ABSTRACT

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TITLE: **Selective Catalytic Reduction:**
Proven Alternative to Primary NOx Control Measures

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ABSTRACT:

There is valuable operating experience in the United States with Selective Catalytic Reduction (SCR) NOx emission control on coal-fired boilers. Several systems have started up within the last couple of years. Some of these are installed on new plants in which the SCR system was designed in combination with low-NOx burners and other primary NOx control measures. Experience has shown that boiler NOx emissions exceed the design NOx loading for the SCR system. This has placed greater efficiency demand on the SCR itself and has caused unit operational adjustments to be made.

In this presentation, the co-authors will discuss the problems associated with the primary NOx control measures and their specific impact on the SCR system. The co-authors will also show how the SCR catalyst volume is being optimized at two of these plants to maintain stack NOx limits and to help the operators achieve better unit efficiency. Life-cycle cost impacts will be presented to show how a catalyst management plan will optimize long-term SCR system economics.

The Logan Generating Plant is a 202 MWe net coal-fired cogeneration plant located in Logan Township, Gloucester County, New Jersey. For cogeneration, the plant also provides up to 50,000 lbs per hour of process steam and 2 MWe of electricity to the Monsanto Delaware River Plant. Excess electricity is sold to the energy market through wheeling agreements. The plant includes a 2,400 psig pulverized coal-fired steam generator with an SCR system for NOx control, a dry scrubber for SO_2 control, and a fabric filter for particulate control. The plant is also a zero discharge facility. The plant began commercial operation in September, 1994 and was selected as a “Project of the Year” by *Power Engineering / Power Engineering International* magazines.

The Indiantown Generating Plant is a 330 MWe net coal-fired cogeneration plant located in Indiantown, Florida. The plant sells 330 MWe to Florida Power and Light and up to 125,000 lbs per hour of cogeneration steam to Caulkins Citrus. Like Logan, the plant includes an SCR system for NOx control, a dry scrubber and fabric filter. It also is a zero discharge facility. The plant has been in commercial operation since December, 1995.