

1 Q. **Load Forecast, Generation, and Purchases**

2 Volume I, page 3.20. Regarding the Vista model, please provide details of the  
3 hydraulic production forecast, including all data points in table format and show  
4 how 4,601 GW.h and 4,606 GW.h forecasts were determined using those data  
5 points.

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8 A. The hydraulic production forecasts for the 2018 and 2019 Test Years are 4,601 GWh  
9 and 4,606 GWh, respectively. These values are the average total generation from  
10 Hydro's generating stations based on 66 years of hydrology simulated by Hydro's  
11 Vista DSS model with some adjustments.

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13 Table 1 provides the average monthly generation by plant for 2018 and 2019 from  
14 the Vista model.

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**Table 1 – Monthly GWh Generation**

Year	Granite	Upper Salmon	BDE	Cat Arm	Hinds Lake	Paradise River	Total
1/31/2018	28	63	356	85	51	3	587
2/28/2018	25	56	319	77	45	3	525
3/31/2018	25	60	312	76	43	4	520
4/30/2018	23	50	167	57	20	5	321
5/31/2018	26	41	146	68	27	3	311
6/30/2018	22	26	138	66	29	2	283
7/31/2018	19	26	137	60	26	1	270
8/31/2018	9	19	165	57	17	1	268
9/30/2018	12	45	142	49	6	2	255
10/31/2018	21	61	238	26	31	3	380
11/30/2018	24	60	281	67	15	4	452
12/31/2018	25	63	319	79	48	4	538
<b>Total 2018</b>	<b>259</b>	<b>570</b>	<b>2720</b>	<b>767</b>	<b>358</b>	<b>35</b>	<b>4710</b>
1/31/2019	27	63	352	85	48	3	579
2/28/2019	24	56	335	78	45	3	541
3/31/2019	24	60	309	73	38	4	508
4/30/2019	26	55	242	64	34	5	425
5/31/2019	27	45	154	75	40	3	344
6/30/2019	24	28	143	73	34	2	304
7/31/2019	23	23	146	75	39	1	307
8/31/2019	9	9	149	68	23	1	260
9/30/2019	9	37	101	19	0	2	168
10/31/2019	16	59	174	19	13	3	285
11/30/2019	20	59	255	60	9	4	407
12/31/2019	20	61	270	60	32	4	447
<b>Total 2019</b>	<b>249</b>	<b>555</b>	<b>2630</b>	<b>749</b>	<b>355</b>	<b>35</b>	<b>4575</b>

1           An adjustment to the annual generation values is made, by reservoir, to account for  
 2           the simulated change in storage volume in the reservoirs. If the reservoirs end at a  
 3           lower volume than they start, energy has been drawn from storage and the  
 4           generation overestimates the long term average capability. Similarly, if the  
 5           reservoirs end at a higher volume than they started, energy remains in storage and

1 the annual energy would be underestimated. The energy equivalent of the change  
 2 in storage is added to the generation as shown in Table 2.

**Table 2 – End of Period Volume, GWh**

	<b>Victoria</b>	<b>Meelpaeg</b>	<b>Long Pond</b>	<b>Cat Arm</b>	<b>Hinds Lake</b>	<b>Total</b>	<b>Increment</b>
12/31/2017	455	833	416	346	138	<b>2188</b>	
12/31/2018	373	775	409	325	130	<b>2012</b>	<b>-177</b>
12/31/2019	348	745	422	321	127	<b>1963</b>	<b>-49</b>

3 Other adjustments are made to the values from Vista to align production values  
 4 with long-term hydraulic average production as shown in Table 3.

**Table 3 – Final Values GWh**

	<b>2018</b>	<b>2019</b>
<b>Average Generation from Vista</b>	4,710	4,575
<b>Storage Adjustment</b>	-177	-49
<b>Adjustment for Long Term Hydraulic Average</b>	68	80
<b>Hydraulic Production Forecast</b>	4,601	4,606