Q. With reference to pages 7 and 8 of the Holyrood Black Start Analysis, as filed by Hydro with the Board and enclosed with the Board's November 25, 2013 correspondence to the parties, has Hydro further reviewed the Variable Frequency Drives (VFD) option, to determine whether its implementation would reduce the time period over which the diesel units need to be leased and reduce the overall costs (capital and operational) of an interim black start solution until such time as a new combustion turbine is installed at Holyrood (or at another site, as the case may be)?

A. Hydro's preliminary analysis of the Variable Frequency Drives (VFD) option during the development of the Holyrood Blackstart proposal indicated that such a project would not allow Hydro to meet the requirements for blackstart during the 2013-2014 peak load operating season. Additionally, the project would involve infrastructure changes to the Holyrood plant, such as site preparation, civil works, conductor tie in, motor protection setting changes and possible boiler tuning requirements.

Since the filing of the proposal, Hydro is continuing to investigate other options to reduce the inrush current requirements of the boiler feed pump motor to lower the number of required leased diesel units. At this time, the most promising technical alternative is "soft start" technology applied to the primary boiler feed pump motor on each unit. Soft start incorporates some of the technologies present in a VFD, but is limited in function to modulating the motor starting inrush current.