



**STATS GROUP**  
Managing Pressure, Minimising Risk

## 14" Remote Tecno Plug™ | Natural Gas Liquids Plant (NGL-4)

STATS Group were required to provide double block and bleed isolation on a 14 inch NGL pipeline as part of a scheduled plant shutdown, facilitating critical maintenance of an ESD valve. Qatar Petroleum approached STATS Group to assist with providing a safe isolation at their fourth Natural Gas Liquids Plant (NGL-4) in Mesaieed Industrial City, Qatar.

In order to undertake this operation safely and efficiently, STATS proposed the use of a remotely operated Tecno Plug™. Conventional repairs of this type would typically require the pipeline to be completely hydrocarbon free by flaring the NGL and nitrogen purging the entire length of pipeline, in this case 40 kilometres, to enable a safe intervention. The NGL flaring and subsequent purging of the pipeline would have added extensive operational and procedural requirements which would have significant time, environmental and cost implications.



14" Remote Tecno Plug™ deployed at Natural Gas Liquids Plant (NGL-4), Mesaieed Industrial City, Qatar

The whole project was managed by a designated project engineer and co-ordinated by STATS Qatar based business development manager. The project began by STATS deploying a specialist field technician to the workscope location to carry out a detailed site survey, collating data and critical dimensions. Based on these findings STATS designed and manufactured a custom built Remote Tecno Plug™ at their Aberdeen headquarters.

The Remote Tecno Plug™ was configured in a four module arrangement, as design analysis proved this to be the ideal configuration to allow the tool to negotiate the pipeline system. A full Factory Acceptance Test (FAT) was performed in Aberdeen in a purpose built test fixture which was created to simulate the client pipeline configuration.

Onsite, the Remote Tecno Plug™ was deployed from an 18 inch launcher and successfully pigged passed four valves, a barred tee and monolithic joint before negotiating a 5D bend and setting immediately beyond the ESD valve. Once at the desired location the plug was set using through-wall communication. Communication is achieved using an extremely low frequency (ELF) radio control system for reliable tracking and accurate positioning. The Remote Tecno Plug™ eliminates the need for tethers or specially modified pig-trap doors and is ideally suited for valve maintenance activities.

After monitoring the set plug for 24 hours the isolation certificate was issued to verify the double block and bleed isolation, the client then carried out the maintenance work. With maintenance work successfully completed the Tecno Plug was used as a test boundary to perform a reinstatement pressure test. The plug was then unset and pigged back to the launcher for demobilisation.

Qatar Petroleum's head of business planning for gas operations commented "STATS Group demonstrated a professional approach throughout – right from bidding, handling of technical queries, on time mobilisation of STATS resources and contract execution. The site personnel allocated to this project deserve special praise for their commitment and dedication, working alongside QP operations in the most co-operative manner with the utmost regards to safety."

STATS isolation and testing services are increasingly in demand from major operators in Qatar and other Gulf States. This workscope for Qatar Petroleum is now one of many high profile contracts recently completed in the Middle East.