

1 Q. With reference to pg. 23, Table 5 of Exhibit 106, please provide a CPW sensitivity  
2 analysis with standby combustion turbines being added to the Island  
3 Interconnected scenario (without Maritime Link) assuming a bipole outage such  
4 that the unsupplied energy for the worst two week window is approximately  
5 equivalent to that of the Isolated Island scenario with a TL202/206 outage. The  
6 analysis should cover the years 2017 to 2037, be presented in a format similar to  
7 Table 5 and include the comparative results of the CPW calculations.

8

9

10 A. The table below summarizes the results of the requested analysis. In total the  
11 addition of the equivalent of eleven 50 MW combustion turbines<sup>1</sup> would need to be  
12 advanced in the Interconnected Island scenario to make the level of unsupplied  
13 energy comparable to the Isolated Island case. The expansion would include:

14

- 15 • 5 x 50 MW CT's by 2022
- 16 • 3 x 50 MW CT's by 2027
- 17 • 3 x 50 MW CT's by 2032

18

19 The CPW for the Island Interconnected scenario with the advanced installation of  
20 combustion turbines would increase to \$ 7,016 million (2010\$) from \$ 6,652 million  
21 (2010\$), an increase of \$364 million (2010\$).

---

<sup>1</sup> The advancement results in CTs displacing CCCTs in the generation expansion plan.

1

Level of Exposure and Unsupplied Energy								
Year	Load Forecast		Island Standby Generation MW	Level of Exposure Load Exceeds Generation		Availability %	Unsupplied Energy Worst 2 wk Window	
	MW	GWh		Annual Hours	Annual %		MWh	% of Annual
Isolated Island – TL202/206 Outage								
2012	1571	7850	635.1	4318	49.29	98.02	79,969	1.02
2017	1704	8666	965.2 <sup>1</sup>	865	9.87	99.605	13,435	0.16
2021	1757	8967	965.2	1206	13.67	99.449	19,838	0.22
2022	1776	9065	1085.2 <sup>2</sup>	200	2.28	99.909	2,622	0.029
2027	1856	9464	1185.2 <sup>3</sup>	50	0.57	99.977	553	0.006
2032	1934	9860	1235.2 <sup>4</sup>	0	0	100.0	0	0
2037	2006	10228	1277.7 <sup>5</sup>	58	0.66	99.974	649	0.006
Island Interconnected – Bipole Outage With Additional CT's								
2017	1704	8666	1468.5	637	7.27	99.85	14,384	0.16
2022	1776	9065	1668.5 <sup>6,7</sup>	83	0.94	99.981	1,278	0.014
2027	1856	9464	1768.5 <sup>8,9</sup>	48	0.54	99.989	820	0.008
2032	1934	9860	1918.5 <sup>10</sup>	4	0.04	99.999	38	0.0004
2037	2006	10228	1918.5	42	0.48	99.990	765	0.075
Notes								
1: 230 kV transmission line Bay d’Espoir to Western Avalon is built prior to 2017 increasing transfer to east coast for loss of TL202 and TL206.								
2: 170 MW CCCT in 2022 at Holyrood								
3: 50 MW CT in 2024 and 50 MW CT in 2027 both assumed on Avalon Peninsula								
4: 50 MW CT in 2030								
5: Holyrood units replaced with 170 MW CCCT (1&2 in 2033 + 3 in 2036)								
6: Hardwoods 50 MW CT retired in 2022								
7: 5 x 50 MW CT in 2022								
8: Stephenville 50 MW CT retired in 2024								
9: 3 x 50 MW CT in 2027								
10: 3 x 50 MW CT in 2032								

2