

The IERE China Forum

Program (session4): Emission control of fossil fuel power plants from the standpoint of environmental protection

Title: Development of Double-Contact-Flow Scrubber for Flue Gas Desulfurization process

Abstract:

In response to the needs of an easily maintainable absorber of simple construction with low initial cost and low power consumption for the wet limestone-gypsum flue gas desulfurization process, a new type absorber called the Double-Contact-Flow Scrubber (DCFS) was developed jointly by Chugoku Electric Power Co., Inc. and Mitsubishi Heavy Industries Ltd.

In DCFS, absorbent fluid is spouted up from special type nozzles located at the bottom of the absorber to achieve better gas-liquid contact.

Further, elimination of internal parts of the absorber other than the header pipes and nozzles not only leads to large-scale simplification of the absorber construction with lower cost but also enables easy maintenance by precluding scale deposits.

Following the successful demonstration test of this absorber with total quantity of coal-fired flue gas (300,000 m³N/h) from 75MW Unit 1 of Chugoku Electric's Thermal Power Technology Center, the existing FGD Unit 1 of Shimonoseki Thermal Power Station was modified to the DCFS type to treat the total volume of 620,000m³N/h coal-fired flue gas of the 175 MW Unit. Thereafter DCFS has also been adopted for the Chugoku Electric's large 1000MW coal-fired Misumi Power Station Unit 1 which is in trouble-free commercial operation since June 1998.