SULZER

CASE STUDY

Supporting next generation gas turbines

A new-build gas-fired power station in North America has selected Sulzer pumps to support its latest generation, air-cooled gas turbine and achieve world-class efficiency. Highly optimized boiler feed and condensate extraction pumps were custom engineered for this project and delivered by Sulzer's global network of facilities.

"Sulzer's centralized engineering database means that a pump can be designed and manufactured quickly by sites throughout our global network, reducing the time for delivery. Our extensive experience in pump manufacturing enables us to customize designs quickly and ensure that we deliver a pump that offers optimum efficiency and reliability for a new project."

Patrick Welz, Head of Tendering at Sulzer

Every pump was comprehensively tested before being dispatched to the customer

Every aspect of modern power generation plants is carefully designed to optimize process efficiency. To make the most of the latest gas turbine developments and ensure optimum performance, the auxiliary equipment, such as the boiler feed pumps, need to be finely tuned for each installation.

Optimized performance

Sulzer worked closely with the OEM of the gas turbine, which can achieve full load output from standstill in 10 minutes, and designed advanced boiler feed pumps to match their performance. Utilizing its extensive knowledge and expertise in pump design, Sulzer is helping to deliver state-of-the-art power stations.

In this installation, six Sulzer model MD boiler feed pumps were supplied to the project. These large-scale pumps are manufactured on a specially designed skid that locates precisely in relation to the surrounding infrastructure. Sulzer delivered the complete build, which was assembled, aligned and tested before shipping to the power station.

The testing phases of both the condensate pumps and the boiler feed pumps were a combination of remote witnesses as well as an independent expert witness who attended in person.

Dynamic design process

Throughout the design and manufacturing process, Sulzer's collaboration with the turbine OEM ensured several challenges were overcome. Updates received from the customer with regard to any changes within the power plant that affected the boiler feed pumps were actioned promptly to ensure the expected delivery time was achieved.

A cross functional project team, coordinated by a lead engineer, facilitated a quick response and customer interaction to protect the key project milestones. Patrick Welz, Head of Tendering at Sulzer, explains: "The design process for this type of project is quite dynamic, and we have to accommodate any changes to the facility to ensure that the pumps deliver the highest possible efficiency."

In addition to the boiler feed pumps, Sulzer also supplied six 4-stage condensate extraction pumps. The SJD-CEP units from Sulzer can deliver high flows from single suction first stage solutions. The company's single-suction, multi-stage pumps are a popular choice for this type of installation. Many other manufacturers can only offer double-suction designs for this capacity of pump, but Sulzer's design reduces the complexity, length and overall footprint of the pumps.

On-time delivery

To minimize lead times, Sulzer's pumps use a proven design that is engineered to the exact specifications of each application. In this case, all six condensate extraction pumps were the same in terms of specification. With the engineering concept coming from Sulzer in the USA, the order-related engineering was completed within the company's global manufacturing network.

Six 4-stage SJD-CEP condensate extraction pumps were supplied to the power station

For any inquiries please contact

power@sulzer.com

sulzer.com