CASE STUDY

Flotech
YOUR VALVE AND AUTOMATION EXPERTS®

POWER GENERATION

Tandem blowdown valve configurations ensure ease of maintenance, longer valve life, and a higher ROI.

Boiler Blowdown Valves

Boiler Blowdown Valves are critical to providing maximum uptime and smooth operations at today's modern power plants. The ability to maintain these valves inline, without cutting them out, saves power plants time and money.

Blowdown valves control the water level and quality in the boiler drums. They get cycled frequently during startup and shutdown. The high operating temperature and pressure of this application can cause flashing as the water goes from the high pressure of the boiler to the relatively low pressure downstream of the blowdown valve. Flashing and wire draw can produce serious erosion damage to the blowdown valve, causing it to wear out very quickly.

Flotech recently replaced welded-in boiler blowdown valves at an area power plant with a tandem configuration of automated Remington metal seated ball valves and Conval Clampseal Angle Globe Valves with actuators. The automated metal seated ball valves were installed upstream of the blowdown globe valves with the operators mounted vertically (see photo). Redesigning the piping system ensures the maintenance will be easier, the valves will last longer, and the customer gets a higher ROI.

This new tandem configuration preserves the useful life of the blowdown globe valves. When shutting down a unit with this new configuration the metal seated ball valve opens first, quickly. Next, the blowdown globe valves open slower to dump feed water. On closing, the sequence is reversed. This is so the blowdown valve isn't constantly holding the pressure.

Automated metal seated ball valves can cycle frequently, have zero leakage, and will last many years before maintenance is required. As an isolation valve, it holds the pressure so the blowdown globe valve doesn't have to. By limiting their exposure to blowdown pressure, and cycling, the blowdown globe valves will last longer.

Without deploying this new tandem valve configuration, the blowdown valves would be constantly holding the line pressure which can cause wire draw and premature wear on the disc and seat. Eventually, they will need to be replaced. Using the Conval Clampseal Angle Globe valves also provides rapid inline reparability. The valve seat, disc, and packing can be repaired inline without cutting the valve out and welding in a new valve. The inline repairablilty is ~10% of the cost of a full valve replacement, saving the customer time and money.

Want to learn more?
Contact us at www.flotechinc.com