

SULZER

Overcoming multi-fold **Chinese OEM** deficiencies to top performance

CUSTOMER	Independent power producer
LOCATION	Rajasthan, India
INDUSTRY	Power Generation
KEY SERVICES	1. OEM-X line 2. Retrofit 3. Repair & Maintenance 4. Field services



Ageing infeed pump with short MTBF and difficulty obtaining spares and support

The power plant generates over 1'000 MW of electricity using lignite fuel and relies on boiler infeed pumps to do so. In Q1 2022, one of the infeed pumps, which was manufactured in 2009 by a Chinese original equipment manufacturer (OEM), began experiencing problems and was no longer effective.

To minimize disruption and improve efficiency and reliability, the plant operator sought a solution that would minimize downtime and fit seamlessly into the existing infrastructure. They also wanted to be able to easily obtain native spare parts and service support in the future. As a result, the plant operator invited bids for the project.

The issues identified with the old pump were:

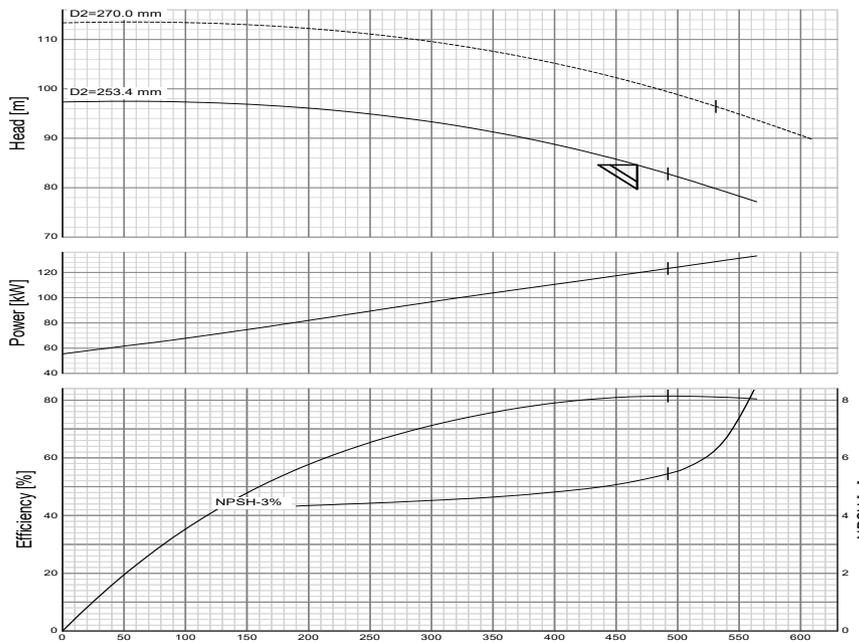
- Its efficiency was reduced to only 70%
- High energy consumption (139 kW per hour), eroding the plants margins
- It experienced mean time between failures (MTBF) of less than six months, resulting in increased costs at multiple fronts, inclusive of manhours, maintenance, parts, and downtime costs
- Sourcing expensive replacement parts such as casing, casing cover, impeller and wear parts that could take up to 12 months to obtain
- To compound issues, the Chinese OEM quoted a 1-year lead time to supply a replacement pump
- Conclusively, the power plant was struggling to get adequate and quality aftermarket support from the Shanghai headquarter Chinese OEM.

All of these factors indicated that the pump had reached the end of its useful service life.



THE SOLUTION

Responsive drop-in replacement with market-leading efficiency of 81%



Sulzer is a global pump OEM with an engineering heritage spanning more than 190 years, backed by an extensive network of service centers and manufacturing facilities in India. Having previously won the tender to supply a replacement for this brand of Chinese pump at another Indian power plant, positive word of mouth within the industry helped convince operators that Sulzer was the right choice.

Thanks to its unmatched experience and expertise as a global OEM for pumps, along with its robust supply chain, Sulzer's engineers were able to:

- Propose a pump design based on a pre-existing booster pump model which would essentially be a drop-in, turnkey replacement.
- Supply a replacement pump that would greatly improve reliability and efficiency at the required duty point to reduce plant downtime.
- Offer a pump with market-leading chrome steel - CA6NM material grade which has superior corrosion resistance for the feed-water application.
- Match the original pump's base plate design, and suction and discharge connections as the original therefore providing a plug-and-play solution.



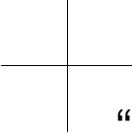
Boosted efficiency, reliability, and profitability



Beyond a one-to-one replacement, Sulzer provided an upgraded design that unlocked the efficiency, reliability and performance levels operators desired.

- It was installed without on-site modifications and civil engineering, with minimal impact to plant operations.
- Pump reliability improvement from less than 6 months MTBF to 3 years MTBO.
- It has improved the cost-effectiveness of power generation with reduced power consumption from 130kWh to 119kWh.
- Sulzer's local facilities will ensure reduced planned maintenance times compared to the previous Chinese OEM pump
- With Sulzer's localised support, the power plant operators have access to maintenance spares and training that can be delivered by a local service center, where field services personnel are available at a moment's notice





“The successful delivery of this project is most satisfying where we’ve managed to utilize our engineering strengths and robust supply chain in helping the customer to overcome this tricky problem. In fact, Sulzer has observed an increased number of support requests from users of certain Chinese OEM pumps since 2017 and we’ve supported on quite a number of such projects.”

Ronisingh Chitana, Engineering Manager, Sulzer Services (India)

PROJECT KEY FACTS

COST SAVINGS WITH SULZER VS OEM'S OFFER

40%

UPGRADED PUMP EFFICIENCY

81%

ENHANCED RELIABILITY

6 mths to 3 yrs
(MTBF TO MTBO)

REDUCTION IN ENERGY CONSUMPTION FOR BOILER INFEEED PUMP

16%

[sulzer.com](https://www.sulzer.com)

THE IMPACT

Market-leading pumps and service efficiency - a operational saviour for dynamic demands of modern power generation

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