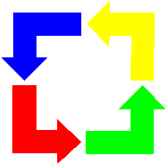




SEAWATER FLUE GAS DESULFURIZATION

KARE-ENGINEERING
ENVIRONMENTAL SOLUTIONS



SEAWATER FLUE GAS DESULFURIZATION



At IDIL Electric Power Plant (Rolls Royce Power Venture), a Kare-Engineering FGD system is used to convert this 57,5 MW station to Clean Air Act compliance.

25 YEARS EXPERIENCE IN ENGINEERING

Kare Engineering, represents 25 years accumulated knowledge and experience.

KARE is a company specializing in flue gas desulfurization (FGD) in Europe, the Middle East and the Asia-Pacific region.

KARE-Engineering is based in Adana /Turkey and Melbourne / Australia with its highly qualified and specialized engineers.

Our systems are based on our own technology and our designs are engineered for perfection, and include low life cycle cost, reliability, ease of maintenance and long life.

“ We create solutions to meet the individual customer’s air pollution control needs ”

KARE Engineering has developed a multi-technology approach to solving the industry environmental needs, because design requirements and site-specific issues can vary widely around the world.

Seawater FGD Technology

Naturally abundant seawater sulphate was subsequently converted to sulphides, which were deposited in the organic material. In this way sulphur became a constituent of fossil fuels.

The Seawater Process absorbs sulphur dioxide (SO_2) from flue gas in seawater and oxidizes it prior to discharge; in other words returning sulphur to the sea in the way it originally appeared as dissolved sulphate.

Process Description

The treatment process covers the cooling of the exhaust gases, removal of SO_x , soot and particulates from the gas and emitting the clean gas to open atmosphere.

The hot flue gas coming from the motor is quenched before entering the scrubber. The scrubber

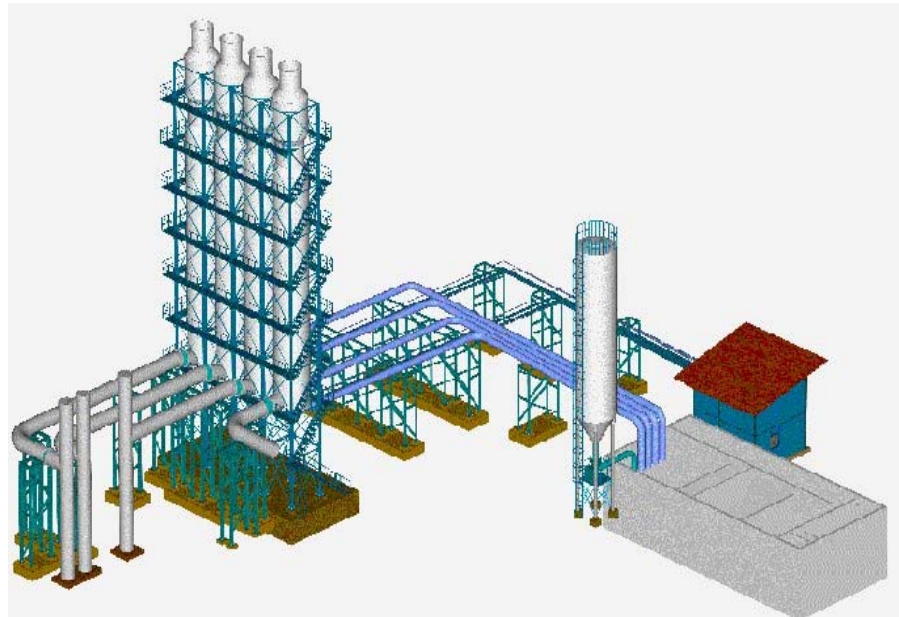
is a wet type, without packing. Seawater is alkaline and is sprayed in the scrubber by nozzles to absorb SO_x molecules.

The effluent from the scrubber contains the sulphite and sulphate ions. The effluent is treated to oxidize the sulphite ions to convert to sulphate ions, which are harmless by aeration.

An air blower and air diffusers are used for the aeration process. The harmless effluent is discharged to sea after oxidation process.

Advantages

- ◆ No waste is formed, so no waste handling is required.
- ◆ Requires only seawater and air.
- ◆ No need for additional chemicals.
- ◆ Has lower capital and operational costs than do other kinds of wet FGD systems.
- ◆ The absorbed SO₂ is oxidized to harmless sulphate ion, a natural constituent of seawater.
- ◆ The scrubber is not subject to clogging.
- ◆ High reliability.



Turnkey Projects

Most of our projects have been supplied in a state ready for operation by KARE -Engineering, in other words "Turnkey".

Our systems rely on KARE - Engineering to design, supply and erect all systems and support facilities.

KARE also provides training and startup services that keep the project " on track".

Auto-CAD

KARE -Engineering has very capable engineers to digitally create a fully-integrated design based upon standard building blocks.

The stakeholders could electronically visit three-dimensional illustration of the project.

This ability gives many advantages to our engineers - designers. Issues such as adequate space among equipment for operations and maintenance can be ensured, early detection of interferences that may occur and visualization of equipment placement can also be ensured before starting the production of the system.

Research and Development

KARE is continuously looking for the most advanced Wet FGD systems technology to offer customers.

With this enthusiasm, KARE is taking technical assistance from The Neft Academy of Azerbaijan, which has a reputable research and development center on the subject.

KARE-ENGINEERING Environmental Solutions Provider

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