

Air Pollution Control System Retrofit Experience At Wasatch Energy Systems

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Abstract

Wasatch Energy Systems owns and operates two (2) mass burn incinerators each rated at 210 tons/day in Layton, Utah. Each incinerator was equipped with a three field Electrostatic Precipitator (ESP) to control the particulate emissions. Dry sorbent (trona) was injected just upstream of the economizer to control acid gas emissions. The performance of the dry sorbent injection system was marginal.

In anticipation of the upcoming EPA emission guidelines, 40 CFR Part 60, Subpart BBBB, Emission Guidelines for existing small municipal waste combustion units, Wasatch Energy Systems decided to update the existing APC systems several years ahead of the schedule. A request for proposal was released in October 1999 and eight proposals were received by the facility. AirPol Inc. of Parsippany, NJ was awarded a turnkey contract in June 2000 to add a dedicated Gas Suspension Absorber (FLS miljo Inc GSA) upstream of each existing ESP. A common lime slurry storage and preparation system, carbon storage and delivery system, ash conveying system, MCC, and control system were also provided under the contract.

The new APC system was commissioned and put into service in September, 2001. Initial stack testing was conducted in October 2001 to evaluate system performance. Compliance stack testing was conducted for the Utah Division of Air Quality in November 2001. Results of testing demonstrate that particulate, metals, acid gas and dioxin/furan emissions from the retrofit facility are substantially lower than required under, now final, 40 CFR Part 60, Subpart BBBB – Class 1 Emission Limits for Existing Small Municipal Waste Combustion Units. This paper discusses the retrofit system design and performance.