

University of Toronto Central Steam Plant Optimization

CLIENT

University of Toronto

LOCATION

Toronto, Ontario

Project Description

The University of Toronto Central Steam Plant Optimization project was delivered through a Design – Build approach. The project involved realizing operational efficiencies through increasing the flue gas heat recovery system, replacing existing tube and shell heat exchangers with plate and frame heat exchangers, and replacing the existing gas compressor with two new gas compressors.

Benefits to Client

All work was performed under very tight time constraints and inside a live facility which provides heat to University of Toronto's downtown campus and some other businesses.

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B&M Scope of Work

Black & McDonald partnered with Doherty Engineering to design improvements to three systems in the central steam plant at 17 Russell Street for the University of Toronto with a goal of reducing the greenhouse gas emissions.

- Supply and installation of two new 600 V 300 HP VFDs and provide controls installation and programming assistance for the operation of the new gas compressors.
- Supply and installation of one 600 V 800A Panel c/w digital metering connected to the existing metering system. This panel is to supply the gas compressors, work to connect included tying into the existing 4000A switchboard on site.
- Supply and installation of new 250 HP Fan for the SOFAME system on site complete with VFD.
- Supply and installation of new 300 ft. specialized flue inside existing brick chimney for the SOFAME system, controls work included installing and connecting temperature sensors at the top and bottom of the stack. Work included working with confined space rescue teams.
- Supply and installation of new control and monitoring points for all new mechanical equipment including fans, heat exchangers, pumps, compressors and dampers. Controls scope included the addition of a new control panel for all new SOFAME points and commissioning assistance to the controls contract existing in the facility.
- Supply and installation of new 1200A Switchboard complete with metering to provide all required power to the SOFAME system including four new pumps c/w VFDs and re feeding existing panels and pumps from the new switchboard.
- Supply and installation of eight new 80 in. x 80 in. dampers c/w actuators and controls connected to the central control system.

