



We create chemistry

GE Frame 6 SCR Retrofit

Product data

BASF and Deltak Corporations have designed and installed a NOxCat™ ZNX™ high temperature SCR system for a GE Frame 6 combined cycle plant. This system was chosen over low NOx combustor due to cost-effectiveness and low maintenance. This gas turbine typically runs at a temperature of 992°F.

The original system had one exhaust bypass damper leading to a Deltak HRSG. The entire SCR system was installed without the bypass damper, and only existing ductwork connecting the turbine and bypass had to be replaced. The retrofit required only a two-week scheduled shutdown to complete the tie-in.

The system reduced NOx emissions from 150 ppm to the required 9 ppm (over 94% conversion) while maintaining ammonia slip below 10 ppm. No costly water or steam injection is required. BASF and Deltak cooperated on the overall system design to ensure the entire system meets the stringent emission requirement. This included cold flow modeling to achieve proper ammonia mixing and velocity distribution and to minimize pressure losses through the system. The total system pressure drop is only 3.1 inches W.C.

About us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF's Catalysts division develops unique, proprietary solutions that drive customer success.

ZNX High Temperature SCR System Performance	
Exhaust Temperature (°F)	992°F (1022 maximum)
Inlet NOx (ppmvd)	161
Outlet NOx (ppmvd)	9
Conversion (%)	94.4
Exhaust Flow (lbs/hr)	1,098,000
Ammonia Slip (ppmvd @ 15% O ₂)	10
System Pressure Loss ("W.C.)	3.1
Ammonia Consumption (nominal lbs/hr)	325

BASF Corporation
Catalysts Division
25 Middlesex/Essex Turnpike
Iselin, NJ 08830
Telephone: 732-205-6078

Web site: www.catalysts.basf.com

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required.