



Project Status Report for: September 2001

Project Title: Ultra Low NO_x Integrated System for Coal-Fired Power Plants

Project Number: 91890460 Project Manager: John Marion

Customer Name: U.S. DOE / Performance Projects Project Leader: Charles Maney

GOALS AND OBJECTIVES:

Develop low cost, retrofit NO_x control technologies to address current and anticipated, near term emissions control legislation for existing coal fired utility boilers. Specific goals include:

- Achieve < 0.15 lb/MMBtu NO_x for eastern bituminous coals
- Achieve < 0.10 lb/MMBtu NO_x for western sub-bituminous or lignitic coals
- Achieve economics at least 25% less than SCR-only technology
- Validate NO_x control technology through large (15 MWt) pilot scale demonstration
- Evaluate the engineering feasibility and economics for representative plant cases
- Provide input to develop commercial guidelines for specified equipment
- Provide input to develop a commercialization plan for the resultant technologies

WORK PLANNED FROM PREVIOUS REPORT:

Task 1.0 – Test Fuels Characterization

- Begin drafting task report.

Task 2.3 – Global Mixing Process Improvement

- Begin drafting task report.

Task 2.4 – Advanced Control System Design

- Begin drafting task report.

Task 3.3 – Combustion Testing and Cleanup

- Complete cleanup from the second combustion test period in the BSF.

Task 5 – Engineering Systems Analysis & Economics

- Complete preliminary cases for final economic analysis.

Task 6 – Advisory Panel

- Schedule final meeting of the Utility Advisory Panel.

Task 7 – Data Compilation and Final Report

- Continue work on final report.



ACCOMPLISHMENTS FOR REPORTING PERIOD:

Task 1.0 – Test Fuels Characterization

- *Begin drafting task report.*

Task report is underway and will be completed in October.

Task 2.3 – Global Mixing Process Improvement

- *Begin drafting task report.*

Task report is currently in progress. However, a no cost project extension is currently planned that would allow this task to be restored to the original scope. Additional CFD simulations of actual BSF test conditions would be made to benchmark the CFD results and to help interpret and scale up the experimental results.

Task 2.4 – Advanced Control System Design

- *Begin drafting task report.*

A draft of this task report should be completed by mid October.

Task 3.3 – Combustion Testing and Cleanup

- *Complete cleanup from the second combustion test period in the BSF.*

The BSF hopper was cleaned and the ash is being disposed of. One cleanup item that was overlooked, cleaning out the coal transport lines between the PDF and the coal storage silos, is currently being addressed.

Task 5 – Engineering Systems Analysis & Economics

- *Complete preliminary cases for final economic analysis.*

Required boiler performance modeling has been completed for each of the 3 utility boilers being evaluated in the economic analysis. Material costs of the firing system / boiler components of the low NOx retrofit options have been generated. A few balance of plant costs, such as the fuel handling system for the PRB conversions, are still outstanding.

Task 6 – Advisory Panel

- *Schedule final meeting of the Utility Advisory Panel.*

The final meeting of the Utility Advisory Panel was scheduled for October 24, 2001. However, due to the impact of the September 11 tragedy on business travel in the U.S., it was decided to postpone the meeting indefinitely. Current thinking is to reschedule the Utility Advisory Panel meeting for early 2002.



Task 7 – Data Compilation and Final Report

- *Develop outline of the final project report.*

A preliminary report outline / report structure was developed. Awaiting individual task reports for integration into the final report.

Task 8 – Project Management

Discussions were held with Bruce Lani, our Contracting Officer's Representative for this project about extending the project end date into calendar year 2002. The current project budget status is favorable, largely as a result of Kennecott Energy's donation of the PRB fuel. A no cost extension of the project end date would allow for the Utility Advisory Panel meeting to be rescheduled in early 2002 and for some of the original project scope that was cut in the modification of the Statement of Work earlier this year to be restored.

WORK PLANNED FOR NEXT REPORTING PERIOD:

Task 1.0 – Test Fuels Characterization

- Complete draft of task report.

Task 2.4 – Advanced Control System Design

- Complete draft of task report.

Task 5 – Engineering Systems Analysis & Economics

- Complete preliminary cases for final economic analysis.

Task 7 – Data Compilation and Final Report

- Continue work on final report.

Task 8 – Project Management

- Obtain a no cost extension from the US DOE for completing the project.