



STATS GROUP
Managing Pressure, Minimising Risk

20" Remote Tecno Plug, Offshore Platform, South China Sea

STATS Group has successfully carried out a double block isolation of a 20" gas pipeline operating at 125 bar in the South China Sea. This is the first time a piggable isolation plug has been deployed in Vietnam and was used to provide the operator with safe worksite conditions to replace the Shutdown Valve (SDV) during a planned maintenance turnaround.

The maintenance shutdown was the most extensive in the operator's history and involved over 240 personnel and teams from 12 technical service companies to carry out significant maintenance activities during a 10 day schedule. The replacement of the SDV was of critical importance as this provides isolation to the platform from the export pipeline during an emergency. Utilising the Remote Tecno Plug® during the shutdown prevented the Subsea Isolation Valve (SSIV) from being closed, which saved the operator considerable time and costs associated with chartering a vessel and divers to manually close the valve.

In advance of the workscope, STATS conducted a site survey on the platform to gather critical information and complete a noise survey to confirm there would be no interference with the plug communication system. The site survey information allowed STATS to produce a detailed engineering and pigability assessment. This confirmed the specification of the Remote Tecno Plug and identified the best possible isolation location.

Before deploying the equipment and personnel to the offshore platform, STATS conducted a full Factory Acceptance Test (FAT) at their headquarters in Aberdeenshire, in a purpose-built test-fixture. Due to the COVID-19 pandemic and strict travel restrictions the FAT was conducted using STATS live remote monitoring system. This system provided the client team a unique opportunity to witness the FAT without the need to attend STATS facilities in person, this was particularly beneficial to the client who was based in Vietnam.

STATS offshore personnel were allowed to travel to Vietnam due to the criticality of the workscope and the expert knowledge required to deploy and operate the isolation plug. However, strict quarantine was required as well as ensuring all personnel were vaccinated and tested regularly.

Once the DNV Type Approved Remote Tecno Plug arrived on the platform it was loaded into the pipeline launcher. The isolation plug was then pigged with nitrogen through the pressurised pipeline and tracked a distance of 45 metres, through three 3D bends and one 5D bend, passed the SDV to the exact set location. Communication with the Tecno Plug is achieved using an extremely low frequency (ELF) inductive system for reliable tracking and accurate positioning.





STATS GROUP

Managing Pressure, Minimising Risk

At location, the Tecno Plug was hydraulically set to activate the locks and dual seals. The dual seals of the Tecno Plug were then independently tested with full pipeline pressure in the correct direction to confirm leak-tight isolation and allow the pipeline to be bled down to ambient from the platform launcher to the rear of the Tecno Plug. The annulus between the Tecno Plug seals was then vented to ambient to create a zero-energy zone. This was then subject to a 12 hour isolation stability hold period before the 'Isolation Certificate' was issued.

With the isolation in place and the double block and monitor isolation verified the SDV was removed and replaced. A leak-test was performed against the rear of the set Remote Tecno Plug at 156 bar to confirm the integrity of the newly installed valve.

Throughout the workscope the Tecno Plug was constantly monitored and remained stable for the full isolation period. With the workscope successfully completed, the pipeline pressure was equalised and the Remote Tecno Plug was unset and pigged back to the launcher for demobilisation.

"This successful pipeline isolation project marks a significant milestone for STATS as it's the first time a piggable isolation plug has been used in Vietnam" said, Gareth Campbell, Regional Manager Asia Pacific for STATS Group.