

1 Q. **2018 Capital Projects Overview, Volume I, Page 8**

2 *“Hydro's gas turbine plants at Stephenville and Hardwoods are more than 40 years*  
3 *of age, exceeding the generally accepted life expectancy of 25 to 30 years for gas*  
4 *turbine plants. Until their expected retirements in 2025 and 2028, for Hardwoods*  
5 *and Stephenville respectively, the maintenance of these assets will remain part of*  
6 *Hydro’s integrated generation plan. Based on the results of condition assessments*  
7 *of both the Hardwoods and Stephenville gas turbines, capital expenditures are*  
8 *required to refurbish equipment at these facilities to ensure that they operate*  
9 *reliably and that their useful service lives can be extended as long as can be*  
10 *financially justified.”*

11

12 Provide the capital plan for the period 2018 to 2025 for the Hardwoods gas turbine,  
13 and for 2018 to 2028 for the Stephenville gas turbine.

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16 A. The following is a table which presents the capital plan for Hardwoods gas turbine  
17 from 2018 to 2025 and for the Stephenville gas turbine for the period 2018 to 2028.  
18 The larger expenditures in the capital plan are related to overhauls and inspections  
19 that are required for continued operation to retirement.

**NP-NLH-002**  
**2018 Capital Budget Application**  
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Project Description	Planned Capital Expenditure by Year (\$000)											Total Planned Capital Expenditure
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
<b>Combined Projects</b>												
Gas Turbine Equipment Replacement and Refurbishment	\$ 998	\$ 429	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,427
Purchase Spare Parts and Heated Lube Oil Storage	\$ -	\$ 308	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 308
Replace Fuel Unloading Pumps	\$ -	\$ -	\$ 50	\$ 50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100
Purchase Capital Spares	\$ 546	\$ 100	\$ 100	\$ 100	\$ 100	\$ 50	\$ 50	\$ 50	\$ 50	\$ -	\$ -	\$ 1,146
<b>Total Combined Projects</b>	<b>\$ 1,544</b>	<b>\$ 837</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 100</b>	<b>\$ 50</b>	<b>\$ 50</b>	<b>\$ 50</b>	<b>\$ 50</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,982</b>
<b>Stephenville</b>												
Gas Turbine Life Extension	\$ 506	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 506
Install Infrared Scanning Ports	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 250
Refurbish Bus Duct	\$ -	\$ -	\$ 150	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 150
Upgrade Control System	\$ -	\$ -	\$ 100	\$ 1,531	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,631
Overhaul Olympus Gas Generator	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -	\$ -	\$ 4,000
Alternator Rotor Out Inspection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 500	\$ 1,500	\$ -	\$ -	\$ -	\$ -	\$ 2,000
Fuel Tanks Inspection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,500	\$ -	\$ -	\$ 1,500
<b>Total Stephenville</b>	<b>\$ 506</b>	<b>\$ -</b>	<b>\$ 500</b>	<b>\$ 1,531</b>	<b>\$ -</b>	<b>\$ 500</b>	<b>\$ 3,500</b>	<b>\$ -</b>	<b>\$ 3,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,037</b>
<b>Hardwoods</b>												
Gas Turbine Life Extension	\$ 281	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 281
Upgrade Control System	\$ -	\$ 327	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 327
Refurbish Bus Duct	\$ -	\$ 271	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 271
Replace 15kV Cable to 750kVA Transformer	\$ -	\$ 112	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 112
Inspect Power Turbine Clutch A and B	\$ -	\$ -	\$ 100	\$ 100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 200
Alternator Rotor Out Inspection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 500	\$ 1,500	\$ -	\$ -	\$ -	\$ -	\$ 2,000
Overhaul Olympus Gas Generator	\$ -	\$ -	\$ -	\$ 1,100	\$ -	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,100
<b>Total Hardwoods</b>	<b>\$ 281</b>	<b>\$ 710</b>	<b>\$ 100</b>	<b>\$ 1,200</b>	<b>\$ -</b>	<b>\$ 2,500</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,291</b>
<b>Grand Total</b>	<b>\$ 2,331</b>	<b>\$ 1,547</b>	<b>\$ 750</b>	<b>\$ 2,881</b>	<b>\$ 100</b>	<b>\$ 3,050</b>	<b>\$ 5,050</b>	<b>\$ 50</b>	<b>\$ 3,550</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 19,309</b>