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ILVA orders two hot-metal desulfurization plants from SMS group

Modern technology ensures compliance with exacting environmental standards

Desulfurization plant of similar design supplied by SMS group to TATA Steel.

Italian steel producer ILVA S.p.A. has awarded SMS group an order for the supply of two hot-metal desulfurization plants for steelworks No. 1 and No. 2 at its Taranto site.
The new plants will be designed according to the latest emission control standards. A special feature of the equipment supplied by SMS group will be the high flexibility of the desulfurization plants' injection system. Desulfurization agents can be injected in two configurations: lime only (mono-injection) or both lime and magnesium together (co-injection). Commissioning of the plants is planned to take place in the early 2017.

For each plant, SMS group will supply the hoppers for the desulfurization agents, the pneumatic conveying system, the injection system with automatic lance changing equipment, the hot-metal treatment station with dog house and a slag skimming device.

SMS group will also supply a robotic system for handling the probes for sampling and temperature measurements. Also the electrical equipment, instrumentation, automation system and the required process control models will be provided by SMS group.

The project will be handled by two companies of SMS group, SMS INNSE and SMS Mevac, on a semi-turnkey basis (i.e. including on-site assembly).

"ILVA S.p.A. chose SMS group for the high efficiency of the process provided and the advanced technological solutions, which will enable the Italian steel producer to comply even with the most exacting environmental regulations of the future. A further reason was the high flexibility provided by the co-injection process", says Alberto Bregante, CEO of SMS INNSE S.p.A.
"Our design is based on latest technology developed by SMS over the last few decades while serving more than forty customers worldwide. The current hot-metal desulfurization project is the latest example of our continuing relationship with ILVA since the supply of two RH-OB units including a TOP-lance upgrade. Being an innovative company, SMS Mevac is constantly striving to optimize the design of its plants, its processes and technology. This ensures that our customers always receive premium-quality products from us", says Markus Hüllen, CEO of SMS Mevac GmbH.

In both of the plants now ordered by ILVA, desulfurization will be effected by a refractory lined immersion lance injecting powdered lime, calcium carbide or magnesium into the hot metal melt. Desulfurizing the hot metal is more economical than desulfurizing the steel later on. Before the treatment, a sample is taken in order to determine the pre-treatment sulfur content of the hot metal. Based on this analysis, the necessary quantities of lime and magnesium are calculated.

As the slag enriched with sulfur must not enter the converter, it is removed from the bath surface by a slag skimming device after the desulfurization process.

After deslagging, the hot metal temperature is measured. Then the ladle will be transferred to the steelmaking shop.

The SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. Its 14,000 employees generate sales of over EUR 3.3 bn.