Modular rig suitability assessment

Engineering phases

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Phase 1. Feasibility Study – Desktop Study

The Feasibility Desktop Study is an onshore based study. The primary focus of the study is to establish whether or not the MDR can be installed on the installation. In order to understand the equipment requirements, we first need to establish the operational parameters of which the client wishes to achieve. For example, well programme, hookload, torque, power system standalone / platform supplied, fluid & system requirements, cuttings handling, bulk storage, and so on. The study will investigate what existing facilities can be re-utilised (if available) to reduce the need for rental equipment and additional modular equipment on deck. The findings of the desktop study shall formal a detailed task and checklist to be verified during phase 2.

The desktop study phase can take between 3 -6 weeks depending upon complexity.

Phase 2. Feasibility Study – Offshore Site Survey

The Offshore Site Survey shall consist of 4 personnel travelling to the installation to verify the findings of the desktop study, establish condition of existing equipment and capture any anomalies. The personnel shall be of; Drilling, Structural, Mechanical and Electrical discipline.

The Offshore survey duration can take between 5-7 days depending upon complexity and access to site.

Phase 3. FEED Study

The Front End Engineering Design (FEED) study is conducted post offshore survey. The aim of the study is to prepare technical specifications and scopes of work for the MDR interface and equipment modification, conduct HAZID and Safety Case review activities. At this stage costs to conduct engineering activities and high level material costs to be established.

Phase 4. Detailed Engineering – MDR Interface

Phase 4 consists of detailed engineering design, inspection, HAZOP and procurement activities. Utilising the data gathered during the FEED study, the information is developed in detailed engineering drawings, workpacks. Material and engineering CTR's are revised during this phase. If during the site survey it is established that existing equipment shall require more detailed inspection by OEM or NDT companies, this shall be carried out at this stage. The deliverable of this phase is to establish and present the engineering workpacks, Cost, Time and Resources required to fabrication and conduction MDR interface activities to allow the MDR rig to be mobilised to site on a "Plug & Play" basis.

Phase 5. Engineering Interface Project

Phase 5 is the offshore construction project, where engineering teams are mobilised to the installation to conduct the interface activities required to install the MDR on the platform. These activities for example can include, tie in to platform fire and gas system, Emergency shutdown system, seawater, firewater and fuel oil supply. Power supply, bulk and fluid systems. This activity is conducted off the critical path ahead of mobilisation to mitigate any exposure to delays during MDR mobilisation. Conducting the interface activities ahead of mobilisation allows for small construction crews to be located on platform whilst minimising impact on production activities.

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