

Examples of Low Cost and High Benefit Improvements to a WTE Air Pollution Control System

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Abstract

The Miami-Dade 3,000 tpd Refused-Derived Fuel (RDF) facility is located in Miami-Dade County, FL and is operated by Montenay Power, a Veolia Environmental Services Company. A team composed of plant staff and outside experts underwent a thorough equipment-by-equipment review of the Air Pollution Control (APC) system and identified a series of low cost design and operational improvements to the lime slakers, the spray dryers and the baghouses. These improvements were implemented over the course of several months and resulted in a drop in lime consumption, in the economy of one and a half air compressor units, and in reduced APC related plant downtime and maintenance costs.

This paper describes several key improvement projects (including the upgrade of the spray nozzles, the change in slaking water quality and the fly ash fluidization project), detailing the initial problem, the chosen solution, the difficulties encountered during implementation and the achieved benefits.

Spray Dryer Absorber (SDA) Performance

The Miami-Dade 3,000 tpd Refuse-Derived-Fuel (RDF) Facility consist of

four boilers, each with its own APC system. The flue gas is sprayed with a mixture consisting of slaked lime slurry for Sulfur Dioxide and Hydrogen Chloride removal, of dilution water to