

Guaranteed Zero-Leakage Improves Plant Efficiency

Major power plant in Saudi Arabia saves millions reducing energy losses and improving plant efficiency

Industry: Fossil Power

Plant type: Power Generation

Application: HRSG and Steam Turbine

Product: ValvTechnologies' V1-1 Valve

Location: Saudi Arabia

Background: A power generation facility was using various valve types for isolation of high-pressure and/or high-temperature steam and water in their heat recovery steam generator and steam turbine systems, but persistent issues with these Y-Type globe, angle, butterfly, and gate valves were causing major efficiency losses that plagued the plant. Poorly qualified butterfly and gate valves that had soft seats/liners, along with an array of globe and angle valves with Stellite seats were the source of most failures. Elastomeric failures at high temperatures and Stellite delamination issues had become common place.

Challenge: The frequency of the valve failures was causing the plant to suffer significant amounts of water loss, often in excess of 70 tons of water in one day. These failures were causing operating costs to skyrocket due to the unexpected maintenance and losses in overall efficiency. The plant was in search of quick and reliable solutions to help stem the flow of these losses.



Solution: ValvTechnologies supported the customer and supplied more than 40 valves with sizes ranging between 1" – 8" and up to CL2500 to replace the existing valves. The inherent design of the V1 Series valves protects the seat from wear by never exposing it to the flow path of the service media. In conjunction with the superior coating technology provided in the propriety HVOF RiTech® coatings the technology behind the ValvTechnologies' solution far surpasses what the plant had previously installed. RiTech® coatings are nearly twice as hard as Stellite and maintain their hardness well beyond 537°C/1,000°F when Stellite is known to become substantially weaker. RiTech31 hardcoating technology is impervious to the effects of high-temperature cycling and will not delaminate ensuring continuous safe operation of the valve and protection of downstream components.

Valves supplied to this plant ranged in material from carbon steel to Inconel, ensuring long-life at the plants operating temperature of 560°C/1040°F.

In addition, the customer was pleased that ValvTechnologies' seat supported ball valves are backed with a four-year, zero-leakage performance warranty in isolation steam and water applications. ValvTechnologies guarantees absolute zero-leakage for four years in addition to material and workmanship.

Benefit: The customer recognized immediate improvement in plant efficiency and the obvious absence of unplanned maintenance due to failing valves all contributing to plant reliability while saving time and thousands of dollars in cost-savings.