTD*
Combustion Turbine Units (Gas Turbines)		
Stephenville	50.00	7.97
Hardwoods	15.94	13.62
Happy Valley ¹	2.56	0.00
NLH - All CTUs	28.07	11.11

¹ There were no forced outages up to May 31, 2014

The UFOP has significantly improved for Stephenville in 2014. In May 2013, the unit was returned to service following an alternator failure in December 2011.