



Marubeni

Press Release

December 1, 2016

NIPPON STEEL & SUMIKIN ENGINEERING CO., LTD.

Marubeni Corporation

Completion for JSW Steel Dolvi No.1 Blast Furnace Revamping Project

NIPPON STEEL & SUMIKIN ENGINEERING CO., LTD. (Representative Director and President: Mr. Shinichi Fujiwara) Plant & Machinery Division (“NSENGI”) and Marubeni Corporation (President and CEO: Mr. Fumiya Kokubu), together with NSENGI’s Indian Subsidiary, NIPPON STEEL & SUMIKIN ENGINEERING INDIA Pvt. Ltd. (“NSEI”(※1)) have successfully completed the Dolvi No.1 Blast Furnace Revamping Project awarded by JSW Steel Limited (※2), the largest private steel producer in India. The Dolvi No.1 blast furnace achieved a successful blow-in on March 7 2016, and reached a production output of 9,500t/d in September 2016. The Dolvi No.1 blast furnace is currently fully operational.

For many years NSENGI has developed blast furnace relining technology from “Strip Method” to “Block Method” in order to minimize the shutdown period of the blast furnace. However, in this new project, NSENGI has applied the world’s first “Single Block Method” in order to achieve the possibility of further shutdown period minimization. This Single Block Method enables the upgrading of blast furnace from the 2,000 m³ class to the 4,000 m³ class by the simple replacement of the furnace body linked with the tower structure as ‘a single block’, which has a weight of approximately 9,000 t, and a size of 20mL x 20mW x 45mH – about the same as a 15-storey building.

This Single Block Method enables the shortening of the most critical phase of the blast furnace relining, which involves dismantling the existing blast furnace and installing the new blast furnace, to only 4 days of pull-in and pull-out as a single block, unlike the conventional Block Method which requires 15 days. In addition, the conventional blast furnace relining work normally reuses the tower structure which constrains the size of the new blast furnace body. However, this new method enables the expansion of blast furnace volume without any restriction from the tower structure, thus providing further possibilities in comparison to the conventional methods.

NSENGI has a track record of more than 75 blast furnace revamping/upgrading projects. We aim to meet the requirements of our customers by reducing the time required for blast furnace relining and by further evolving our relining method. We are dedicated to play a world leading role in the technology development for the industry.

Strip-Method:	Relining with dividing the furnace body into strip-shaped pieces (New BF will be constructed after completion of dismantling existing BF)
Block Method:	Relining with dividing the furnace body into blocks (Minimize schedule by pre-assembled four pieces of BF blocks)
Single Block Method:	Relining with BF and tower structure as ‘a single block’ without dividing the furnace body (Minimize schedule and expand without restriction of tower structure)

[Project Summary]

BF Capacity: Before relining : 2,581 m³ → current capacity : 4,323 m³

Scope: Design and engineering

Main equipment supply (Top Charging & Cast House Equipment, etc.), fabrication and erection (fabrication and construction of new blast furnace, dismantling of existing blast furnace, roof elevation of existing cast house.)

※1. NIPPON STEEL & SUMIKIN ENGINEERING INDIA Pvt. Ltd. [Summary]

Established: July 2010

Location: Delhi

Capital: 75 Lacs Indian Rupee

Capital contribution ratio: NIPPON STEEL & SUMIKIN ENGINEERING CO., LTD. 99%
NS PLANT DESIGNING CORPORATION 1%

President: Mr. Takashi TAKEUCHI (assigned from NSENGI)

※2. JSW Steel Limited [Summary]

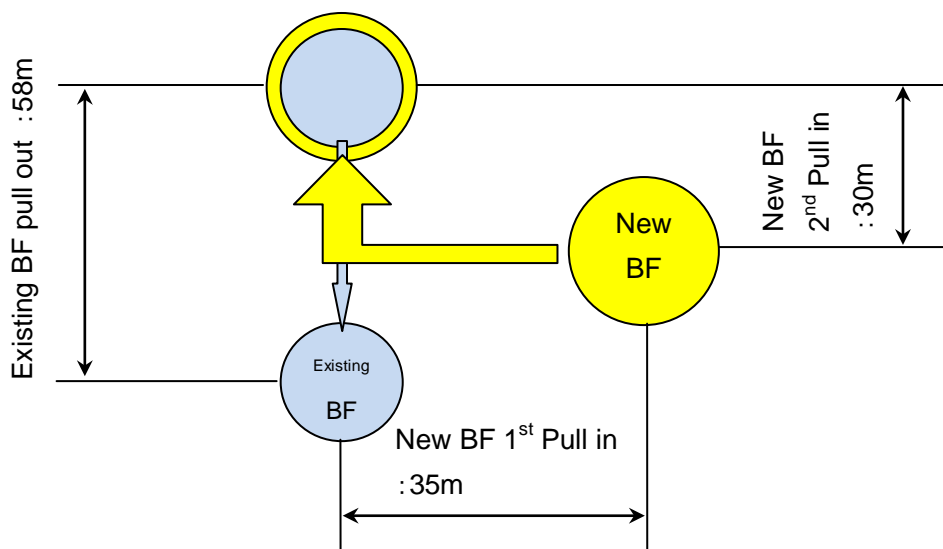
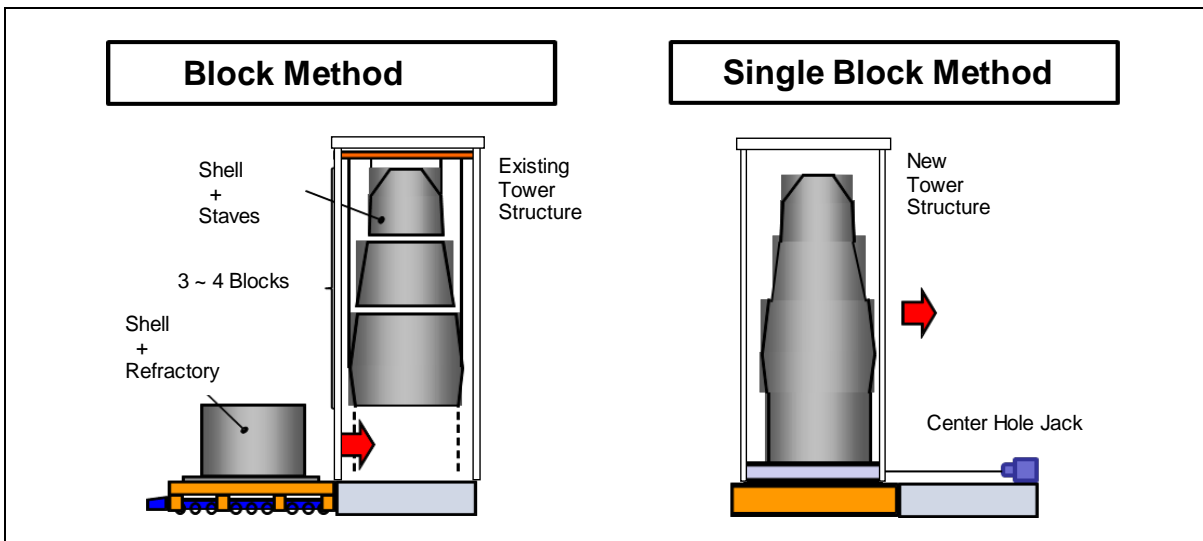
Location: Headquarters / Mumbai

Works / Vidyanagar, Dolvi, Salem, Vasind, Tarapur, Kalmeshwar

Production: 12.56 million ton (2015FY)

Net Turnover: 36,202 Cr Indian Rupee (2015FY)

Product: Hot rolled, cold rolled, color coated products, galvanized, galvalume, etc.





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New BF

Existing BF



Existing BF

New BF