CASE STUDY

New Life for Power Plant Boiler Feed Pumps

The Nikola Tesla power plant in Serbia worked with Sulzer to apply new technology to a major retrofit of their 30 year-old boiler feed pumps. The benefit this modification provided was a significant increase in flow rate, improved reliability and reduced maintenance costs. The project started in 2004 with the retrofit of the boiler feed pumps installed on unit A4. The success of this project resulted in Sulzer being requested to repeat the process on unit A6. The customer's intention was to complete similar retrofits of the remaining two units. This was all done within the confines of the existing barrel casing, maintaining ancillary interfaces and keeping project costs to a minimum.

The Sulzer difference

Our dedicated retrofit engineering teams specialize in delivering the optimum solution for any given pumping system. Our extensive knowledge of boiler feed pump operational behavior covers all ages and design variants allowing informed and cost-effective solutions to be identified. These are delivered without extensive modifications to the surroundings. Before any project begins, we provide customers with payback details, allowing them to make their investment decision with confidence.

The challenge

The original pumps were becoming more operationally sensitive as they began to wear. Ongoing vibration problems at sub-synchronous speeds triggered the operator to look toward Sulzer for a proposal to retrofit the pumps using modern technology. Sulzer engineers were able to demonstrate with their technical understanding of the problem and modern design solutions, a retrofit modification could deliver better rotor-dynamic stability, reduced sub-synchronous vibration, and increased machine reliability.

The solution

A state-of-the-art hydraulic design was tailored to fit the existing barrel space envelope, creating more throughput and increasing hydraulic efficiency. A mechanical design was then developed to incorporate the new pump hydraulic in a complete Sulzer pump cartridge. This pump cartridge was then custom-engineered to meet the existing barrel and ancillary component interfaces. Retention of existing drivers, barrels and major ancillaries made the solution both fast to complete and kept project costs to a minimum.

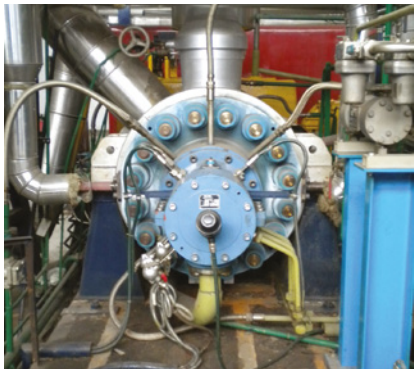
Customer benefit

- Increased flow rate, more efficient operation, increased generation = **Increased revenue**
- Enhanced reliability, less intervention = **Less maintenance required**
- Maintaining existing casing and ancillary interfaces = **Minimal project scope and cost**

Contact
retrofit@sulzer.com

Applicable markets
PRN, power generation

Applicable products
Retrofit



The retrofitted installation