Abstract

Numerous Technologies are available to control NO_x emissions from stationary point sources. This project covers the post combustion options SNCR/SCR technologies.
SCR has typically been used for very tight NO_x control and SNCR for dirty and high temperature services.

The objectives of the project are to implement SNCR/SCR technology at the laboratory scale and try to learn the problems and difficulties associated with it. The ultimate objective is to identify the optimum temperature window within which the reduction of NO_x is possible and in other sense the selective reaction between ammonia and NO_x is possible, injection and optimum injection rate of ammonia.

Based on the design so prepared, the experimental unit is setup for the project. Ammonia gas usage requires many safety precautions to be taken. The experiments are conducted on trial and error basis and success is evaluated based on percentage NO_x reduction bounded by Ammonia slip. The results

and data that are produced are found to be berserk because there may be chances of errors during sample collection and during analysis of samples.

SNCR/SCR technologies are very rigorous techniques and require a high level of engineering skills. These technologies are presently being implemented in power plants. This technology is simplified to laboratory scale. Research has been conducted in order to study the implementation of SNCR/SCR technology at the laboratory scale and highlight the scope of the development of the same for efficient NO_x control. The research stands future scope for development like,

- Sophisticated control system for fine control of NO_x gas flow
- Standard four gas analyzer for proper measurement of NO_x
- Efficient temperature control system.

Here in the lab scale SCR technology has been implemented.

Key Words : SNCR/ SCR Technology.