**AFBC CO-FIRING OF COAL AND HOSPITAL WASTES
GOOD SAMARITAN HOSPITAL
QUARTERLY TECHNICAL PROGRESS REPORT
PERIOD FEBRUARY 15, 1992, TO MAY 15, 1992
DOE GRANT NO. DE-FG21-88MC25033
PHASE ONE CONTRACT**

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During the previous report period, shredder system verification and testing was initiated at DONLEE's pilot facility located in York, Pennsylvania. General waste from the Lebanon VA Medical Center was transported to the pilot facility in York. The waste was fed into the unit starting December 18, 1991. The waste feed rate was adjusted to approximately 150 lb./hr. The shredding system can meter waste volumetrically, the mass flow was deduced by hopper weight. The shredding system operated without incident.

The stack monitoring portion of the shredder testing was conducted on January 28 and 29. The heat input was approximately 6×10^6 BTU/hr. both days. On the first day, only coal and limestone were fed into the unit. On the second day, hospital waste, coal, and limestone were fed into the unit.

On both days of testing, data included:

- coal, limestone, and ash samples and flow rates
- all air flows
- stack flue gas flow
- combustor, cyclone, boiler, and baghouse
- temperatures and pressures
- stack concentration of dioxins and furans
- stack concentration of heavy metals
- stack concentration of HCl
- stack concentration of PAH

The shredder was overfed just before the testing which resulted in a material blockage. That was the only shredder blockage encountered. There were no blockages before that time. There have been no blockages since that time. The hospital waste feed during the second test was approximately 150 lb./hr.

The PA DER requested that the final design of the Lebanon facility fire anthracite coal only. Ten tons of anthracite were purchased for testing. On February 4, the unit was lit off on anthracite coal. Operation on anthracite stabilized at a 1650 degree F combustor temperature. Hospital waste was fed into the unit while on anthracite without incident.

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Sulfur capture testing while on anthracite was completed in mid-March. Sulfur capture was monitored with combustor operating temperatures of 1650 degrees F and 1675 degrees F. There was little difference between the results with these two operating temperatures. The tests provided stack emission rates within NSPS regulations.

A draft of the Shredder Test report (including testing from December through March) will be submitted by June 30, 1992. The report will include extrapolation of the pilot plant results to the Lebanon facility.

On-going activities, under the Phase One Contract, will include completion of the final draft of the Shredder Test report.

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