

HCl SCRUBBING



CRU IN REFINERIES

One of the world's largest refineries utilizes catalytic reforming units (CRU) that operate on a cyclical basis. Catalytic reforming is a chemical process used to convert petroleum refinery naphthas, typically having low octane ratings, into high-octane liquid products called reformates which are components of high-octane gasoline (also known as high-octane petrol). Basically, the process re-arranges or re-structures the hydrocarbon molecules in the naphtha feedstock as well as breaking some of the molecules into smaller molecules. The overall effect is that the product reformate contains hydrocarbons with more complex molecular shapes having higher octane values than the hydrocarbons in the naphtha feedstock.

In this application, to maintain optimum catalyst performance, the reactors are taken off line and regenerated by burning coke off the catalyst. This results in combustion gases

containing hydrogen chloride gas that must be removed before the exhaust is thermally treated in a furnace firebox and released into the atmosphere. Verantis was able to offer a customized solution for hydrogen chloride removal consisting of an EVS series eductor venturi and SPT series packed tower scrubber mounted on a horizontal chemical holding tank. All of the vessels are designed to meet ASME code. The system was designed to operate on a batch basis using an alkaline scrubbing solution but will still meet the required performance with water only if the chemical feed system becomes inoperative.

The provided system was a skid-mounted, pre-assembled arrangement. It includes a redundant recirculation system with all associated controls and is fully guaranteed to achieve EPA MACT II compliance levels for hydrogen chloride gas.

OVERVIEW

The system was a skid-mounted, pre-assembled arrangement including a redundant recirculation system with all associated controls and is fully guaranteed to achieve EPA MACT II compliance levels for hydrogen chloride gas.



EQUIPMENT

System included a custom designed solution for chloride removal consisting of an EVS scrubber, SPT packed tower and a horizontal chemical holding tank.



AUXILIARY EQUIPMENT

Equipment was pre-assembled and skid mounted to allow for quick field installation and minimal debugging.



HCl SCRUBBING



FEATURES

- Solutions provided for one of the world’s largest refineries that utilizes catalytic reforming units (CRU) that operate on a cyclical basis
- Designed a customized solution for hydrogen chloride removal.
- Verantis design/build services included an EVS series eductor venturi and SPT series packed tower scrubber mounted on a horizontal chemical holding tank, all pre-assembled and skid mounted system for easy installation and minimal debugging.
- The system was designed to operate on a batch basis using an alkaline scrubbing solution but will still meet the required performance with water only if the chemical feed system becomes inoperative.

For more information and resources,
please visit www.verantis.com.
Corporate Headquarters
7251 Engle Road #300
Cleveland, OH 44130
800.924.0054

TECHNICAL CAPABILITIES

All parts of the system were designed in-house. System components were sourced through a world-wide network of fabricators and suppliers.



DESIGN CAPABILITIES

Systems can be designed to accommodate a variety of requirements including NFPA, API, ASME, and regulatory codes such as Chinese GB, European EN and US EPA standards.



TURNKEY SOLUTIONS

Verantis is able to provide Turnkey Solutions globally for most of your incineration and pollution control needs. For more information on any of our production or solutions, please visit us at www.verantis.com

