1   Q.   Re: 2013 Capital Projects 200,000 and Over but less than 500,000: Explanations,

2   pages D-78 through D-83 Replace MicroSCADA Computers:

3   Does Hydro have systems in the Legacy Phase currently? If so, how long have these

4   systems been in the Legacy Phase and please outline any maintenance and ongoing

5   issues regarding these systems.

6

7   A.   The system at Granite Canal is the only MicroScada system in service at Hydro

8   facilities. It is an ABB Model SYS500, Version 8.4.4 and it entered the legacy phase in

9   2011.

10

11   In 2010 the MicroScada required a reboot because the system locked up when

12   automatically logged files consumed hard disk space used for normal operation.

13   Maintenance has to be done quarterly to clean up the logged files to prevent it

14   from locking up.

15

16   In 2012 during testing on the turbine which requires the MicroScada for monitoring

17   vibration and flow levels, the MicroScada locked up three times during the five hour

18   test period which caused delays in the testing.

19

20   A delay of up to two minutes has occurred on the MicroScada system in receiving

21   status feedback from field devices. The system has to be rebooted to return to

22   normal operation.

23

24   During the scheduled outage in 2012, data logic files could not be extracted from

25   the MicroScada system using external memory devices (USB), requiring a site visit

26   to copy the required files.