

Replacement Valves for Biomass PowerPlant Improve Maintenance & Reliability

RESULTS:

- Reliability maintenance is simplified and minimized.
- Zero-leakage valve features eliminate damage to controls.
- Metal-seated ball valves are ideal in severe service applications.



APPLICATION

Biomass power co-generation.

CUSTOMER

Public energy utility providing steam to pulp paper mill and electricity to the power grid.

CHALLENGE

Fuel for boiler is provided by clean wood waste from sawmills, lumber & paper mills; natural gas is used for boiler start-up and auxiliary boiler. All major functions in the plant are controlled by operators with computer support to continuously monitor and report on pressures, temperatures, flow rates, etc.

The attemperator controls steam temperature but the issue was the on/off isolation valves for the attemperator control were leaking and cutting trim on the control valves. The original valves, supplied by the boiler manufacturer, were globe-style valves attached to electric actuators. The plant manager could not get adequate service support from any of the original equipment makers. Consequently, there was no consistent control of the steam generated by the boiler operation.

SOLUTION

Novaspect engineers recommended the following control configuration: three 2-inch EVS 1500 pound, 1.5-inch bore F22 body socket-weld metal seated ball valves; attached to Field Q QD600 actuators; with an Asco solenoid; and a Topworx limit switch for each unit.

Metal-seated ball valves have proven to be the valves of choice in severe service applications where critical shut-off or

The plant manager could not get any support from the original equipment manufacturers. Because of the success Novaspect has on other projects in the plant, he called us.



The solution included: three 2-inch EVS 1500 pound, 1.5-inch bore F22 body socket-welded, metal-seated ball valves; attached to Field Q QD600 actuators (not shown in drawing above); fitted with Asco solenoids; and Topworx limit switches for each unit.



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(Continued from front side.)

isolation of flow must be achieved due to safety, environmental or maintenance concerns. The installed valve assemblies are fitted with zero-leakage features, thereby eliminating damage to controls from leaks.

PERFORMANCE ANALYSIS

The plant manager is pleased with how the Novaspect solution has made valve maintenance much easier. The technicians who maintain the equipment on-site prefer the double-acting pneumatic actuator to the inferior original electric actuator performance. In addition, the local support of sales and service reps is convenient and helpful for training and troubleshooting.

To learn more about how we can solve your challenging process application, contact Novaspect today.

Each replacement valve control assembly includes: 2-inch EVS 1500 pound, 1.5-inch bore F22 body socket-welded, metal-seated ball valves; attached to Field Q QD600 actuators; with an Asco solenoid; and a Topworx limit switch for each unit.



The steam control installation before replacement of valves and controls. Original equipment had issues with leakage and damage to controls that impacted maintenance reliability. To make matters worse, there was no service support from the component manufacturers.

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