

GT-PUB-NLH-012
100 MW Combustion Turbine Generation - Holyrood

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1 Q. On page 8 of the Report it is stated that Hydro identified several combustion
2 turbine options that could provide capacity up to 100 MW to be in service in late
3 2014. Provide details of the options identified, including for each the capacity, the
4 warranty to be provided, the estimated in-service date and the cost.

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7 A. In January 2014 Hydro requested all known suppliers of new and aftermarket
8 combustion turbines to submit a high level budgetary proposal to supply and install
9 a 100 MW (nominal) combustion turbine by the end of 2014. Detailed proposals
10 were not received however information provided in Table 1 was received through
11 various telephone discussions and e-mail transmissions.

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Table 1

Option	ISO Capacity (MW)	Warranty	Est. In-service Date	Indicative EPC Cost (\$1,000)
PW Power Systems, 2 FT4C-3F TwinPac Units	2 @ 56 = 112 (used equipment approx. 40 yrs. of age)	Warranty is 12 months after first fire, 18 months after delivery or 4,000 operating hours, whichever shall occur first	On site 2014/08/14 based upon 2014/03/15 contract award. No estimated in-service date quoted.	37,400 US
PW Power Systems, 2 FT8 MobilePac Units	2 @ 25 = 50 (new equipment)	Not quoted.	1 st unit on site 2014/08/30. 2 nd unit on site 2014/09/30. No estimated in-service date quoted.	36,800 US
PW Power Systems, 2 FT8 MobilePac Units	4 @ 25 = 100 (new equipment)	Not quoted	December 2014	Not quoted

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Option	ISO Capacity (MW)	Warranty	Est. In-service Date	Indicative EPC Cost (\$1,000)
Wood Group, 2 X FT4 TwinPac	2 @ 56 = 112 (used equipment approx. 40 years of age)	The offered warranty on the gas turbine units is 12 months after first fire, 18 months after delivery or 4,000 operating hours, whichever shall occur first.	2014/11/14 based upon NTP on 2014/03/03.	39,000 US
Aux Energy, 2 X P&W FT4 TwinPac	2 @ 52 = 104 (used equipment approx. 40 yrs. of age)	None quoted.	Aux Energy estimates the time to deliver and install 2ea Pratt & Whitney FT4 gas turbine generators and full balance of plant to be 90 days from the completion of civil works, foundations and drainage infrastructure.	27,954 US
ProEnergy, 2X LM6000 PC Sprint	2 @ 50.5 = 101 (used equipment)	None quoted.	2014/11/14	44,046 US
ProEnergy, 1 x Seimens SGT6-3000E	113 (previously owned equipment but never used. Approx. 6 yrs of age.)	The Warranty period for the Contractor supplied equipment will be the lesser of a) one (1) year from the Commercial Operation Date (COD), or b) 18 months from delivery of major equipment.	8 months ARO	59,837 US

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Option	ISO Capacity (MW)	Warranty	Est. In-service Date	Indicative EPC Cost (\$1,000)
Wood Group, GE 7EA	99 (previously owned equipment but never used. Approx. 5 yrs of age.)	None	December 2014	52,141 US
Wood Group, GE LM6000 PC Sprint	2@ 50 = 100 (previously owned equipment but never used. Approx. 4 yrs of age.)	None	December 2014	72,393 US
Wood Group, GE LM6000 PC Sprint	2@ 48.5 =97 (used equipment approx. 19 yrs. of age)	Yes, unspecified	December 2014	65,402 US
Thomassen Amcott International	85 MW (previously owned equipment but never used)	Not quoted	Not quoted. (Supply of combustion turbine only)	Not Quoted

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2 “Indicative EPC Cost” refers to indicative engineering, procurement and
3 construction cost. It is a very high level budgetary estimate offered by vendors
4 based on a short descriptive scope statement provided by Hydro followed up by
5 telephone conversations and produced in a time frame of approximately two
6 weeks. It is a best high-level estimate that a vendor could provide based on their
7 experience, and using known existing equipment that is available, with out detailed
8 specifications and investigation of the local construction environment. Considering
9 the information available, it is an indication of what an EPC contract cost would be
10 between Hydro and the supplier. It is not a total Hydro project cost which would

1 include project management, site preparation, site specific additional construction
2 requirements that may be required (i.e., equipment modifications, terminal station
3 connections, fuel storage and distribution, winterized enclosure) contingency, and
4 AFUDC.

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6 The Indicative EPC cost is for the provision of a combustion turbine plant at the ISO
7 capacity indicated. The plant configuration may consist of a single large combustion
8 turbine or multiple smaller units as indicated. The Indicative EPC costs vary
9 considerably depending on age and condition of the units that are available.

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11 In March 2014 Hydro was advised by Thomassen Amcott International that they
12 had withdrawn their offer. Another buyer had committed to purchasing the
13 combustion turbine.