Novel Process for Removal and Recovery of Vapor-Phase Mercury

Monthly Technical Progress Report
Covering August 1 through August 31, 1997
Contract Number DE-RA22-95PC95257
ADA Project Number 4416

prepared for
AAD Document Control
Pittsburgh Energy Technology Center
P. O. 10940, MS 921-143
Pittsburgh, PA 15236-0940

Mr. Tom Brown
Contracting Officer's Representative
MS 922-260
412-892-4691

prepared by
ADA Technologies, Inc.
304 Inverness Way South, Suite 365
Englewood, CO 80112

November 24, 1997

Table of Contents

Novel Process for Removal and Recovery of Vapor-Phase Mercury

The purpose of this project is to investigate the application of a sorbent-based process for removing and recovering mercury in the flue gas of coal-fired power plants. The process is based on the sorption of mercury by noble metals and the regeneration of the sorbent by thermal means, recovering the desorbed mercury as liquid, elemental mercury. ADA Technologies holds a patent on this process (US 5,409,522, April 25, 1995) and has tested it under conditions typical of municipal waste incinerators. In this process, the noble metal sorbent is regenerated thermally, and the mercury is recovered for commercial recycle. Consequently, ADA has adopted the name "Mercu-RE" to describe its process.

In the current project, ADA has been testing its process under conditions typical of coal-fired power plants where the mercury concentration is low (below 10 $\mu g/m^3$) and little pressure drop can be tolerated. Methods of accommodating the Mercu-RE process to the circumstances and conditions of coal-fired power plants comprise the core of the program.

Overview of Progress

In August, we performed no technical work on the program because we submitted a draft final report and a downselection proposal on July 30, 1997.

Task I-1: Screen Sorbent Configurations

There were no activities on this task during August.

Task I-2: Design and Fabricate Bench-Scale Equipment

There were no activities on this task during August.

Task I-3: Test Bench-Scale Equipment on Pilot Combustor

There were no activities on this task during August.

Task I-4: Evaluate Economics

There were no activities on this task during August.

Task I-5: Reporting

We prepared and submitted the monthly reports covering July, 1997.

Project Plan for Next Month

In September, we plan no further activities on the program, pending comments on our draft final report.