Wheelabrator Concord Company, L.P.

A Waste Management Company

Located in Concord, New Hampshire, the Wheelabrator Concord waste-to-energy facility provides dependable, environmentally safe disposal of municipal solid waste for the more than two dozen communities in southern and central New Hampshire, while generating clean, renewable electricity for sale to the local utility. Owned and operated by Wheelabrator, Wheelabrator Concord processes up to 500 tons per day of municipal solid waste. Wheelabrator Concord has an electric generating capacity of 14,000 kilowatts; the equivalent of supplying the electrical needs of 17,000 New Hampshire homes.

WASTE MANAGEMENT

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Modern waste-to-energy facilities differ significantly from old-fashioned municipal incinerators, which had minimal, if any, air pollution control systems and did not recover any of the energy released during the combustion process.

Waste-to-energy facilities use municipal solid waste (MSW) as a fuel to generate electricity in almost the same way as traditional power plants produce energy. Waste-to-energy plants use trash as fuel, thereby converting MSW into renewable energy that helps the U.S. decrease its dependence on foreign fossil fuels.

The waste-to-energy process starts with incoming truck deliveries to an enclosed reception area where MSW is unloaded into concrete storage pits. Overhead cranes then transfer trash into a feed hopper to the boiler. Inside each boiler, an inclined, reciprocating, metal grate slowly moves the trash through the thermal process, where temperatures exceed 2000ºF. The large utility-type boilers are designed to recover thermal energy in the form of high-pressure steam that is converted into electrical energy in the turbine-generator. With access to existing steam distribution lines, waste-to-energy facilities can produce and sell both steam and electricity.

Waste-to-energy plants utilize advanced environmental control systems that clean emissions to meet stringent state and federal environmental standards while producing clean energy..."with less environmental impact than almost any source of electricity." (Source: U.S. EPA)

After the trash is completely processed, ferrous metals are separated from the ash residue for recycling and the overall volume of incoming trash is reduced by more than 90%. The recycled metal offsets the need to mine virgin materials for new products.

GENERAL	
Area Served	New Hampshire
Type of Contract	Own, operate
Start-up	1989
REFUSE COMBUSTION	
Type of System	Mass-burn, water wall boilers
Boiler Operation	24 hours a day, 7 days a week
Process Lines	2 @ 250 tons per day
Feed System	2 overhead refuse cranes with ram feeder
Grate Design	Von Roll reciprocating grates
Combustion Temperature	2500°F+
Auxiliary Fuel	Propane
Waste Volume Reduction	90%
Ash Handling System	Water quench, drag conveyor
AIR QUALITY CONTROL	
Type of Equipment	Spray drier absorbers, fabric filters, SNCR (NOx control), carbon injection
ENERGY PRODUCTION	
Type of Energy	Electric power
Steam Flow to Turbine	136,000 pounds per hour @ 625 psig/750°F
Electric Power Capacity	14 megawatts/17,000 homes
Cooling System	Mechanical draft cooling tower

Over the past 30 years, communities have turned to source reduction, recycling, and waste-to-energy to manage their MSW. In the U.S., communities with waste-to-energy plants have higher recycling rates on average than those that do not. (Source: Energy Recovery Council)

A wholly owned subsidiary of Waste Management of Houston, Texas, Wheelabrator Technologies Inc. is a leader in the safe and environmentally sound conversion of MSW and other renewable waste fuels into clean energy. Wheelabrator's 17 waste-to-energy facilities provide safe waste disposal for towns and cities across the U.S. Wheelabrator also operates five independent power plants designed to generate electricity using an assortment of fuels, including waste wood, tires, waste coal and natural gas. In addition to producing electricity, some of these facilities also produce steam sold to nearby government and commercial establishments. Wheelabrator's 22 facilities have a combined electric generating capacity of 896 megawatts, enough energy to power more than 985,000 homes.

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