Q. Page 12, lines 4-5: Please provide a detailed breakdown of the estimated fuel savings of $0.73 million in 2016 and $1.06 million in 2017.

A. Hydro operates the power system on the Avalon to be able to sustain acceptable voltages and equipment ratings (up to a 25 MW overload following a disturbance) resulting from the single largest contingency, typically the loss of either transmission lines TL202 or TL206, or a unit at Holyrood. In other words, Hydro carries sufficient Avalon reserves to be able to withstand the impact on the Avalon as a result of the single largest contingency event.

In meeting this reliability objective, Hydro has determined, through load flow analysis, Avalon loading thresholds to provide direction on when to staff and operate the various standby resources on the Avalon.

To derive the benefit of the Holyrood diesels, Hydro developed an hourly Avalon load forecast for the period of January 2016 to December 2017. As indicated in Hydro's application, there are potential fuel savings for the Island Interconnected System if the Holyrood diesels are used as part of the dispatch order for Avalon reliability prior to the start-up of the Holyrood CT. This would mean fewer starts for the CT and less run time (at a minimum load of 40 MW), as the diesels could be started before the CT.

In its review of the analysis to determine the fuel savings presented in this Application, Hydro discovered an error in that it assumed that 16 MW of diesel generation would be available to supply the system from July 2016 to December 2017. However, only 10 MW should have been assumed for the entire analysis

period (January 2016 to December 2017). In addition, in the present configuration, the base loading on the Holyrood diesel plant is 9,250 kW and not 1,000 kW as assumed in the Application. Hydro has redone the analysis and a detailed breakdown of the restated fuel savings of $0.41 million in 2016 and $0.50 million in 2017 are presented in Tables 1 and 2. As only the projected fuel savings from June to December for 2016 were included in the CPW calculation, the savings in 2016 were reduced to $0.15 million. The savings of $0.50 million for the entire year 2017 were included.

This change in the fuel savings has the effect of changing the CPW from -$0.254 million to $0.426 million. Please see the revised CPW calculation in Table 3.

Table 1

Jan - Dec 2016

Without Holyrood Diesels

Standby Unit	Operating Hours	Minimum Load (MW)	Energy (kWh)	Rate ($/MWh)	Cost ($)
Hardwoods One End	340	5	1,700,000	$ 0.21	$ 357,000
Holyrood Diesels	-	9.25	-	$ 0.19	$ -
Holyrood CT	547	40	21,880,000	$ 0.21	$ 4,594,800
Hardwoods Two Ends	-	10	-	$ 0.21	$ -
Totals			23,580,000		$ 4,951,800

With Holyrood Diesels

Standby Unit	Operating Hours	Minimum Load (MW)	Energy (kWh)	Rate ($/MWh)	Cost ($)
Hardwoods One End	457	5	2,285,000	$ 0.21	$ 479,850
Holyrood Diesels	117	9.25	1,082,250	$ 0.19	$ 205,628
Holyrood CT	421	40	16,840,000	$ 0.21	$ 3,536,400
Hardwoods Two Ends	-	10	-	$ 0.21	$ -
Totals			20,207,250		$ 4,221,878

Savings

Gross Fuel Savings	$ 729,923
Less Holyrood Replacement Energy Costs[1]	$ (317,039)
Net Savings over Period	**$ 412,884**

Note 1: The reduction in standby energy production (3,372,750 kWh) at Holyrood replacement costs $0.094/kWh)

Table 2

Jan - Dec 2017

Without Holyrood Diesels

Standby Unit	Operating Hours	Minimum Load (MW)	Energy (kWh)	Rate ($/MWh)	Cost ($)
Hardwoods One End	351	5	1,755,000	$ 0.22	$ 386,100
Holyrood Diesels	-	9.25	-	$ 0.19	$ -
Holyrood CT	711	40	28,440,000	$ 0.22	$ 6,256,800
Hardwoods Two Ends	-	10	-	$ 0.22	$ -
Totals			30,195,000		$ 6,642,900

With Holyrood Diesels

Standby Unit	Operating Hours	Minimum Load (MW)	Energy (kWh)	Rate ($/MWh)	Cost ($)
Hardwoods One End	479	5	2,395,000	$ 0.22	$ 526,900
Holyrood Diesels	128	9.25	1,184,000	$ 0.19	$ 224,960
Holyrood CT	572	40	22,880,000	$ 0.22	$ 5,033,600
Hardwoods Two Ends	-	10	-	$ 0.22	$ -
Totals			26,459,000		$ 5,785,460

Savings

Gross Fuel Savings	$ 857,440
Less Holyrood Replacement Energy Costs[1]	$ (354,920)
Net Savings over Period	**$ 502,520**

Note 1: The reduction in standby energy production (3,736,000 kWh) at Holyrood replacement costs $0.095/kWh)

Table 3 – Base CPW Calculation with Revised Fuel Savings

Purchase Diesels April 01, 2016 - Sell June 2020

Discount Rate 7.5% CPW Date: Apr 01, 2016

	Diesel Purchase (,000s)	PW	Inter-connection Savings	PW	Fuel Savings	PW	Lease Savings	PW	EA Reg Cost	PW	O&M Cost	PW	**Total PW**	Diesel Resale Price	PW	**CPW**
2016	$ 4,453	$ 4,453	($480)	($469)	($151)	($146)	($360)	($356)	$60	$60	$56	$54	**$3,597**			
2017					($503)	($460)					$76	$70	**($389)**			
2018											$78	$67	**$67**			
2019											$80	$64	**$64**			
2020											$34	$26	**$26**	($4,068)	($2,938)	
													$3,364		($2,938)	**$426**