

Real Case Studies About an Integrated Multiservice Execution Model Using Multi-Skilling Field Crew While Incorporating Digital Technologies and Automation Enablers Along with Advanced Level of Remote Operations

A. Dixit, R.E. Gonzalez, A. Elafifi, Baker Hughes

Abstract

As technology develops rapidly, it needs to be leveraged to develop operational models that transfer personnel from high-risk areas to relatively safe & controlled remote operation centers. Traditional manning is not effective anymore and CO2 emissions have reached alarming levels leading to global warming. This paper describes one innovative operating model which encompasses multi-skilled field crews and remote operations using digital and technology enablers for which a detailed description focused on different case studies is presented.

An Integrated Multiservice model was developed, where step one was an in-depth risk assessment of the project and next, creating a RACI matrix for all personnel involved in project either at rigsite or office. All tasks traditionally performed by service company engineers were analyzed, then, identify which tasks need physical presence of engineers at the rigsite and which tasks can be performed remotely from a remote operations center. Depending on the location of the crew – rigsite or remote center, specific competency and development plans were designed. This led to forming Multiskilled service company crew at the rigsite- Field Professional (FPRO) who could now perform all physical tasks across all operations, reducing additional resources needed to travel during the operation which led to relocating skilled engineers to the remote operations center to execute the non-physical tasks. A field escalation matrix was developed to streamline the process and avoid communication barriers including a statement of requirements for communication to rig infrastructure.

To test the robustness of the model it was implemented across different geographies (North Sea, Middle East and Latin America) and tested over different environments (onshore and offshore) with successful implementation on each project. Lessons learnt from each project were shared across to improve overall service delivery, with a successful transition of up to 50% tasks from rigsite to remote center and a POB reduction up to 67% achieved in one case. The ability for one offshore customer to execute SIMOPS (Simultaneous Operations) on an old platform with POB constraints was a huge cost saving. North Sea customers experiencing frequent bad weather conditions benefitted from avoiding rig shutdown waiting on service company crew as operations were managed through a remote center. FPRO were supported by Drilling contractors personal and remote professionals operating from the remote center.

The “One team” mindset is the key for the model's success. All 3 stakeholders (Operating company, Drilling Contractor & Service company) worked together with a common purpose. Operators are now requesting to further optimize this model to gain more value. The next stage would cross-train drilling contractor personnel. Utilizing automation software for

Drilling, fluid monitoring and cementing will drive further standardization and alignment with overall project objectives. This model is a step change in how future operations take place.