

1 Q. (Summary Report – Additional Cost of Service Information, page 7, Table 5) Please  
2 provide the calculation used to derive the estimates included in Table 5 for  
3 Recapture Energy.

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6 A. The estimates are not a result of a simple calculation that can be provided; rather,  
7 the estimates are the output of a modelling exercise Hydro undertakes for its  
8 production planning process. To provide clarity on how the estimates were  
9 determined, the following high level description of the production planning process  
10 was prepared to describe the generation calculations in the Expected Supply  
11 Scenario:

- 12 1. Customer requirements were developed based on Hydro’s operating load  
13 forecast.
- 14 2. Customer requirements were modeled in Vista to determine system losses and  
15 average hydrology.
- 16 3. Results from Vista model were incorporated into Hydro’s production planning  
17 tool.
- 18 4. Holyrood units were dispatched for system reliability requirements to  
19 determine the number of Holyrood units required to be online.
- 20 5. Holyrood units required online for reliability were dispatched at the minimum  
21 unit loading of 70 MW.
- 22 6. Standby requirements were calculated based on the number of Holyrood units  
23 online and the availability of 110 MW firm capacity from Recapture Energy.
- 24 7. Once standby generation was determined, Recapture Energy was dispatched to  
25 the extent that it was available in excess of Labrador energy requirements. The  
26 amount of Recapture Energy used formed the basis of the quantities used in NP-

1 NLH-115 and PUB-NLH-110 (388 GWh in the 2018 Test Year, 919 GWh in the  
2 2019 Test Year).

3 8. Maritime Link (ML) imports were then forecast, to provide economy energy up  
4 to 5% of the total monthly energy requirement forecast for import in months  
5 where additional energy was required to balance system requirements.

6 9. Holyrood average unit loading was then increased to meet system energy  
7 requirements in months where system requirements had not been fully met  
8 following the dispatch of hydraulic production, Island Power purchases, and ML  
9 and the Labrador-Island Link (LIL) purchases, and standby production. This  
10 resulted in net Holyrood generation.

11 10. Net average unit loading from step 9 and the calculated fuel consumption rate<sup>1</sup>  
12 result in the net fuel conversion factor. As increasing quantities of Recapture  
13 Energy and ML purchases were used to meet system requirements, average unit  
14 loading in the Expected Supply Scenario decreased in comparison to Hydro's  
15 filed conversion factor. This resulted in fuel conversion factor of 602 kWh per  
16 barrel in the 2018 Test Year and 583 kWh per barrel in the 2019 Test Year,  
17 compared to the filed conversion factor of 616 kWh per barrel in both the 2018  
18 and 2019 Test Year.

19 11. Gross Holyrood generation<sup>2</sup> and standby generation requirements are used to  
20 produce fuel forecasts.

21 The results of step 6 determined the estimates of Recapture Energy provided in Table  
22 5 of Hydro's Additional Cost of Service Information.

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<sup>1</sup> The fuel consumption rate results from regression analysis of gross average unit loading and heat content.

<sup>2</sup> Calculated using station service factor.

- 1 The results of step 7 determined estimates of Maritime Link purchases provided in
- 2 Table 5 of Hydro's Additional Cost of Service Information.