

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.

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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.

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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.

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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.

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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.

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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.