SC-3PC Chosen for HP Turbine

CASE STUDY

Bypass Attemperator Block Valve

Plant type: Subcritical
Location: Spraywater Block Valve for HP Turbine Bypass Valve Attemperator. HP turbine bypass line off of main steam line going into the cold reheat line
Media: Boiler Feedwater
Temperature: 370°F
Pressure: 3000 psig
Size: 4 x 2 inch
Class: ASME 1500 Class
Materials: Ball / Seat – 410 SS / HVOF Chromium Carbide
Inner Stem Seal – 410 SS
Body – F22
Operator: Morin Pneumatic

The MOGAS SC–3PC was chosen to replace a leaking globe type valve on a HP turbine bypass line. The isolation valve must seal during online operation to avoid leaking boiler feedwater through the control valve.

Application: Isolation service in and around the turbine and its bypass lines is critical to the operation of the plant. This particular bypass line is used during start-up to bypass the HP turbine during the warm-up process. More importantly, it is used again in the case of an emergency turbine trip — recirculating the main steam into the cold reheat line, enabling the boiler to stay up and running during turbine repairs.

Working in tandem, the isolation valve, control valve and attemperators are fed boiler feedwater that is used to drop the pressure and temperature of the incoming main steam before it enters the cold reheat line — critical to protect the piping. A previously installed globe type valve was used in the place of the isolation valve. The valve leaked through the seat which allowed boiler feedwater to pass through the control valve and into the cold reheat line, subsequently reducing the unit heat rate and causing a damaging water hammer upon start-up.

The MOGAS SC–3PC, a three-piece valve assembly, proved to be an excellent choice for this application. It is critical that the isolation valve provide a tight seal during online operation to avoid leaking boiler feedwater through the control valve. The SC–3PC offered an attemperator block valve with zero leakage, inline repairability and at a price comparable to replacement costs

14330 East Hardy Street Houston, TX, USA 77039-1405 **www.mogas.com**
ph +1.281.449.0291 **fax** +1.281.590.3412 **email** mogas@mogas.com

MOGAS®
SEVERE SERVICE BALL VALVES