

Napanee Generating Station



Napanee Generating Station (NGS) will be a 900 megawatt (MW), combined cycle, natural gas-fuelled electricity generating station located in the Town of Greater Napanee, in Eastern Ontario.

The NGS will be designed as a flexible power system resource able to start and stop daily and to vary its output throughout the day to assist in filling the gap between Ontario's electricity demand and other available generating resources.

The NGS will use state-of-the-art low emissions technology to meet high environmental standards in order to fulfill the Ontario Power Authority's (OPA) request for additional clean power generation in the province.

Construction is expected to begin in early 2015 with completion expected in 2018. The peak construction workforce is expected to be between 650 and 750. Once in service, NGS will employ approximately 24 people to cover its 24 hour per day, 365 days per year operation.

Facility Highlights

Capacity:

900 MW

Configuration:

Combined Cycle

- (2) 271 MW gas turbine/generator sets
- (1) 457 MW steam turbine/generator set

Location:

Town of Greater Napanee, Ontario

In-Service Date:

2018

Fuel:

Natural Gas

Environmental Features:

Dry low NOx burners

Selective Catalytic Reduction System

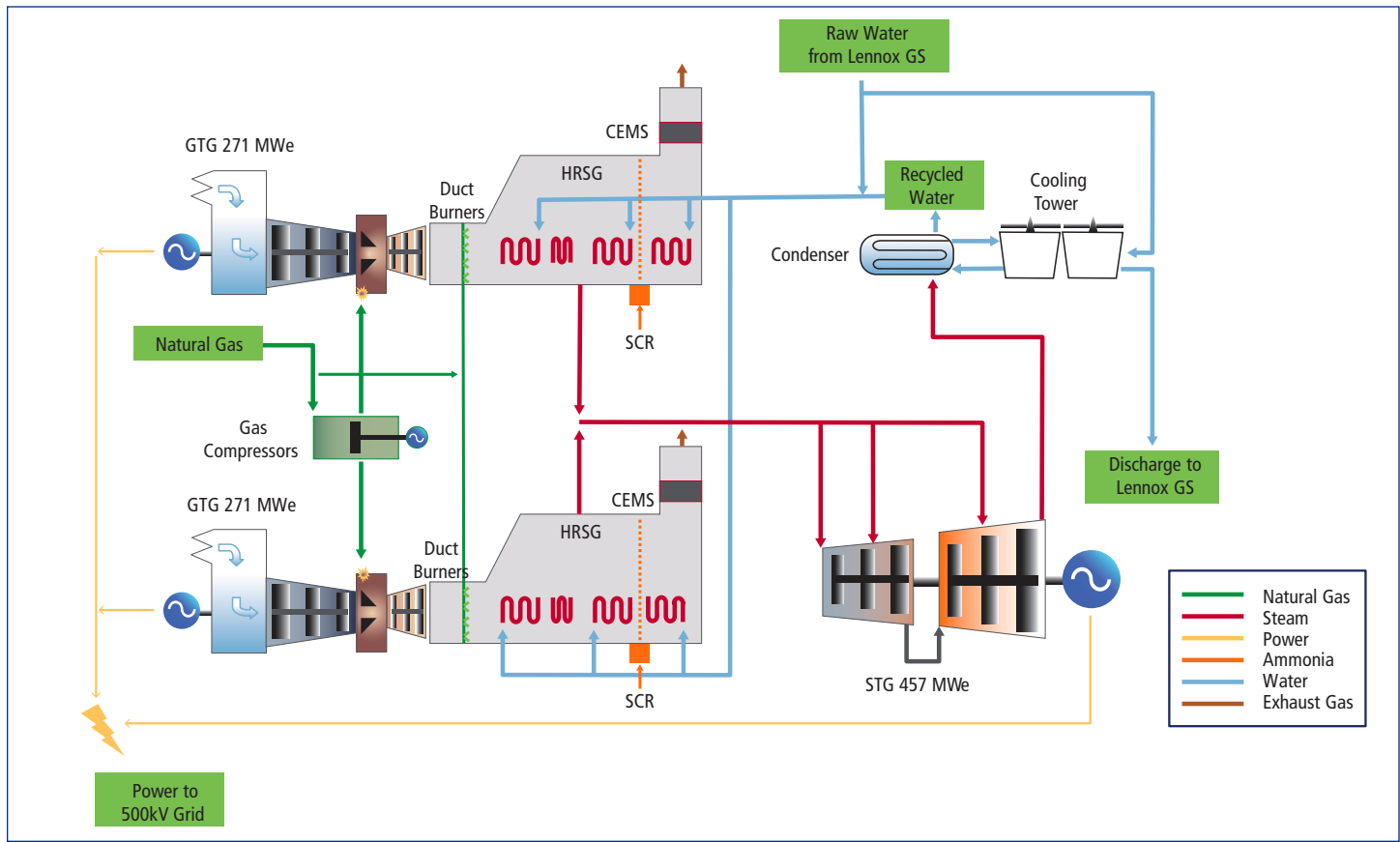
Owner/Operator:

TransCanada Energy Ltd.

Primary Customers:

Ontario Power Authority (OPA)

Napanee Generating Station



The Facilities:

The NGS will be a natural gas-fuelled combined cycle power facility with a net capacity of 900 MW at average ambient environmental conditions. The output is derived from two 271 MW gas turbine generator sets and one 457 MW steam turbine generator with an auxiliary load of approximately 30 MW.

Natural gas is consumed in the two gas turbines to provide the energy to drive the attached generators. The hot exhaust gases from the gas turbines are recovered to produce steam in heat recovery steam generators (HRSG's). Each HRSG is equipped with duct burners to produce incremental steam for additional peaking power capacity and a selective catalytic reduction system to reduce NOx emissions. The steam is then supplied to a steam turbine which drives another electrical generator.

After passing through the steam turbine, the steam is condensed for reuse in the steam cycle. Heat from this process will be rejected from the condenser via the circulating water system and mechanical draft evaporative cooling tower.

The NGS site is located in the southern portion of the Town of Greater Napanee on a 38 ha (93 acre) parcel of land. The land was previously owned by Ontario Power Generation (OPG) and is located immediately east of the existing OPG Lennox Generating Station. This location is ideal because of its close proximity to the existing natural gas supply and nearby access to the Ontario high voltage transmission system. Water intake and discharge facilities will be shared with OPG.

The 20-year Clean Energy Supply (CES) Contract with the OPA requires NGS to supply electricity generated by NGS to Ontario electricity market and provides additional financial support for NGS.

The NGS will be an essential component of Ontario's electrical system, delivering on-demand power to address rising electricity demand, replace retired coal, help manage changes in nuclear capacity due to planned refurbishments/retirements, and provide a source of power to backstop intermittent wind and solar generation.

For further information, please contact:

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