FLUIDIZED BED COMBUSTION OF MUNICIPAL SOLID WASTE IN THE CPU-400 PILOT PLANT.

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An overall concept for solid waste management known as the CPU-400 is currently under development at Combustion Power Company, under contract to the Environmental Protection Agency. The CPU-400 will utilize a fluidized bed combustor in a gas turbine cycle to convert the heating value of municipal solid waste into electricity. This paper describes the pilot plant and early results of experiments conducted on a low pressure configuration of the fluidized bed combustor and supporting equipment. The latter includes an inertial separator used to remove exhaust gas particles and a solid waste handling subsystem to prepare the municipal solid waste. Properties of the shredded, air-classified solid waste fuel are presented and combustor performance is discussed. The flow of inert material through the system during a recent 35 hour duration test is also presented along with results from a set of exhaust gas sampling instruments.