



Algoma Blast Furnace Gas / Coke Oven Gas Fired Cogeneration Plant

Location: Sault Ste. Marie, Ontario, Canada

Client: Pöyry (Montreal) Inc.

Gryphon Contact: Paul Durkin

Associate Firm Pöyry (Montreal) Inc., Jagadeesh and Associates

Project Summary Installation of a 100 MW cogeneration facility, located at the Algoma Steel Inc. (Sault Ste. Marie, Ontario) site. The plant is fuelled by blast furnace gas (BFG) and coke oven gas (COG) from the Algoma Steel plant operations and generates both electricity and process steam.

The plant consists of two 371,300 lb/hr BFG/COG fuel-fired boilers and one 100 MW condensing steam turbine generator installed in an existing steel mill building. The steam turbine generator was mounted on a new table-top foundation.

Project Services Gryphon provided detailed engineering, design, and procurement engineering for the main steam cycle, the high voltage electrical system and protection / coordination, and the steam turbine generator foundation. Pöyry provided project services and detailed engineering for the balance of plant.

Gryphon's engineering services included:

- Specification and technical coordination for steam turbine-generator, by-product gas-fired boilers, steam condenser, closed feedwater heaters and deaerator, boiler feedwater pumps and condensate extraction pumps, blowdown tanks.
- Specification and technical coordination for 13.8kV-34.5kV generator step-up transformer and 34.5kV switchgear.
- Design and preparation of construction drawings/documents for main steam, condensate, feedwater, vents and drains piping systems, high voltage electrical systems, and electrical systems protection.
- Analysis and design of the turbine generator foundation structure.



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