

7.11 Low NO_x Burner

Objective: The objective of this project is the development, demonstration, documentation, and commercialization of second generation low NO_x burner technology on industrial and utility pulverized-coal-fired boilers. This project has as an objective a NO_x emission of 0.2-0.3 pounds of NO_x per million Btu. This represents a 70-80% reduction from uncontrolled levels and about a 50% reduction from the current NSPS for utility boilers.

Approach: Low-NO_x burner technology has been under development for a number of years and has been successfully developed through bench-scale and prototype testing. The emphasis has been on burner designs applicable to tangentially fired and wall-fired boilers. Two field evaluations utilizing this technology are now well underway; one of these being on a tangentially fired utility boiler and the other being on an industrial boiler. Although the basic development effort is complete, resource reductions have prompted some restructuring of the program to ensure that the technology is as widely applicable as possible. Consequently, additional prototype testing is planned to generalize the results to a broader range of boiler types, sizes, and coal ranks. This approach will ensure that industry has the basis for commercializing the technology without need for future federal funding. The limited resources available in FY's 82 and 83 are necessary to complete both the additional prototype testing and on-going field evaluations.

Rationale: Stationary source emissions of NO_x especially from pulverized coal-fired boilers are projected to increase substantially by the year 2000 and also in their contribution to the total atmospheric NO_x anthropogenic load. Therefore, additional more effective low-cost control technology is essential for new sources of NO_x as well as for retrofit application when acid rain control and reduction is considered as a major national problem. This technology directly addresses both issues, i.e., future more stringent NSPS and acid rain control.

Resources (\$1000's):

| FY82 | FY83 |
|------|------|
| 1751 | 550 |