

1 Q. Given the change in the in-service date for Muskrat Falls, has Hydro reviewed its 5
2 year Capital Plan for the Holyrood Generating Station? If no, please explain why. If
3 yes, please advise of changes in Hydro's planning requirements.

4

5

6 A. Hydro has reviewed the 5 year Capital Plan for the Holyrood Thermal Generating
7 Station (Holyrood) with consideration of the change in the in-service date for
8 Muskrat Falls. This is an ongoing exercise, balancing forecast demands with the
9 required investment that enables reliable operation over the pending period, and
10 allowing Hydro to be adequately prepared to deal with other unexpected changes
11 and risks. There have been changes to the plan as a result of the change of the in-
12 service date for Muskrat Falls.

13

14 There are several major assets at Holyrood that Hydro is monitoring for the need
15 for capital upgrades, considering reliable operation is required to 2021. Such assets
16 include fuel storage tanks, boiler stacks, and the Unit 1 and Unit 2 generators. As an
17 example, Hydro is working to ensure the required life of at least three of the
18 storage tanks to 2021 without a requirement for an internal inspection, which,
19 including cleaning costs and confined space work requirements, is expected to cost
20 in excess of \$600,000 per tank. If this approach is not successful, then significant
21 capital investment will be required to complete the internal inspections to keep the
22 tanks in service.

23

24 To assist Hydro in managing the plant needs based on current schedule, as part of
25 the 2017 Condition Assessment and Miscellaneous Upgrades Project for the
26 Holyrood Thermal Generating Station, AMEC Foster Wheeler (AMEC) will complete
27 a refresh of their 2010 Level 1 Condition Assessment of Holyrood, *Holyrood*

1 *Condition Assessment and Life Extension Study*. The context of the 2010 study was
2 integration of Muskrat Falls in 2015, with Holyrood entering standby operation in
3 2015 out to 2020, with electricity generation as required during this period.
4 Synchronous Condensing operation would begin in 2015 for all three units and
5 continue until 2041. This condition assessment has been utilized extensively in
6 planning capital projects since 2010, and Hydro has adjusted the plan based on the
7 change in schedule. With the 2017 refresh, AMEC will consider the impact of
8 operating in full generation mode until 2021 and synchronous condensing
9 operation of Unit 3 only out to 2041 and consider the changes in planning that
10 Hydro has already undertaken. AMEC will focus on assets such as the boilers and
11 critical auxiliary equipment, turbine and generator and critical auxiliary equipment,
12 critical plant electrical and control system components, and the high priority
13 balance of plant equipment, which they identified in the 2010 study. The refreshed
14 study will assist Hydro with adjusting the capital plan, if required, as integration of
15 Muskrat Falls approaches.

16
17 Other recent changes in the capital plan as a result of the extended Muskrat Falls
18 in-service date include deferral of several projects to better fit the changing
19 schedule. For example, the project to install a plant heating system that would be
20 required at the end of generation has been postponed until 2018/2019. A project to
21 upgrade the stage 1 4160 volt breakers has been postponed from 2019 to 2020 and
22 may be further deferred until end of generation. A project to upgrade the lube oil
23 and seal oil systems for the Unit 3 generator in synchronous condenser mode has
24 been deferred from 2018 to 2020/2021. These projects can be deferred because
25 they are required as a result of the transition of operation from generation to
26 synchronous condensing operation and are not driven by current reliability

1 concerns. Hydro will re-evaluate and adjust these deferrals if reliability becomes a
2 concern as a result.

3

4 The current schedule for Muskrat Falls in-service has also resulted in the addition of
5 projects to the capital plan. For example, Holyrood has been following original
6 equipment manufacturer recommended intervals for the capital overhaul of major
7 equipment such as the turbine/generator and major pumps, to ensure reliable
8 operation. Overhaul projects for turbine valves, generators, and major pumps have
9 been added to the 5 year capital plan for 2018, 2019, and 2020. There have also
10 been ongoing condition inspections and assessments in light of the new context
11 that have led to supplemental capital proposals for the Unit 1 and Unit 2 exciter
12 control replacement this year, as well as general reliability improvements.