

**Brock University
St. Catharines, Ontario
Utilities Plant Upgrade**



Client

Sandwell Inc./Brock University

Project

Cogeneration Facility

Services

Engineering study, detailed design, procurement, design audit project and construction management

Project Description

Retained by Brook University to investigate and prepare recommendations for the rehabilitation of equipment and systems within the existing utility plant. The following modifications and upgrades were identified and implemented:

Replacement of an existing Train 1,000 ton, R11 centrifugal chiller with a new McQuay R134a, 1,500 ton, split compressor centrifugal chiller and new two cell Marley cooling tower.

Changes to the existing primary chilled water piping to a primary/secondary chilled water loop c/w two 2,500 US gpm variable frequency drive secondary chilled water pumps and pump house extension with electrical room. Modifications to existing thermal storage system to suit primary/secondary chilled water loops.

Upgrade to hot water circulating pumps.

Replacement of existing cogeneration high temperature plate and frame heat exchanger with new tube and shell heat exchangers. A new demineralised water treatment plant was also installed to make-up water in the high temperature hot water loop.

Replacement of the existing PC-based SCADA system with new hardware and software to monitor and control the operations of the existing cogeneration plant as well as the conversion of the existing HVAC building control system in the Central Utilities Building.

All projects were completed in November 2001.



Can Ecosse Engineering Inc.