Retrofit with modern modulating actuators

Duisburg-Huckingen power plant, Germany

AR21004 | AUMA APPLICATION REPORT

By replacing old actuators with modern, high-precision modulating actuators, AUMA Service is making the Duisburg-Huckingen power plant in Germany fit for the future.

THE REQUIREMENTS

Operator RWE is successively modernising the control technology and associated field devices at its Duisburg-Huckingen power plant. More than 100 existing modulating actuators are to be replaced by modern actuators in each of the plant's two blocks. The existing actuators support operating mode S9 with continuous duty in accordance with IEC 60034-1. This corresponds approximately to class D of the current actuator standard EN 15714-2, so the replacement actuators need to meet class D requirements.

The torque of the actuators is transmitted to the valves via lever mechanisms. The existing valves and lever systems were to be retained.

It was important for RWE to have a single supplier for the entire project to be able to deal with potential problems immediately. A comprehensive service was required, from data acquisition and actuator design to delivery, installation, commissioning and test runs.

THE SOLUTION – PRECISE AND CUSTOMISED

In view of the high-precision and very dynamic modulating tasks that the actuators have to perform, AUMA proposed the high-end SEVEN HiMod modulating actuators. They support continuous duty according to class D. The actuators are combined with high-quality AUMA S.1 part-turn gearboxes.

A highlight of the project is the way the gearboxes have been modified so that their output shafts match the shafts of the old actuators. By using appropriate adapter plates between the new gearboxes and the existing space rods, it was possible to retain the complete kinematics on the valves and mount the existing levers directly on the gearbox output. This meant that the existing actuators could be replaced 1:1 with new, modern modulating actuators with greatly improved ease of operation, service-friendliness and functionality. Communication with the control system (4 – 20 mA for both setpoint and position feedback) is also retained 1:1. The customer does not need to do any rewiring and all the existing cables are retained.

COMPREHENSIVE SERVICE

AUMA Service took on the complete service package including dismantling the old devices, installing the new devices, commissioning and test running the actuators; this was a weighty task, as the heaviest of the old actuators weighed 700 kg. The AUMA service experts have the necessary equipment and are trained appropriately, so they are the clear choice for jobs like this one.

Project responsibility:
AUMA Riester, Germany

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POWER

APPLICATION

Thermal power plant

AUMA SOLUTION

- Retrofit | Replacement
- SEVEN HiMod
- Continuous control according to class D
- Part-turn gearbox S.1
- Customised adapters
- Project management & on-site service

CUSTOMER BENEFITS

- High control accuracy
- 1:1 replacement for mechanical and control connection
- Complete project implementation by AUMA Service

Before the replacement

After the replacement

1.25
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