

1 Q. **Reference: Hydro’s Recovery of the 2015 and 2016 Balances Application,**
2 **response to Request for Information NP-NLH-030,**
3 **Table 5, October 15, 2016.**
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5 The Holyrood GT was operated from 8:00 AM through 4:00 PM on this date. Prior
6 to starting the Holyrood GT the Island Spinning Reserve was approximately 310
7 MW, or 140 MW above the target of 170 MW. On-Line Avalon reserves were also
8 in excess of 300 MW for much of the day. In the comments for Table 5, Hydro
9 states “The Holyrood GT was operated for Island spinning reserve considerations
10 during a planned outage to Holyrood Unit 2...” Later in the afternoon, Holyrood
11 Unit 2 was returned to service and eventually loaded to approximately 70 MW,
12 similar to Holyrood Unit 3. With such healthy reserves on the system, and Holyrood
13 Unit 3 only operating at approximately 70 MW, why was it necessary to operate the
14 Holyrood GT on this day?
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17 A. On the date in question the Holyrood GT was required to support Island Spinning
18 Reserve, as noted in Hydro’s response to NP-NLH-030 (Table 5, October 15, 2016).
19 At that time, Holyrood Unit 1 was offline, Holyrood Unit 2 was being returned to
20 service in the evening and Holyrood Unit 3 was online but derated to 135 MW. Bay
21 d’Espoir Unit 7 was the largest online generating unit.
22

23 In Table 5 of Hydro’s response, it can be noted that during the peak period in
24 question, load grew significantly over the day when the Holyrood GT was being
25 dispatched. Island load increased from 709 MW in the hour preceding the dispatch
26 of the Holyrood GT to 787 MW in the hour the GT was dispatched and established
27 and continued to grow to a peak of 937 MW. The reader can note that in the first

1 hour of the Holyrood GT dispatch, even though an additional 123.5 MW had been
2 placed online, Island Spinning Reserve only increased by 44.5 MW. At the low point
3 of spinning reserves during the day (215.3 MW at 12 noon), if the Holyrood GT, with
4 a capacity of 123.5 MW was not on-line, spinning reserves would have been only
5 91.8 MW (215.3 less 123.5). This is well below what would have been required to
6 cover the loss of the largest generating unit (Bay d’Espoir Unit 7 at 154.4 MW). As
7 such, Hydro cannot agree with the statement made in the question that there were
8 *“healthy reserves on the system”*.
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10 Further, as explained in Hydro’s response to NP-NLH-311, actual unit loading is
11 irrelevant to the spinning reserve target. Using the 12 noon real time data in Table 5
12 to illustrate, Hydro was operating with approximately 215 MW of island spinning
13 reserve. Had the Holyrood GT not been dispatched, Hydro would have been
14 operating with approximately 92 MW of island spinning reserve (215 MW less 123.5
15 MW). During this time Holyrood Unit 3 was producing approximately 70 MW and
16 contributing 65 MW to this spinning reserve. Had Holyrood Unit 3 tripped at that
17 time, (1) the 65 MW of spinning contribution from that unit would have been
18 removed and (2) the 70 MW of production would have been required to shift to the
19 other online units, for a total spinning reserve impact of 135 MW. However if the
20 Holyrood GT was not online there would have been a reserves deficit, and 43 MW
21 of customers would have been interrupted until another source was placed online
22 (the balance of the 135 MW unit capacity less the 92 MW of spinning reserve).
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24 Once Holyrood Unit 2 was returned to service and available at 70 MW, the
25 Holyrood GT was shutdown.

1 For ease of interpretation, Table 5 has been reproduced here.

Table 5 - October 15, 2016										
Time	HRD G1 (MW)	HRD G2 (MW)	HRD G3 (MW)	HRD GT (MW)	Island Reserve			Avalon		
					Spinning (MW)	Island Load (MW)	Island Reserve (% of Peak)	Reserve On- Line (MW)	Avalon Load (MW)	Avalon Reserve (% of Peak)
12:00 AM	-	-	69.3	0.0	329.1	671.8	33%	311.2	294.5	62%
1:00 AM	-	-	69.8	0.0	373.4	632.9	38%	339.4	275.2	67%
2:00 AM	-	-	68.7	0.0	402.1	615.2	40%	362.1	260.9	72%
3:00 AM	-	-	69.8	0.0	405.6	610.5	41%	364.0	257.4	72%
4:00 AM	-	-	70.3	0.0	402.7	614.1	40%	363.1	258.5	72%
5:00 AM	-	-	69.3	0.0	387.6	628.8	39%	356.5	265.9	71%
6:00 AM	-	-	70.3	0.0	356.4	661.2	36%	345.5	283.3	68%
7:00 AM	-	-	70.3	0.0	309.9	708.6	31%	314.6	310.9	62%
8:00 AM	-	-	69.8	40.4	354.4	786.7	36%	388.4	354.3	77%
9:00 AM	-	-	69.8	40.3	274.4	865.5	28%	338.8	398.5	67%
10:00 AM	-	-	69.8	41.0	228.2	914.2	23%	319.8	428.0	63%
11:00 AM	-	-	69.8	39.5	219.8	930.7	22%	310.3	446.3	61%
12:00 PM	-	-	69.8	40.7	215.3	937.0	22%	302.2	454.1	60%
1:00 PM	-	-	69.3	38.8	229.2	919.3	23%	308.2	452.7	61%
2:00 PM	-	-	69.3	39.9	250.9	896.7	25%	312.6	447.9	62%
3:00 PM	-	31.8	69.8	39.7	428.8	881.0	43%	475.3	443.0	94%
4:00 PM	-	43.1	69.8	39.8	429.6	889.1	43%	466.7	450.8	92%
5:00 PM	-	70.6	69.8	0.0	332.3	927.5	33%	321.3	476.1	64%
6:00 PM	-	70.6	69.8	0.0	293.9	953.3	30%	299.6	491.6	59%
7:00 PM	-	71.1	70.9	0.0	242.1	994.5	24%	268.9	504.6	53%
8:00 PM	-	70.6	70.3	0.0	257.3	983.8	26%	282.0	493.4	56%
9:00 PM	-	70.6	70.3	0.0	277.1	967.5	28%	293.9	479.8	58%
10:00 PM	-	70.6	70.3	0.0	311.3	928.9	31%	319.9	454.9	63%
11:00 PM	-	70.6	69.8	0.0	354.7	877.9	36%	344.1	429.6	68%

Comments: The Holyrood GT was operated for Island spinning reserve considerations during a planned outage to Holyrood Unit 2 for required maintenance. In addition, Bay d'Espoir Units 1 and 2 were out of service since September 14 due to issues with the common penstock. The HRD GT was operated through the morning peak hours on October 15 and shut during the afternoon when the Holyrood thermal unit was returned to service.