

1 Q. **Reference: Hydro’s Recovery of the 2015 and 2016 Balances Application,**
2 **response to Request for Information NP-NLH-030,**
3 **Table 6, October 18, 2016.**
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5 The Holyrood GT was operated from 5:00 PM through 10:00 PM on this date. Prior
6 to starting the Holyrood GT the Island Spinning Reserve was approximately 220
7 MW, or 50 MW above the target of 170 MW. On-Line Avalon reserves were also in
8 excess of 340 MW for the period in which the Holyrood GT operated. Also through
9 this same period, Holyrood Units 2 and 3 operated at approximately 80 MW. In the
10 comments for Table 6, Hydro states *“The Holyrood GT was operated during the*
11 *evening peak period for Island spinning reserve considerations.”* Why was it not
12 possible to adjust the loads on Holyrood Units 2 and 3 to make operating the
13 Holyrood GT unnecessary?
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16 A. On the date in question the Holyrood GT was required to support Island Spinning
17 Reserve, as noted in Hydro’s response to NP-NLH-030 (Table 6, October 18, 2016).
18 At that time Holyrood Unit 1 was offline, Holyrood Unit 2 was online and available
19 to 170 MW, and Holyrood Unit 3 was online and available to 135 MW. Holyrood
20 Unit 2 was the largest generating unit online.
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22 In Table 6 of Hydro’s response, it can be noted that at the low point of spinning
23 reserves during the period when the Holyrood GT was dispatched (251 MW at 9:00
24 PM), if the Holyrood GT, with a capacity of 123.5 MW, was not on-line spinning
25 reserves would have been only 127.5 MW (251.0 less 123.5). This is well below
26 what would have been required to cover the loss of the largest generating unit
27 (Holyrood Unit 2 at 170 MW).

1 Further, as explained in Hydro’s response to NP-NLH-311, actual unit loading is
2 irrelevant to the spinning reserve target, hence the reason adjusting load on any of
3 Hydro’s units, not merely Units 2 and 3 at Holyrood, does not mitigate or remove
4 the requirement to operate the assets, as required, to meet spinning reserve
5 requirements. Using the 9:00 PM real time data in Table 6 to illustrate, Hydro was
6 operating with approximately 251 MW of spinning reserve. Had the Holyrood GT
7 not been dispatched, Hydro would have been operating with approximately 128
8 MW of spinning reserve (251 MW less 123.5 MW). During this time Holyrood Units
9 2 and 3 were each producing approximately 80 MW and contributing 90 MW and
10 55 MW to the spinning reserve, respectively. Had Holyrood Unit 2, for example,
11 tripped at that time, (1) the 90 MW of spinning contribution from that unit would
12 have been removed and (2) the 80 MW of production would have been required to
13 shift to the other online units for a total spinning reserve impact of 170 MW.
14 However, if the Holyrood GT was not online there would have been a reserves
15 deficit, and 42 MW of customers would have been interrupted until another source
16 was placed online (the balance of the 170 MW unit capacity less the 128 MW of
17 spinning reserve). The Holyrood GT was shutdown at 10:00 PM following the
18 evening peak.

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20 For ease of interpretation, Table 6 has been reproduced here.

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	-	70.2	70.3	0.0	295.5	729.8	28%	437.3	338.0	82%
1:00 AM	-	70.2	70.3	0.0	423.1	680.5	40%	457.1	314.3	86%
2:00 AM	-	69.2	69.3	0.0	363.6	668.5	34%	471.8	303.2	88%
3:00 AM	-	69.2	71.4	0.0	363.6	666.7	34%	476.6	305.3	89%
4:00 AM	-	69.7	69.8	0.0	362.3	669.5	34%	474.1	306.6	89%
5:00 AM	-	69.2	69.3	0.0	344.0	680.4	32%	458.2	313.1	86%
6:00 AM	-	69.7	69.8	0.0	369.3	738.4	35%	431.7	346.1	81%
7:00 AM	-	69.2	69.8	0.0	327.2	859.9	31%	357.2	417.8	67%
8:00 AM	-	69.2	70.3	0.0	234.8	952.2	22%	311.5	459.1	58%
9:00 AM	-	69.7	70.9	0.0	214.9	972.8	20%	308.2	464.4	58%
10:00 AM	-	69.7	70.9	0.0	209.2	976.3	20%	313.6	468.7	59%
11:00 AM	-	69.7	70.3	0.0	222.9	974.5	21%	313.9	465.7	59%
12:00 PM	-	152.0	70.3	0.0	204.2	973.6	19%	283.2	468.9	53%
1:00 PM	-	170.7	70.3	0.0	240.4	932.2	23%	292.0	462.8	55%
2:00 PM	-	146.4	70.3	0.0	274.5	919.5	26%	314.0	464.7	59%
3:00 PM	-	126.7	69.8	0.0	269.4	929.4	25%	301.3	471.4	56%
4:00 PM	-	81.8	69.3	0.0	220.3	976.1	21%	288.2	488.8	54%
5:00 PM	-	80.4	80.4	40.3	288.7	1,026.5	27%	367.9	521.8	69%
6:00 PM	-	80.4	81.0	39.8	277.2	1,035.9	26%	357.5	533.4	67%
7:00 PM	-	81.4	81.5	40.8	252.9	1,059.1	24%	360.2	534.1	67%
8:00 PM	-	81.4	81.0	39.9	257.7	1,033.9	24%	343.5	526.9	64%
9:00 PM	-	80.9	81.5	40.3	251.0	1,030.0	24%	350.5	514.7	66%
10:00 PM	-	81.4	81.5	39.6	302.3	979.6	29%	380.1	485.1	71%
11:00 PM	-	70.6	69.8	0.0	259.5	896.3	25%	314.4	434.2	59%

Comments:

The Holyhood GT was operated during the evening peak period for Island spinning reserve considerations. Bay d'Espoir Units 1 and 2 were out of service since September 14 due to issues with the common penstock and several other units were off for planned annual maintenance.