



Phone: +49 211 881-4449  
Fax: +49 211 881-4386  
Mobile: +49 151 40226502  
E-mail: [thilo.sagermann@sms-group.com](mailto:thilo.sagermann@sms-group.com)  
Thilo Sagermann

## **PRESS RELEASE**

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Production increase, higher availability  
and more efficient operation

### **SMS Siemag to modernize record-breaking CSP® caster at JSW Steel**

JSW Steel Ltd., one of India's largest steel producers, has placed an order with SMS Siemag ([www.sms-siemag.com](http://www.sms-siemag.com)), Germany, for a comprehensive revamp of one of the CSP® casters at the company's Dolvi location in the Indian state of Maharashtra. The caster was supplied by SMS Siemag in 1998. The most important aim of the project is to boost the production capacity from the current 3.0 million to more than 3.3 million tons per annum.

The CSP® plant started production in 1998 with continuous caster No. 1, pioneering the CSP® technology in India. In 2003, JSW doubled its production with a second CSP® continuous caster. With an average casting speed of eight meters per minute, measured over a period of one month, JSW Dolvi holds the world record in fast casting.

To achieve the aim of producing 3.3 million tons per year in an economically efficient process, various modifications will be made to the continuous caster and the rolling mill's electrical and automation systems will undergo extensive modernization.

“The revamping concepts of SMS Siemag will enable us to bring our plant to the state of the art in technology and automation through an extensive optimization project - without the need of a major plant standstill,” says Ashok Kumar Aggarwal, Jt. Chief Executive Officer (CEO) at JSW Steel Ltd.

### **Modernization of the continuous caster**

The capacity increase will be achieved by a new strand guiding system and by the extension of casting strand No. 1 from the current 6,970 millimeters to 9,420 millimeters. In addition, casting floor No. 1 will be raised up to the level of casting floor No. 2.

In caster No. 1, the electromechanical oscillation system will be replaced by a hydraulic oscillator of the same design and with the same functions as that in caster No. 2. The new strand guiding system will be equipped with Liquid Core Reduction (LCR1) and thus also be capable of flexibly adjusting the thickness. The mold level control is to be modernized and provided with new hydraulics and the corresponding hardware.

For the conversion of the mechanical equipment and for the revamping of the electrical and automation systems, SMS Siemag has developed a customer-specific concept which can also be transferred to other casters.

The modernization of the electrical and automation systems comprises adaptations and additions to the control systems as well as integration of the technological X-Pact® systems such as mold level control, hydraulic mold oscillation and adjustment of the bending and straightening unit.

Following the revamp, the plant will primarily cast high-quality slabs of low-carbon (LC) and low-alloy HSLA steels as well as medium-carbon steels. With slab thicknesses of 65 to 50 millimeters, the plant will be designed for a casting speed of up to seven meters per minute.

The modernization will significantly increase cost efficiency of maintenance and of spare parts stocking since the two continuous casters will be identical after the revamp.

### **Modernization of the CSP® rolling mill's electrical and automation system**

The existing electrical and automation systems will be completely renewed by SMS Siemag. The modernization work, which will

commence with the descender and then continue with the six finishing stands and the cooling section through to the two downcoilers including the coil conveyor system, will be carried out during a downtime of only 23 days.

”After the modernization, our caster will be equipped with the latest state of technology and automation. Our hot strip mill will restart production with a completely new automation system and with revamped cycloconverters. We are sure that the amount and sophistication of the planning and engineering efforts dedicated by the SMS team to the project will lead to an even shorter shutdown than envisaged and make it possible to produce from the very beginning at a high quality level,” says Satya Prakash, Associate Vice President (AVP) at JSW Steel Ltd.

The supply scope of the X-Pact<sup>®</sup> electrical and automation package includes the level-2 control systems with pass schedule calculation (PSC), profile, contour and flatness control (PCFC) and cooling section control (CSC) as well as the replacement of the complete level-1 systems inclusive of the technological control systems (TCS) and basic automation.

The implementation of the innovative HMI concept from SMS Siemag with new control desks ensures an ergonomic operating process. To be able to keep the shutdown period short, use will be made of the Plug & Work procedure developed by SMS Siemag. Here, the entire automation system will be tested with the original control units in place and optimized at SMS Siemag by means of comparison with a real-time simulation of the CSP<sup>®</sup> process. This unique procedure enables defects to be detected and eliminated right in the preliminary stages. As part of the Plug & Work test, the customer's operating staff are trained beforehand on the modernized plant operation system with a view to enabling them to become quickly familiarized with the new operating concepts and to actively participate in the commissioning activities.

Besides the complete replacement of the plant automation, SMS Siemag will also replace the main drive control system while retaining the existing power sections. This will include the incorporation of new auxiliary systems and the revamping of the low-voltage drives through replacement of the converter systems. In addition to increasing the plant availability, ease of maintenance will be decisively enhanced.

Commissioning is scheduled for the spring of 2015.

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CSP<sup>®</sup> plant at the Dolvi site.



CSP<sup>®</sup> mold in operation.

SMS Siemag AG is a company of the SMS group which, under the roof of the SMS Holding GmbH, consists of a group of global players in machinery and plant construction in steel and nonferrous metals processing. Its workforce of more than 13,500 employees generates sales worldwide totaling EUR 3.3 billion.