

Midwest Power Producer Gains Months of Runtime with Fisher™ Severe Service Valves

RESULTS

- Improved reliability and safety of coal pulverizer and HRSG systems
- Provided zero leakage isolation for steam lines
- Customized trim to manage noise and cavitation
- Planned valve installation to avoid downtime and meet a critical startup schedule



APPLICATION

Control and isolation valves for coal pulverizing, steam inerting, and Heat Recovery Steam Generating (HRSG) systems

CUSTOMER

Power plants in Wisconsin and Iowa

CHALLENGE

Control valves in power plants face a range of severe operating conditions including pressures up to 1900 psig inlet and temperatures up to 1000 degrees Fahrenheit. A power producer and its engineering contractor contacted Emerson's Local Business Partners and Fisher product experts for recommendations.

The coal pulverizers at a power plant in Wisconsin, for example, were getting so old that repairs would cost more than replacements. In addition, plant managers recognized a need to improve safety, with a focus on preventing the risk of explosions due to coal dust.

At the same time, the company's combined cycle plant in Iowa needed reliable valves and desuperheaters for steam control in its HRSG system. These valves would need trim to manage cavitation and noise.

Emerson design, sales, and service engineers worked to address the challenging service conditions, as well as the maintenance and safety issues at both facilities. Many of the Fisher control valves they specified were "specials" with custom alloys or testing requirements.

When it comes to meeting critical power plant applications, Emerson engineers specify Fisher valves to maximize performance while minimizing each assembly's size and weight.



The Fisher Z500 metal-seated ball valve was designed for severe service applications. It can accommodate a variety of actuators such as the FieldQ™ actuator at left.

SOLUTION

The Wisconsin plant ordered twelve new Fisher Z500 valves for its pulverizer revamp. This metal-seated ball valve will help the facility provide zero leakage isolation for the steam lines.

Both the Wisconsin and Iowa plants ordered Fisher TBX-T desuperheaters in sizes up to NPS 24. With precise spray-water injection, the devices reduce the temperature of superheated steam to the desired set point.

For the Iowa plant, Emerson supplied a large Fisher EH valve, an A11 valve, and a V260 valve with a special characterized hydrodome. Two NPS 8 CL2500 EHD or sky vent valves will be in high-pressure steam startup service. Trim for more than forty total Fisher valves ranged from standard equal percentage to special Whisper™ III or Cavitrol™ III 3-stage. Many of the assemblies met fast opening and tight shutoff requirements.

All of the valves featured FIELDVUE™ DVC6200 digital valve controllers with Performance Diagnostics. Providing linkage-less feedback and online monitoring capabilities, the FIELDVUE DVC6200 instruments can be set to run valve scans, alert operators about any performance issues, and enable predictive maintenance.

The Z500 assemblies and desuperheaters were delivered on time, and installation is underway. The sky vent assemblies are expected to ship in mid-2016. Emerson's local support at each plant included on-site service and project management capabilities.

RESOURCES



Brochure: The Silent Treatment

Fisher Solutions to Noise Problems

<http://www.documentation.emersonprocess.com/groups/public/documents/brochures/d351989x012.pdf>

 <http://www.Facebook.com/FisherValves>

 <http://www.YouTube.com/user/FisherControlValve>

 <http://www.Twitter.com/FisherValves>

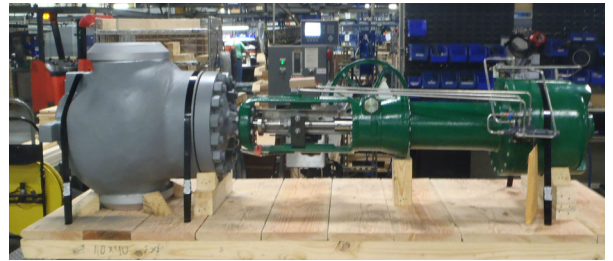
 <http://www.Linkedin.com/groups/Fisher-3941826>

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FISHER™

Because power plants often weld valves in line, installation costs can run into millions. When valve maintenance is needed, it can be a real challenge. Many power producers choose Fisher products because of their quality and reliability.



At a combined cycle plant in Iowa, six Fisher sky vent valves will control the ramp rate of the HRSG system and protect it from thermal-induced stresses. Made of custom alloys, the Fisher ED NPS 12 sky vent assembly shown above includes a 585C actuator and Whisper III trim for noise abatement.

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