

People – Know-How – Strength – Productivity

Engineering Consultancy between BSRM Steels (Bangladesh) and BSE (Germany)

BSRM Steels Ltd belongs to BSRM Group which represents Bangladesh's largest constructional steel manufacturing company with its own electric steel making and steel rolling facilities with an installed capacity of 130.000 tons per annum. BSRM Steels Ltd has embarked on a new rolling mill project of 300.000 tons per annum capacity at Chittagong, Bangladesh.

BSRM wanted to build up a bar mill close to the philosophy as BSW is it practising. Therefore Badische Stahl-Engineering GmbH (BSE) was awarded in 2005 with the contract of basic engineering for a bar mill with 300 000 t/y capacity for the planned company expansion.

BSE represents the steel producing company Badische Stahlwerke GmbH, Kehl, Germany. BSE disposes of extensive experience and state-of-the-art technology in electric steel making, wire rod and bar rolling. Based on the developed technologies and methods as well as on a large number of network-partners, rolling mills, integrated steel mills, users of different kinds of metallurgical processes as well as 'non-steel' customers are receiving consultancy services from BSE.



BSE SERVICES

The expanded rolling mill should come up with the following specifications and performance figures:

- ⊙ Intended billet sizes to be rolled: 160 mm down to 120 mm
- ⊙ The end products would be 8 mm to 12 mm through 2 / 3 / 4 slits and 20 mm to 32 mm single strand rolling, all at 60 tons per hour.
- ⊙ Billet to be rolled will be either 6 m long or 12 m long and the furnace will be 12 m wide.
- ⊙ Speed of 16 mm will be 13 to 16 m/sec to give more than 60 tons per hour production to achieve full utilization of the furnace of 60 tons per hour.
- ⊙ For some dimensions the mill should be able to produce more than 60 tons per hour, this results in 60 tons per hour in average for 8 – 32 mm
- ⊙ Later extend of the mill for wire rod production

After evaluating the situation and having had an on-site visit in Bangladesh, BSE advised to rather invest in a new turnkey bar mill. This new mill should be easily upgradeable for the future.

BSE's task was now to check the offers from turnkey suppliers and help to choose the right supplier.

In course of this new task a comprehensive visit of BSRM project team at BSE/BSW facilities in Germany was realised: Together BSE and BSRM evaluated recommendations for layout, logistics and storage, water treatment, electrical infrastructure for scope of supply of the upcoming turnkey offers. These evaluations were partially supported by a team of SMS Demag.

Besides the mutual evaluation BSRM was impressed by the BSW philosophy (People, know-how, strength, productivity) and wanted to implement from beginning this philosophy as extensively as possible for its new bar mill.

BSW Philosophy applied to BSRM

- ⊙ High **productivity** performed by **people** needs suitable **equipment** and **processes**
- ⊙ Preconditions for human to be considered for **safety** management, team work & team spirit, personnel **flexibility**
- ⊙ Equipment must assure high **availability** and full use of productivity for all dimensions, in this case by Multi-Slit-Rolling
- ⊙ Preconditions for best **organisation** and integrated **maintenance**

TIME FRAME

2005

Detailed evaluation of the offers (VAI, Danieli, Bendotti and other) and recommendations on the awarding of the contract were given to BSRM. Further on recommendations were given for auxiliaries and Tempcore design.

2006

BSE analysed the crane facilities and gave further recommendations on layout, media supply, etc and a guideline basing on chemical analysis of available billets for preparation of Tempcore cooling line for different steel grades and markets.

2007

Short before commissioning a core team of BSRM came to Germany for specific training:

This selection of BSRM executives attended tailor-made training-Seminars at BSE/BSW facilities covering the topics:

- ⊙ General Training in Operations / Management / Soft-skills
- ⊙ Slit-process (2-/3-Slitting)
- ⊙ Maintenance procedures
- ⊙ Optimal program planning
- ⊙ High productivity focussed rolling operation
- ⊙ And many more

“We thank BSE, who make it a point to reply to any of our emails, even if they are far, far away from Germany. This shows your commitment to our project. We appreciate this.”

Alihussain Akberali, Owner BSRM

2008

- ⊙ January / February: Cold Test of new bar mill
- ⊙ End of February: Start Hot Rolling Test
- ⊙ March: Official Start-up and Commissioning

Contact:

e-mail Carsten.Pfundstein@bse-kehl.de
Phone ++49-7851-877-119

RESULTS/SUCCESS

Most of the benefits resulting from the cooperation are not visible yet at this stage, but from an early stage the engineering could benefit from know-how transfer given by BSE/BSW to BSRM:

By this it was possible to save a certain portion of investment for all electric equipment given by recommendation of BSE. Simply by this realised idea the payback for a consultancy given by BSE has had a full payback and more before start up of the mill.

- ⊙ Implementation of successful **BSW Philosophy from beginning**
- ⊙ The **optimisation** of the mill layout **before contract building**. In this stage **changes** could be made **quicker** and **much easier** be performed than after start-up
- ⊙ Direct monetary benefits due to **efficient electrical input and media supply**
- ⊙ Many indirect monetary benefits because **potential upgrades** of the mill due to production / **market fluctuations** have been **already considered**

