

Sunbury Generation Increased Heat Rate Efficiency and Decreased Risk of Equipment Damage with Guided Wave Radar

RESULTS

- Increased heat rate efficiency
- Decreased risk of equipment damage
- Reduced labor and maintenance costs

APPLICATION

High temperature feedwater heaters

Application Characteristics: Water with saturated steam, 450 psig, 382 °F (195 °C), changing fluid density

CUSTOMER

Sunbury Generation, Shamokin Dam, PA

CHALLENGE

Sunbury Generation was concerned about the efficiency of their high pressure feedwater heaters. Water level control in the heaters affects heater efficiency, and thus plant efficiency. It also protects downstream turbines from water carryover.

The high pressure feedwater heaters were using displacer technology for level control, magnetic level gauges for visual indication, and floats for alarms. The unreliable indication of water level negatively impacted the water level in the heater due to the demanding conditions.

The previous technologies negatively impacted heat rate efficiency, increased labor and maintenance costs, and risked damage to the turbines downstream from the heater.

SOLUTION

The Rosemount 3301 Guided Wave Radar with the high temperature high pressure (HTHP) process seal replaced the three previous technologies and was installed in the displacer chambers. The design of the process seal of Rosemount 3301 made it ideally suited for this demanding application. The Rosemount 3301 was able to control the level in the heater, as it is not susceptible to changing densities like the displacer technology.

The Rosemount 3301 has no moving parts and is virtually maintenance free. Also, the design of the HTHP probe provided multiple layers of protection for the demanding conditions.



Labor and repair costs were reduced by eliminating the maintenance intensive technologies previously used.



The Rosemount 3301 Guided Wave Radar Installed at the Sunbury Generation power plant.

ROSEMOUNT[®]

For more information:
www.rosemount.com


EMERSON[™]
Process Management

COAL FIRED POWER

The Rosemount 3301 positively impacted this power plant. Through better level control, heat rate efficiency increased with known water levels inside the feedwater heater. Labor and repair costs were also reduced by eliminating the maintenance intensive technologies previously used. Finally, risk of equipment damage was reduced by protecting the downstream turbine from potential water damage.

RESOURCES

Rosemount 3300 Series

<http://www.emersonprocess.com/rosemount/products/level/m3300.html>

Rosemount 3300 Series Product Data Sheet

<http://www.emersonprocess.com/rosemount/document/pds/4811b00n.pdf>

The Emerson logo is a trade mark and service mark of Emerson Electric Co. Rosemount and the Rosemount logotype are registered trademarks of Rosemount Inc. All other marks are the property of their respective owners.

Standard Terms and Conditions of Sale can be found at www.rosemount.com/terms_of_sale

Emerson Process Management

Rosemount Division
8200 Market Boulevard
Chanhassen, MN 55317 USA
T (U.S.) 1-800-999-9307
T (International) (952) 906-8888
F (952) 949-7001
www.rosemount.com

Emerson Process Management

Blegistrasse 23
P.O. Box 1046
CH 6341 Baar
Switzerland
Tel +41 (0) 41 768 6111
Fax +41 (0) 41 768 6300

Emerson Process Management

Emerson Process Management Asia Pacific
Private Limited
1 Pandan Crescent
Singapore 128461
T (65) 6777 8211
F (65) 6777 0947
Enquiries@AP.EmersonProcess.com

Emerson FZE

P.O. Box 17033
Jebel Ali Free Zone
Dubai UAE
Tel +971 4 811 8100
Fax +971 4 886 5465

ROSEMOUNT[®]

For more information:
www.rosemount.com


EMERSON[™]
Process Management