Reduced dust emissions in steel production: Baosteel orders dry-type dedusting system from Siemens

Baosteel Engineering and Technology Group (BSEG) Co. Ltd has ordered a dry-type dedusting system (DDS) from Siemens VAI Metals Technologies. It will be installed at an LD (BOF) steel plant which is operated by the Baosteel subsidiary Bayi Iron and Steel in Xinjiang. Thanks to the Siemens technology the steel producer will be able to meet the increasingly strict environmental regulations being imposed throughout China with respect to industrial emissions. Commissioning of the dedusting system is scheduled for the beginning of 2012.

In the oxygen-steelmaking process, large quantities of gas are released from the LD (BOF) converters which contain high concentrations of dust and carbon monoxide. To clean the converter gas it is first processed in a dedusting facility to remove both coarse and fine dust particles. In a second step, the CO-rich gas is recovered and stored in a gasholder for subsequent energy applications. Siemens VAI will equip the 150t LD converter of Bayi Steel plant with a DDS facility. The system will be able to treat 90,000 Nm³ of off-gas per hour and reduce the dust content of the raw converter gas from approximately 80-120 mg/ Nm³ to 20 mg/Nm³. With the new plant, Bayi Iron and Steel will be able to meet strict environmental regulations.

Siemens VAI is supplying key mechanical components for the DDS, including the duel-flow nozzles, electrostatic precipitator, fine dust transportation system, silencer, SOS and head of flare stack as well as all electrical and automation systems. Siemens VAI will, in addition, be supervising production, installation, testing and commissioning of the dry dedusting system.

In the DDS process, the converter off-gas is ducted from the cooling stack into an evaporation cooler where water and steam are sprayed into the gas stream by means of dual-flow nozzles. Coarse dust is also removed from the off-gas in the evaporation cooler. Removal of the fine dust
takes place in an electrostatic precipitator by means of four high-voltage fields. The fully cleaned converter off-gas is exhausted through the system by the induced-draft fan, and the composition of the gas is analyzed continuously. Depending on the CO content, a switchover station directs the cleaned converter gas either to the flare or to a gasholder for subsequent use in a steelmaking or power generation plant. Siemens VAI is the leading supplier of dedusting systems in China and has already equipped fifteen steel works with DDS and gas recovery systems. Some of the projects are currently under construction.

Baosteel Group Xinjiang Bayi Iron & Steel Co., Ltd. (Baiyi Iron & Steel plant) provides plain carbon steel products represented by long steel products, ordinary hot rolled plates, cold rolled strips and slabs, as well as seamless steel tubes. The company became a subsidiary of Baosteel Group Corporation at the end of April 2007.

Further information about solutions for steel works, rolling mills and processing lines is available at [http://www.siemens.com/metals](http://www.siemens.com/metals)

A photo supplements this press release. Please see: [http://www.siemens.com/is-picture/IIS201109326](http://www.siemens.com/is-picture/IIS201109326)
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