



2003 **Title:** **Power Generation and Superheater Upgrade Project at the Burnaby MSW Plant**

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Presented: 2003 NAWTEC 11 Conference

Ref. No.: TP2003A

ABSTRACT:

Montenay Inc. operates a municipal solid waste (MSW) incinerator plant located in Burnaby, British Columbia. The facility operates three essentially identical boilers that were designed to generate slightly superheated steam at 248°C (478°F) and 3,140 kPa (455 psig).

The plant was originally sized to supply process steam for export to an adjacent industrial plant. The fraction of steam that was exported decreased in recent years to about 35% of the production with the remainder being condensed. This has caused Montenay Inc. to initiate a power generation project with the goal to improve the plants energy efficiency and generate additional revenues by purchasing and operating a steam turbine generator.

A superheater upgrade was required to raise the final steam temperature to a level that was suitable for use in an efficient steam turbine-generator. Jansen Combustion and Boiler Technologies Inc. (JANSEN) was contracted to perform the process and design engineering for the required boiler modifications.

The project work included defining target process conditions, deriving conceptual design options, sizing the new superheater, deciding on material selection, preparing equipment specifications, and supplying the fabrication and installation drawings.

The boiler modifications have been implemented in all three units in spring 2003. Power production will start in early summer 2003.