

1 **4.9 Simple-Cycle Gas Turbine³³**

2 Four GT plant alternatives have been considered. These nominal 66 MW (58.5 MW net), simple-
3 cycle GTs would be located either adjacent to the existing unit at the Holyrood site or at
4 greenfield locations. GTs considered are light oil-fired and, given the unit efficiency, are
5 primarily intended for peaking and voltage support functions. The option considered includes
6 fuel storage capacity to run continuously for a minimum of five days. While these units are
7 considered to support capacity-driven requirements, each is capable of providing
8 approximately 460 GWh of firm energy capability annually. Table 9 provides a summary of the
9 GT alternatives considered.

Table 9: Gas Turbine Alternatives

Type	Number of Units	Net Capacity (MW)	Capital Cost (\$ million)
Simple Cycle Plant	1	58.5	169
Simple Cycle Plant	2	117	298
Simple Cycle Plant	4	234	664

10 A preliminary analysis of the transmission requirements and associated single line diagrams
11 were prepared for the purpose of cost estimates for each GT plant alternative.

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13 Environmental considerations for the facilities contemplated have been analyzed, including
14 required emissions control, plant location, and local traffic impact, among other things.

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16 A class 5 capital cost estimate was derived for these units, including include cost of transmission
17 system requirements, operation and maintenance costs, and land price for greenfield sites.

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19 The overall project schedule is estimated to take between 24 to 36 months from the application
20 to the Board to the in-service date.

³³ For further details on GT options considered, please refer to Volume III, Attachment 14 "Gas Turbine Alternatives."