

1 Q. **Reference: 2018 Cost of Service Methodology Review Report, page 12, lines 5-7**

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3 Hydro proposes that Holyrood asset costs be functionalized as generation and classified  
4 using a forecast capacity factor. The Brattle Group in its report, page 38, lines 12-20,  
5 proposes that operating and incremental capital costs for Holyrood Unit 3 be classified as  
6 energy while original capital costs and depreciation be classified as demand. Explain in  
7 detail whether (i) Hydro and (ii) CA Energy agree with Brattle’s recommendation in this  
8 regard.

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11 A. **(i) Newfoundland and Labrador Hydro’s Response:**

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13 Newfoundland and Labrador Hydro (“Hydro”) does not agree with The Brattle Group,  
14 Inc.’s recommendation with respect to the functionalization of Holyrood Thermal  
15 Generation Station (“Holyrood”) Unit 3 following permanent conversion to  
16 synchronous condenser.

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18 Holyrood Unit 3 Synchronous Condenser will not have a prime mover attached to the  
19 shaft, and therefore will be unable to generate energy. A synchronous condenser is a  
20 synchronous machine that operates in motor mode as opposed to generator mode. In  
21 fact, due to its auxiliaries and friction and windage losses associated with rotating  
22 generators and motors, a synchronous condenser will consume power and energy from  
23 the transmission system (i.e., typically on the order of 0.5 MW to 1.0 MW). The  
24 synchronous condenser is only able to generate or absorb reactive power to/from the  
25 transmission system.

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27 As the synchronous condenser provides voltage control and support to the main  
28 transmission system and given that there is no energy production associated with the  
29 device, Hydro maintains that all costs associated with Holyrood Unit 3, be  
30 functionalized as common transmission and classified as 100% demand.

1           **(ii) Christensen Associates Energy Consulting's Response:**

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3           CA Energy Consulting disagrees with Brattle's recommendation regarding the cost

4           treatment of Holyrood 3 and supports Hydro's recommendation regarding the

5           transitional treatment of Holyrood costs. Hydro's recommendation appears on page 12

6           at lines 1-7 of their report. While Holyrood's role is in transition and it is still engaged in

7           power supply, Hydro recommends simply that its treatment in COS continue in the

8           same manner as currently, except that the forecast capacity factor calculation be

9           prepared on a forecast rather than historical basis, presumably to reflect its changing

10          role. In contrast, Brattle's recommendation, in their report at page 20, lines 10-18,

11          focuses on the Holyrood 3 unit, which will serve as a synchronous condenser. Brattle

12          recommends functionalization as transmission, a view identical to that of Hydro, as

13          expressed in their report on page 8, lines 15-16. Our report, at page 30, lines 21-28

14          supports this view and further states that if Holyrood continues in its generation role

15          for some time, then it should be functionalized as generation as long as it plays that

16          role.