

Brownfield services: Wellhead control panel remediation



Client:

Dragon Oil

Location:

Turkmenistan

Service:

IRM services on a faulty OEM wellhead control panel

Project background

Our client was suffering from reliability issues on an OEM wellhead control panel ever since installation two years previously. The panels were experiencing multiple pressure drops, with the source and root cause unknown. This was resulting in frequent shutdowns, costing the end user millions in lost revenue. The OEM had tried several remediations to resolve the issue but could not identify the underlying problem and fix the panels.

Proserv had already supplied our own wellhead control panels to the end user on the same field, which were still fully functioning with no reliability issues. As a result, they awarded the contract to Proserv to identify the cause of the failures and repair the OEM panels.

Solution

Proserv's control specialists analysed the wellhead control panel and successfully identified the issue causing the pressure drops.

Upon inspection of the tube and fittings used in the high-pressure (HP) header, Proserv discovered that the OEM had fit incorrectly rated components. As a result, the tube fittings were operating too close to the maximum working pressure of the line, causing ferrule failure and leakage. The client had been replacing the ferrules but, without identifying the pressure issue, they kept failing.

Proserv replaced the incorrect tubing and fittings to HP (20k psi) rated components. Proserv also installed a pressure intensifier to ensure that the HP and pump discharge headers met the existing components' pressure rating.

Furthermore, Proserv identified that the installed tubing for the pump discharge header was too small. This was causing the pump start/stop controls to sense a false

line pressure and send a stop command to the pump, even before it reached the desired header pressure. Proserv installed the proper tube sizing in the pump discharge header, ensuring that the equipment sensed the correct pressure.

Conclusion

With the modifications made, the wellhead control panel came back online with all reliability issues solved. Proserv was able to identify the root cause of the multiple failures on the panel where the OEM could not. Had Proserv not found and fixed the problem, the client would have had to replace the panel. With this project, Proserv has further established our specialist controls expertise and service in the region, strengthening our relationship with Dragon Oil.

Benefits

Proserv's service delivered significant saving benefits. Replacing the entire panel would have taken 28-30 weeks; our fast-turnaround repair solved the issue in just under twelve, further reducing downtime. Repair over replacement also eliminated any carbon produced from a full panel manufacture. Finally, Proserv secured significant cost savings for the client, as the repair cost just under half that of a full panel changeout.

Our services are OEM agnostic. With a large inventory of tubing, fittings and spares across many brands we were able to quickly install the correct OEM compatible components once the problem was identified.

All work took place at our low-cost, locally staffed service centre of excellence in Abu Dhabi, allowing for fast turnaround to inspect, maintain, repair and replace active production equipment in the field.

