

1 Q. Further to Exhibit 43, Load Sensitivity with an Annual Load Decrease of 880 GWh  
 2 starting in 2013, please provide a table similar to pgs. 1 and 2 of Exhibit 14 showing  
 3 the 2010 PLF Strategist Generation Expansion Plans for this sensitivity.

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6 A. The table below provides the Strategist generation plans and CPWs for the  
 7 expansion analysis with an annual decrease in load of 880 GWh and 140 MW  
 8 starting in 2013 and applied to both the Isolated Island and Interconnected Island  
 9 alternatives. As in Exhibit 43, the load decrease does not change the annual power  
 10 purchase payments for energy over the infeed. Any benefits derived through sales  
 11 of excess energy have not been factored into the result.

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13 The CPW preference for the Interconnected Island alternative over the Isolated  
 14 Island alternative is \$545 million (\$2010) in this load sensitivity, compared to a CPW  
 15 preference for the Interconnected Island alternative in the reference analysis of  
 16 \$2,158 million (\$2010). The CPW preference for the Interconnected Island  
 17 alternative would be improved if the value of excess energy were included in the  
 18 analysis.

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<b>2010 PLF Strategist Generation Expansion Plans</b>		
<b>Annual Load Decrease of 880 GWh starting in 2013</b>		
	<b>Isolated Island</b>	<b>Island Interconnected</b>
	<b>PLF 2010</b>	<b>PLF 2010</b>
2010		
2011		
2012		
2013		
2014		
2015	Holyrood ESP & Scrubbers	

<b>2010 PLF Strategist Generation Expansion Plans</b>		
<b>Annual Load Decrease of 880 GWh starting in 2013</b>		
2016	Holyrood Upgrade	
2017	Holyrood Low No <sub>x</sub> Burners	Holyrood Units 1 & 2 Sync Condensers 900 MW Labrador Interconnection
2018		
2019	Holyrood Upgrade	
2020		
2021		
2022	36 MW Island Pond	
2023	25 MW Wind 23 MW Portland Creek 18 MW Round Pond	
2024	50 MW CT Holyrood Upgrade	
2025		
2026	50 MW CT	
2027		
2028	Replace 2 Existing Wind Farms (~54 MW)	
2029	Holyrood Upgrade	
2030	50 MW CT	
2031		
2032		
2033	Holyrood Replacement ( 2 units) 170 MW CCCT 170 MW CCCT	
2034		
2035		
2036	Holyrood Replacement ( 3rd unit) 170 MW CCCT	
2037		
2038		
2039		
2040	50 MW CT	
2041		
2042		
2043	Replace 2014 Wind Farm (~25 MW)	50 MW CT
2044		
2045	50 MW CT	
2046		50 MW CT
2047	170 MW CCCT	
2048	Replace 2 Existing Wind Farms (~54 MW)	

<b>2010 PLF Strategist Generation Expansion Plans</b> <b>Annual Load Decrease of 880 GWh starting in 2013</b>		
2049		
2050		50 MW CT
2051		
2052	50 MW CT	
2053		
2054		
2055	50 MW CT	50 MW CT
2056		
2057		
2058	50 MW CT	
2059		50 MW CT
2060		
2061		
2062		
2063	50 MW CT 170 MW CCCT 170 MW CCCT Replace 2014 Wind Farm (~25 MW)	50 MW CT
2064		
2065	50 MW CT	
2066	170 MW CCCT	
2067	50 MW CT	
CPW 2010\$ millions	\$6,684	\$6,139

1 Q. Further to PUB-Nalcor-51, if the requirement for electrostatic precipitators,  
2 scrubbers and NO<sub>x</sub> burners was eliminated, and there was an annual load decrease  
3 of 880 GWh in 2013, what would be the CPW for the Isolated Island and the  
4 Labrador Interconnection and the difference in CPW of the two options?

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7 A. Further to PUB-Nalcor-51, if the requirement for electrostatic precipitators,  
8 scrubbers and low NO<sub>x</sub> burners was eliminated, and there was an annual load  
9 decrease of 880 GWh in 2013, the CPW for the Isolated Island alternative would be  
10 \$6,278 million (\$2010) and the CPW for the Interconnected Island alternative would  
11 be \$6,139 million (\$2010). The CPW preference for the Interconnected Island  
12 alternative over the Isolated Island alternative is \$139 million (\$2010) in this load  
13 sensitivity, compared to a CPW preference for the Interconnected Island alternative  
14 in the reference analysis of \$2,158 million (\$2010).

15

16 Nalcor also notes that a proposal to eliminate the installation of pollution controls  
17 at Holyrood in an isolated scenario would be inconsistent with commitments made  
18 by the Province of Newfoundland and Labrador in the *Energy Plan*.

1 Q. Further to PUB-Nalcor 51, in what year would the annual load decrease of 880 GWh  
2 have to be extended to for the CPW for the two options to be equal?

3  
4

5 A. In the response to PUB-Nalcor-51, the results from Strategist demonstrate a CPW  
6 preference for the Interconnected Island alternative of \$545 million. This CPW  
7 difference is comparable with the load sensitivity result (MHI-Nalcor-41 Rev. 1)  
8 which shows a CPW preference for the Interconnected Island alternative of \$408  
9 million. This load sensitivity dealt solely with reducing fuel costs as a result of the  
10 decrease in load; however, the Strategist results incorporate the changes to fuel  
11 costs plus changes arising from capital additions. For the base case, the sensitivity,  
12 and the full Strategist run, the table on the following page shows CPW differences  
13 between the two generation expansion alternatives. Positive differences indicate a  
14 preference for the Interconnected Island alternative. Negative differences indicate  
15 a preference for the Isolated Island alternative.

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Unexpectedly, the Strategist run produced a more favorable impact for the  
Interconnected Island alternative than the load sensitivity did, increasing the CPW  
preference for the Interconnected Island alternative by \$138 million. This result is  
primarily due to fuel impacts associated with delaying hydro-electric projects and  
new wind purchase contracts, causing an increase in Holyrood production in the  
years 2014 to 2023.

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The increased CPW preference for the Interconnected Island alternative  
demonstrates that the load decrease would not need to be extended.

	2010 Cumulative Present Worth (\$ M)								
	Base Case (Exhibit 99)			Load Reduction 880 GWh Sensitivity (Exhibit 43 Rev. 1)			Load Reduction 880 GWh Full Strategist Run (PUB-Nalcor-51)		
	Isolated Island	Interconnected Island	Difference	Isolated Island	Interconnected Island	Difference	Isolated Island	Interconnected Island	Difference
Fuel impact - load	6,049	1,170	4,879	3,864	735	3,129	3,890	736	3,153
Fuel impact - Deferral of small hydro and wind projects <sup>(1) (2)</sup>	0	0	0	0	0	0	342	50	292
Fixed charges	1,402	1,750	(348)	1,402	1,750	(348)	1,179	1,636	(458)
Power purchases	743	3,358	(2,615)	743	3,358	(2,615)	716	3,358	(2,642)
Operating	616	374	242	616	374	242	558	358	200
	<u>8,810</u>	<u>6,652</u>	<u>2,158</u>	<u>6,625</u>	<u>6,217</u>	<u>408</u>	<u>6,684</u>	<u>6,138</u>	<u>546</u>

<sup>(1)</sup> A 25 MW wind project is deferred from 2014 to 2023.  
Island Pond is deferred from 2015 to 2022.  
Portland Creek is deferred from 2018 to 2023.  
Round Pond is deferred from 2020 to 2023.

<sup>(2)</sup> Results have been estimated using comparisons against base case hydraulic production.

1 Q. Further to Exhibit 43, please provide a sensitivity assuming fuel costs are reduced  
2 by 20% and the capital costs of Muskrat Falls and the HVdc Labrador-Island Link are  
3 increased by 20% each. Compare this sensitivity to the Isolated Island and Labrador  
4 Interconnection Base Cases shown on Exhibit 43.

5

6 A. The requested sensitivity and comparison to the base cases is shown below:

	Cumulative Present Worth (2010 \$million)		
	Isolated	Interconnected	Difference
	Island	Island	
<b>Reference Case (October 2010):</b>			
Fixed charges	1,402	1,750	(348)
Fuel	6,049	1,170	4,879
Power purchases	743	3,358	(2,615)
Operating	616	374	242
	8,810	6,652	2,158
<b>Fuel Costs Decreased by 20%;</b>			
<b>Muskrat Falls and LIL Capital Costs Increased by +20%</b>			
Fixed charges	1,402	2,068	(666)
Fuel	4,839	936	3,903
Power purchases	743	3,839	(3,096)
Operating	616	374	242
	7,600	7,217	383

7

8 Annual fuel costs for both scenarios were reduced by 20%. The in-service capital  
9 cost for the Labrador-Island Link was increased by 20%. The 20% increase in  
10 Muskrat Falls capital costs resulted in an increase for the power purchase rate for  
11 the Island from the \$2010 escalating supply rate of \$76/MWh, used for the  
12 reference case, to approximately \$89/MWh.

13

14 The result of this sensitivity analysis is that there continues to be a CPW preference  
15 for the Labrador Interconnection alternative where oil prices are 20 percent less,  
16 and capital costs for the Lower Churchill Project are 20 percent higher, relative to

- 1 the reference case. The CPW preference however is reduced by \$1,775 million
- 2 relative to the reference case.

1 Q. Please prepare the generation expansion plan and CPW analysis for the Isolated  
2 Island Option using the following assumptions:

3

- 4 - delete the electrostatic precipitators, scrubbers and NO<sub>x</sub> burners;
- 5 - maintain and operate the Holyrood Thermal Generating Station to 2041  
6 using 0.7% sulphur No. 6 fuel;
- 7 - add a 900 MW HVdc link from Labrador in 2041 using Labrador power at  
8 \$2/MWh constant; and
- 9 - Holyrood Thermal Generating Station retired in 2041.

10 Compare this sensitivity to the Muskrat Falls/HVDdc (sic) Interconnection Base  
11 Case.

12

13

14 A. The table below provides a Strategist generation plan and CPW for a 2041 Labrador  
15 Interconnection case assuming no environmental upgrade capital and associated  
16 O&M at Holyrood, continued operations for Holyrood to 2041 followed by its  
17 retirement, use of 0.7% heavy fuel oil, and supply of Churchill Falls power at \$2  
18 /MWh constant. The CPW for this 2041 Labrador Interconnection case is \$6,703  
19 million (\$2010), which is \$51 million greater than the Interconnected Island  
20 reference case of \$6,652 million.

21

22 Since the scenario presented assumes that the Province will forgo export revenue  
23 from Churchill Falls, the same assumption should be applied to the Interconnected  
24 Island alternative. Consequently, the same \$2 /MWh assumption for the cost of  
25 power supply out of Labrador after 2041 has been applied, where profits from  
26 Churchill Falls are directed to ratepayers such that the power purchase expense for

1 Muskrat Falls power would effectively be \$2 /MWh. With this assumption, the CPW  
 2 declines to \$5,898 million (\$2010). The CPW economic preference for the reference  
 3 interconnection case over the 2041 interconnection case is \$805 million (\$2010).

4  
 5 Nalcor’s response to MHI-Nalcor-3 provides Nalcor’s views on the risks and  
 6 uncertainties associated with continuing Isolated Island operations followed by an  
 7 interconnection to Labrador in 2041. These risks and uncertainties relate to security  
 8 of supply and reliability, cost to ratepayers, environmental compliance, and  
 9 operational uncertainty for Holyrood.

10

<b>2010 PLF Strategist Generation Expansion Plans</b>		
	<b>Isolated Island as per PUB-Nalcor-55 (2041 Labrador Interconnection)</b>	<b>Labrador HVdc Interconnection/Muskrat Falls (Reference Interconnected Island case)</b>
	<b>PLF 2010</b>	<b>PLF 2010</b>
2010		
2011		
2012		
2013		
2014	25 MW Wind	50 MW CT
2015	36 MW Island Pond	
2016	Holyrood Upgrade	
2017		Holyrood Units 1 & 2 Sync Condensers 900 MW Labrador Interconnection
2018	23 MW Portland Creek	
2019	Holyrood Upgrade	
2020	18 MW Round Pond	
2021		
2022	170 MW CCCT	
2023		
2024	50 MW CT Holyrood Upgrade	
2025		
2026		
2027	50 MW CT	
2028	Replace 2 Existing Wind Farms (~54 MW)	

<b>2010 PLF Strategist Generation Expansion Plans</b>		
2029	Holyrood Upgrade	
2030		
2031	50 MW CT	
2032		
2033		
2034	Replace 2014 Wind Farm (~25 MW) 50 MW CT	
2035		
2036		23 MW Portland Creek
2037		170 MW CCCT
2038	50 MW CT	
2039		
2040		
2041	900 MW Labrador Interconnection	
2042		
2043		
2044		
2045		
2046		50 MW CT
2047		
2048		
2049		
2050		50 MW CT
2051		
2052	50 MW CT	
2053		
2054	50 MW CT	50 MW CT
2055		
2056	50 MW CT	
2057		
2058	50 MW CT	50 MW CT
2059	50 MW CT	
2060		
2061		
2062	50 MW CT	
2063	50 MW CT	50 MW CT
2064		

<b>2010 PLF Strategist Generation Expansion Plans</b>		
2065		
2066	50 MW CT	50 MW CT
2067		
CPW 2010\$ millions	\$6,703	\$6,652 – Reference \$5,898 – With comparable assumption of Labrador power at \$2 / MWh post 2041.

1 Q. Further to Exhibit 43, please provide a sensitivity with the following assumptions:

- 2 - a 20% decrease in fuel costs;
- 3 - a 20% decrease in annual percentage load growth post 2014; and
- 4 - a 20% increase in capital cost estimate for both the Muskrat Falls
- 5 development and the HVdc Interconnection.

6 Compare this sensitivity to the Isolated Island Option and the Labrador

7 Interconnection Option Base Case. Provide a table similar to pgs. 1 and 2 of Exhibit

8 14 showing the 2010 PLF Strategist Generation Expansion Plan.

9  
10

11 A. The table on the next page provides a Strategist generation plan and CPW for both

12 the Isolated Island Option and the Labrador Interconnection Option Base Case

13 assuming:

- 14 - a 20% decrease in fuel costs relative to the DG2 reference price;
- 15 - a 20% decrease in annual percentage load growth post 2014; and
- 16 - a 20% increase in capital cost estimate for both the Muskrat Falls
- 17 development and the HVdc Interconnection.

18

19 The CPW preference for the Interconnected Island alternative over the Isolated

20 Island alternative is \$159 million (\$2010) in this Strategist run, compared to a CPW

21 preference for the Interconnected Island alternative in the reference analysis of

22 \$2,158 million (\$2010).

1           It should be noted that PIRA’s reference forecast as of October 2011 is  
2           approximately 13 percent higher than the reference forecast as of January 2010 for  
3           0.7 percent sulphur No. 6 fuel delivered in 2025.<sup>1</sup>

<b>2010 PLF Strategist Generation Expansion Plans</b>		
<b>PUB-Nalcor-56</b>		
	<b>Isolated Island</b>	<b>Labrador HVdc Interconnection/Muskrat Falls</b>
	<b>PLF 2010</b>	<b>PLF 2010</b>
2010		
2011		
2012		
2013		
2014	25 MW Wind	50 MW CT
2015	Holyrood ESP & Scrubbers 36 MW Island Pond	
2016	Holyrood Upgrade	
2017	Holyrood Low No <sub>x</sub> Burners	Holyrood Units 1 & 2 Sync Condensers 900 MW Labrador Interconnection
2018	23 MW Portland Creek	
2019	Holyrood Upgrade	
2020	18 MW Round Pond	
2021		
2022	170 MW CCCT	
2023		
2024	Holyrood Upgrade	
2025		
2026	50 MW CT	
2027		
2028	Replace 2 Existing Wind Farms (~54 MW)	
2029	Holyrood Upgrade	
2030	50 MW CT	
2031		
2032		
2033	Holyrood Replacement ( 2 units) 170 MW CCCT 170 MW CCCT	

<sup>1</sup> Nalcor’s response to RFI MHI-Nalcor-127, page 2 and Table 8 of Nalcor’s Submission to the Board

<b>2010 PLF Strategist Generation Expansion Plans</b>		
<b>PUB-Nalcor-56</b>		
2034	Replace 2014 Wind Farm (~25 MW)	
2035		
2036	Holyrood Replacement ( 3rd unit) 50 MW CT 50 MW CT	
2037		
2038		
2039		23 MW Portland Creek
2040	50 MW CT	50 MW CT
2041		
2042		
2043		
2044		
2045	50 MW CT	50 MW CT
2046		
2047		
2048	Replace 2 Existing Wind Farms (~54 MW)	
2049		
2050	170 MW CCCT	50 MW CT
2051		
2052	170 MW CCCT	
2053		
2054	Replace 2014 Wind Farm (~25 MW)	
2055		
2056		50 MW CT
2057	50 MW CT	
2058		
2059		
2060		
2061	50 MW CT 50 MW CT	50 MW CT
2062		
2063	50 MW CT 170 MW CCCT 170 MW CCCT	
2064		
2065	50 MW CT	50 MW CT
2066		

<b>2010 PLF Strategist Generation Expansion Plans</b>		
<b>PUB-Nalcor-56</b>		
2067		
CPW 2010\$ millions	\$7,037	\$6,878

1 Q. The response to PUB-Nalcor-3 did not answer the question. As previously  
2 requested, identify and describe each major cost category for the Total Capex for  
3 the Isolated Island Scenario that is included within the estimate of \$3.2 billion  
4 shown on Slide 18 of the July 18, 2011 Presentation by Nalcor and the Capex de-  
5 escalated to 2010 of \$8.074 billion and the CPW of revenue requirements of  
6 \$12,272,000 (sic) shown on Slide 19. The answer should clearly reconcile the  
7 numbers on Slides 18 and 19.

8

9

10 A. Exhibit - 111 provides the detailed reconciliation of the Isolated Island capital costs  
11 for the referenced Slides 18 and 19 from the July 18, 2011 presentation.

12

13 The value of \$3.2 billion is a subset of Strategist generation expansion capital costs,  
14 covering new generation costs for the period up to and including the replacement  
15 of the existing thermal facilities at Holyrood. In the original presentation slide, this  
16 value of \$3.2 billion excluded Holyrood upgrade capital. The projects included in  
17 the \$3.2 billion are identified with a reference to footnote 3 on the attached Exhibit  
18 - 111.

19

20 The total identified capital requirement for the period 2010 to 2067 is comprised of  
21 generation expansion capital costs, sustaining capital<sup>1</sup>, and capital costs for a new  
22 transmission line and upgrades from Bay d’Espoir to Western Avalon<sup>2</sup>. When  
23 expressed in 2010\$ constant dollars to remove the effects of general inflation, the  
24 total capital for the planning period is \$8,074 million as shown on Slide 19 of the

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<sup>1</sup> Sustaining capital refers to NL Hydro’s underlying annual capital budget requirement for ongoing and regular support of power system operations.

<sup>2</sup> Sustaining capital and transmission line and upgrade capital costs are the same for both the Isolated Island and Interconnected Island generation expansion alternatives.

1 July 18, 2011 presentation. The calculation of this amount is shown on Line 6 of  
2 Exhibit - 111.

3  
4 Slide 19 from the July 18, 2001 also referenced a cumulative present worth (CPW)  
5 of the revenue requirement as \$12,272 million. This revenue requirement includes  
6 the Strategist generation expansion capital and operating costs, which have a CPW  
7 of \$8,810 million, plus the operating costs and sustaining capital requirements for  
8 the existing rate base. Details of these two CPWs broken out by major cost category  
9 are as follows:

10

Isolated Island Alternative  
Cumulative Present Worth (2010 \$ millions)

Cost Category	Strategist	Revenue Requirement
O&M	634 <sup>(1)</sup>	1,608
Fuel	6,049	6,092
Power Purchase Costs - Existing	743	743
Power Purchase Costs - Muskrat Falls	0	0
Depreciation	553	1,247
Return on Rate Base	831	2,582
Total	<u>8,810</u>	<u>12,272</u>

(1) O&M as per MHI-Nalcor-1 includes insurance.

1 Q. The response provided to PUB-Nalcor-4 did not answer the question. As previously  
2 requested, identify and describe each major cost category for the cost estimates  
3 provided on Slide 37 of the July 18, 2010 Presentation by Nalcor of \$2.9 billion for  
4 Muskrat Falls Generation and \$2.1 billion for the transmission link and the Slide 22  
5 numbers of the Lower Churchill Project Capex de-escalated to 2010 of \$6.582 billion  
6 the and CPW of revenue requirement of \$10.114 billion. The answer should clearly  
7 reconcile the numbers on Slides 22 and 37.

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9

10 A. Exhibit 112 provides the detailed reconciliation of the Labrador Interconnected  
11 capital cost numbers for the referenced Slides 22 and 37 from the July 18, 2011  
12 presentation. Please note that the value of \$2.9 billion for Muskrat Falls will not  
13 directly appear in the capital cost tables since its costs are included as a power  
14 purchase expense in the Strategist modeling framework and for subsequent  
15 revenue requirement analysis. The value of \$2.1 billion for the Labrador Island  
16 Transmission Link (LIL) used in the presentation slide is the capital cost excluding  
17 AFUDC. The LIL in-service capital cost of record used for all modeling, inclusive of  
18 AFUDC, is \$2,553 million as per Exhibit 5 F.

19

20 The total identified capital requirement for the period 2010 to 2067 is comprised of  
21 generation expansion capital costs, sustaining capital<sup>1</sup>, and capital costs for a new  
22 transmission line and upgrades from Bay d’Espoir to Western Avalon<sup>2</sup>. When  
23 expressed in 2010\$ constant dollars to remove the effects of general inflation, the  
24 total capital for the planning period is \$6,582 million as shown on Slide 37 of the

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<sup>1</sup> Sustaining capital refers to NL Hydro’s underlying annual capital budget requirement for ongoing and regular support of power system operations.

<sup>2</sup> Sustaining capital and transmission line and upgrade capital costs are the same for both the Isolated Island and Interconnected Island generation expansion alternatives.

1 July 18, 2011 presentation. The calculation of this amount is shown on Line 7 of  
2 Exhibit – 112.

3  
4 Slide 37 from the July 18, 2011 presentation also referenced a cumulative present  
5 worth (CPW) of the revenue requirement as \$10,114 million. This revenue  
6 requirement includes the Strategist generation expansion capital and operating  
7 costs, which have a CPW of \$6,652 million, and the operating costs and sustaining  
8 capital requirements for the existing rate base. Details of these two CPWs broken  
9 out by major cost category are as follows:

10

Interconnected Island Alternative  
Cumulative Present Worth (2010 \$ millions)

Cost Category	Strategist	Revenue Requirement
O&M	376 <sup>(1)</sup>	1,417
Fuel	1,170	1,204
Power Purchase Costs - Existing	676	675
Power Purchase Costs - Muskrat Falls	2,683	2,682
Depreciation	450	1,144
Return on Rate Base	<u>1,297</u>	<u>2,992</u>
Total	<u>6,652</u>	<u>10,114</u>

(1) O&M as per MHI-Nalcor-1 includes insurance.

1 Q. The response to MHI-Nalcor-24 states *“The HVDC interconnection is designed to*  
2 *obtain the required level of reliability via the HVDC link from Labrador in conjunction*  
3 *with island generation facilities. Any additional reliability as a result of the*  
4 *Maritime link has not been factored into the analysis.”* Pg. 8 of Exhibit 23 states the  
5 Maritime Link would also be capable of delivering up to 500 MW to the Island in the  
6 event of the loss of the HVdc Labrador-Island Link. Explain these two conflicting  
7 statements. Is Nalcor stating that the Maritime Link is required to provide the  
8 required reliability for the Island System?

9  
10 A. The response to MHI-Nalcor-24 was intended to indicate that the Labrador Island  
11 Transmission Link and island generation facilities were designed to provide a  
12 comparable level of reliability to the existing Island Interconnected system. Further  
13 clarification on this issue has been provided in Exhibit 106: Technical Note: Labrador  
14 Island HVdc Link and Island Interconnected System Reliability. With reference to  
15 Table 5 of Exhibit 106, the greatest levels of unserved energy in the Isolated Island  
16 and Interconnected Island alternatives are in the order of 1% of total energy  
17 delivered. It should be noted that Exhibit 106 also indicates that the level of  
18 unserved energy may be reduced with the addition of combustion turbines (CTs).

19 Table 5 of Exhibit 106 also shows that the level of unserved energy in the  
20 Interconnected Island alternative with the Maritime Link in place is approximately  
21 20% of that of the Interconnected Island alternative without the Maritime Link or  
22 the Isolated Island alternative.

23 As a result, the two concepts are complementary – the Isolated Island and  
24 Interconnected Island alternatives, without the Maritime Link, offer similar  
25 reliability levels and the construction of the Maritime Link further improves the  
26 level of reliability of the Interconnected Island alternative.

1 Q. Further to the response to MHI-Nalcor-33, list all payments by category to the  
2 Government of Newfoundland and Labrador from the Muskrat Falls-Labrador-Island  
3 Link Project on an annual basis and on a CPW basis, expressed in 2011 dollars.

4

5

6 A. The attached table provides annual payments for water power rentals to  
7 Government as per Exhibit CE-53 (MHI-Nalcor-58). In addition, the “Cash Available  
8 for Dividends” for both Muskrat Falls and Labrador Island Link are included for  
9 information purposes. Depending on policy direction from Government to Nalcor,  
10 these net cash flows are not necessarily distributed to Government in the form of  
11 dividend payments. Additional information on equity contributions is included for  
12 context in which the reference Muskrat Falls and Labrador Island Link projects were  
13 initially analyzed.

14

15 For the purpose of reporting CPWs in a consistent manner, the CPW is expressed in  
16 \$2010 and an 8% discount rate has been used.

17

18 On a CPW basis, the water power rental payments amount to \$91 million for the  
19 2010 to 2067 period.

20

21 The CPW for Cash Available for Dividends for Muskrat Falls is \$2,371 million (\$2010)  
22 relative to a CPW for equity contributions assuming a 100% equity financing case of  
23 \$2,179 million (\$2010).

24

1           The CPW for Cash Available for Dividends for the Labrador Island Link is \$473  
2           million (\$2010) relative to a CPW for equity contributions assuming a 75:25 debt  
3           equity financing case of \$389 million (\$2010).

LOWER CHURCHILL PROJECT  
 Provincial Government Payments / Available for Dividends  
 \$ millions

Muskrat Falls <sup>(1) (2)</sup>				Labrador-Island Link <sup>(2)</sup>		
Project Year Ending	Water Power Royalties	Equity Investment	Cash available for dividends	Year	Equity Investment	Cash available for dividends
2010 CPW (at 8%)	90.8	(2,179.5)	2,371.1		(389.5)	473.4
6/30/2011	0.0	(93.8)	0.0	2010	(109.6)	0.0
6/30/2012	0.0	(272.0)	0.0	2011	(20.3)	0.0
6/30/2013	0.0	(643.9)	0.0	2012	(219.0)	0.0
6/30/2014	0.0	(795.7)	0.0	2013	0.0	0.0
6/30/2015	0.0	(514.4)	0.0	2014	0.0	0.0
6/30/2016	0.0	(428.7)	0.0	2015	(59.6)	0.0
6/30/2017	3.7	(104.4)	0.0	2016	(52.0)	0.0
6/30/2018	5.7		200.0	2017		76.0
6/30/2019	6.0		152.0	2018		74.7
6/30/2020	6.4		162.1	2019		72.8
6/30/2021	6.7		171.6	2020		72.9
6/30/2022	7.2		189.1	2021		69.8
6/30/2023	7.7		204.2	2022		70.0
6/30/2024	8.4		224.9	2023		68.7
6/30/2025	8.8		236.5	2024		67.4
6/30/2026	9.2		247.4	2025		66.0
6/30/2027	9.7		261.1	2026		63.2
6/30/2028	10.3		275.7	2027		63.6
6/30/2029	11.0		295.0	2028		62.3
6/30/2030	12.1		323.9	2029		61.0
6/30/2031	12.6		338.9	2030		59.7
6/30/2032	13.2		354.2	2031		56.7
6/30/2033	13.8		369.9	2032		57.3
6/30/2034	14.4		386.1	2033		56.0
6/30/2035	15.0		402.8	2034		54.7
6/30/2036	15.6		419.2	2035		53.4
6/30/2037	16.2		434.9	2036		50.1
6/30/2038	16.3		435.5	2037		51.0
6/30/2039	16.9		452.1	2038		49.7
6/30/2040	17.6		470.1	2039		48.4
6/30/2041	18.3		487.5	2040		47.0
6/30/2042	18.9		505.4	2041		43.5
6/30/2043	19.6		523.9	2042		44.7
6/30/2044	20.3		542.9	2043		43.4
6/30/2045	21.1		562.4	2044		42.0
6/30/2046	21.8		582.5	2045		40.7
6/30/2047	22.6		603.2	2046		36.9
6/30/2048	23.4		611.0	2047		38.4
6/30/2049	24.3		632.8	2048		37.1
6/30/2050	25.1		655.4	2049		35.7
6/30/2051	25.9		677.3	2050		34.4
6/30/2052	26.8		699.8	2051		30.3
6/30/2053	27.7		722.7	2052		32.1
6/30/2054	28.5		746.5	2053		30.8
6/30/2055	29.4		770.2	2054		29.4
6/30/2056	30.4		794.6	2055		28.1
6/30/2057	31.3		819.5	2056		23.6
6/30/2058	32.1		841.6	2057		25.8
6/30/2059	32.8		858.3	2058		24.5
6/30/2060	33.4		875.4	2059		23.1
6/30/2061	34.1		892.6	2060		21.8
6/30/2062	34.8		910.3	2061		16.8
6/30/2063	35.5		928.3	2062		19.6
6/30/2064	36.2		946.8	2063		18.2
6/30/2065	36.9		965.3	2064		16.8
6/30/2066	37.7		984.5	2065		15.5
6/30/2067	38.4		1,004.1	2066		10.1
6/30/2068	39.2		1,024.3	2067		1.2

(1) As Per Confidential Exhibit CE-53, filed in response to RFI MHI-Nalcor-58.

(2) First year includes prior costs.