Offshore Gas Plant Safely Upgrades Obsolete Actuators on 24" Safety Ball Valves Within Maintenance Schedule

RESULTS

- The assigned work was accomplished within the maintenance window, ensuring planned startup.
- The new actuators are more reliable, easier to maintain and offer the latest safety technology for plant personnel.
- Increase in safety precautions led to a lower risk of accidents while responding to customer needs.
- The introduced work process is safer, effective and strictly follows high standards.
- Manpower resources have been optimized to address space constraints and the complexity of the challenging environment.



Service engineer conducted a routine job safety analysis to identify and mitigate potential risks in the overall work process.

APPLICATION

These valves serve as an emergency shutdown (ESD) valve on the offshore platform, which extracts natural gas from underground reserves and processes it to remove impurities. To prevent catastrophic failure for site personnel and environment, these valves need to fully close quickly to isolate the topside of the well should any issues occur.

CUSTOMER

A natural gas extraction and processing facility located in the Gulf of Thailand operated by a state-owned oil and gas company.

CHALLENGE

An offshore riser gas compressor plant located in the Gulf of Thailand scheduled a full maintenance period of seven days. Included in the scope was replacing four 32-year-old obsolete actuators on 24" emergency shutdown ball valves. Pre-job assessments with plant personnel determined the ball valve seals also needed replacement. Additional challenges were anticipated such as the need for offshore certifications, proof testing and space and time constraints. Any delays in this service would cause a delay in startup.

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SOLUTION

Matco Thailand, a distributor of actuator products and services for Emerson, sent four qualified technicians to perform the removal of the obsolete actuators and valve bonnets. The technicians were tasked with replacing seals within the ball valve, automating four units of Shafer™ RV-Series hydraulic rotary vane actuators and proof testing the final assembly upon completion.

The Shafer RV-Series, designed for critical pipeline applications, offers integrated remote control systems that allow operators to close the valve from a central control room in the case of a sudden pressure drop.

To perform the work safely, Matco Thailand executed a comprehensive Job Safety Analysis (JSA) to identify and mitigate potential risks in the process. They also created detailed documentation to ensure safe working methods, including clear procedures in a manual that contained vital information for the team to follow.

Proactive measures included site survey training conducted in advance of starting the actuator removal and installation tasks ensuring the team was well-prepared and informed.

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