

Your Partner for NOx reduction



DEC EnviroSystems

(A Division of DEC Engineering & Constructions Pvt. Ltd.)

www.decengineering.com



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DEC EnviroSystems brings in the collective experience, resources and knowledge base of DEC Engineering & Constructions Pvt. Ltd., Mysore Ammonia Group of Companies and Metaltec Consultancy & Services.

Has started operations for providing technology & turn-key solutions for NOx abatement and control technology for Cement & Power Plants in association with Collaborators with extensive experience and successful track record.

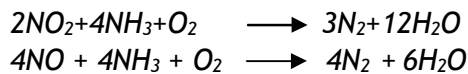


- DEC Engineering & Constructions Pvt. Ltd. formed in the year 2007.
- In 2008 it took over the intellectual properties of Projects Technologists Pvt. Ltd. (PTPL), a leading EPC Contractor.
- The services rendered include:
 - Site Construction activities covering Civil & structural
 - Equipment erection
 - Fabrication and erection of Process equipments, Tankages etc.
 - Fabrication & erection of metallic & non metallic piping along with pipe racks.
 - Allied activities for mechanical completion of Plants
- Performed high quality works at various locations and has developed a reputation amongst its Client base.
- Commenced operations in 1962
- The first in India to start a Cylinder filling Plant for Ammonia in 1979 and in 1984 was the first to start a Liquor Ammonia manufacturing Plant.
- Currently the largest Ammonia Distributor and Ammonia solution manufacturer in the Indian Ocean region.
- Provides total solutions to the Clients for supply, logistics, storage with due safety.
- Undertakes design, fabrication and erection of Storage installations for Ammonia and Ammonia solution.
- Dealers and Distributors for various Fertilizer Plants all over India in addition to import sourcing.
- Formed in 2011.
- The Founder has around four decades of experience in operations & Project implementation in India & Central Africa.
- Provides services for Non-ferrous Metal extraction & recycling.
- The services provided include :
 - Technology for specific areas of metal extraction
 - Plant health studies
 - Basic & Detailed engineering covering all engineering disciplines
 - Project Management
- Clients include Industry leaders like Hindustan Zinc Ltd. & Hindustan Copper in India along with Clients in Dem. Republic of Congo & Sri Lanka

NOx abatement & control technologies...

NOx represents a family of seven compounds and NO & NO₂ are the most plentiful forms of NOx. In all combustion processes, NOx formation takes place. NO₂ is not only an important air pollutant by itself but reacts in the atmosphere to form Ozone (tropospheric Ozone that is Ozone in the ambient air we breathe) and acid rain.

Chemical reduction of NOx involves a reducing agent to remove Oxygen from Nitrogen oxides. Ammonia / Ammonia solution/Urea are reductants used to eliminate NOx. Based on the conditions the principal reactions are:



Choice of technologies & design of NOx control systems is based on flue gas composition, temperature of flue gas, space velocity, ammonia slip, Plant layout etc. Technologies adopted for Chemical reduction of NOx include:

- **Selective non-catalytic reduction (SNCR)** systems inject Ammonia/Ammonia solution/Urea in a flue gas having temperature of 800-1100°C. The DRE (Destruction or removal efficiency) is to the extent of 70% (varies as per flue gas conditions etc.). It is a relatively simpler deNOx system with lower investment.
- **Selective catalytic reduction (SCR)** is most efficient (DRE up to around 90%) means to convert Nitrogen oxides (NOx) to Nitrogen and Water with the aid of a Catalyst in oxidizing atmosphere and temperature range of 250°C - 430°C. Choice of Catalyst mainly depends on the flue gas characteristics. Anhydrous Ammonia is generally preferred as the reductant.
- **Hybrids (SCR+SNCR)** are the optimal choice where the need for NOx reduction is high but space limitations etc. are present. The Hybrid system is relatively new and the most flexible choice for NOx reduction technology. With a Hybrid System, the Catalyst volumes can be reduced in comparison to full SCR System, reducing the space and investment needed.

Services of DEC Envirosystems...

In association with our Technology Collaborators we provide the following services:

- Guidance for emission measurement and identify locations for effective data generation
- Plant study /Feasibility study for selection of appropriate deNOx systems
- Carry out design & engineering, supply and installation, testing & commissioning of the deNOx System

The Systems offered are specific to the Plant conditions/requirements and are guaranteed for performance.

Our Technology Partners

Power Plants



Was founded in 2013 and has a registered capital of 102 million RMB. The primary commitment of the Company includes design & development and supply of environmental protection products. Has a successful track record of carrying out design & engineering, supply and installation of over 20 Plants for deNOx systems in the last three years for Plant size of upto 600 MW. Units have been supplied for SNCR, SCR and Hybrid Systems.

Beijing National Power Group Co. Ltd. has a strong R&D base and over 13 Patents to its credit which includes nine invention Patents.

The Company also has a Catalyst manufacturing Unit.

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