

exhaust of the afterburner is drawn through the pollution abatement system by an induced draft fan. The quench tower reduces the afterburner exhaust to approximately 180°F and results in adiabatic saturation of the effluent stream. A caustic-brine solution at a pH of 8 is used as a quench media to assure neutralization of any acid gases. The high energy venturi is a variable throat venturi with an approximate 40-inch WG pressure drop designed to provide 99% efficiency in removal of particulate larger than 0.5 microns. The counterflow caustic packed-bed scrubber uses stainless steel pall rings to scrub the remaining acid gases. Mist eliminators are used primarily for removal of P₂O₅, and also to entrain particulate not removed by the venturi. The mist eliminators have been designed with a counterflow acid wash to prevent plugging by small particulate metal oxides and are washed at regular intervals.

The DUN pollution abatement system utilizes only a quench tower and baghouse to remove particulates from the furnace flue gas before it is discharged to atmosphere. Environmental performance standards that must be met are:

1. Incinerator destruction and removal efficiency for each principal organic hazardous constituent, 99.99%.
2. HCL emissions, 99% removal efficiency or below 4 LBS/HR.
3. Particulate matter discharge, not greater than 180 mg/m³.

Brine Disposal

Liquid effluent from the pollution abatement system is discarded when the specific gravity reaches a 1.08-1.15 range, depending upon the agent being processed. Excess water is evaporated from this effluent by the use of an evaporator and double drum dryers, yielding a waste salt suitable for storage in a hazardous landfill.