

### **Removing or maintaining redundant topside equipment on offshore installations**

Fast growing offshore maintenance work scopes increase the demand for better insights in cost and risk reduction opportunities related to redundant work scope maintenance activities.

This report describes the research on developing a structured selection methodology to compare benefits between different strategies on removing or maintaining redundant topside equipment, while taking the installation end of design life into consideration.

The selection methodology is applicable in an early project phase and structured by three consecutive steps through which the 'no removal' and three different 'removal' execution strategies are analyzed and compared. This comparison is based on the work scope corresponding fabric maintenance and deconstruction activities.

To enable the comparative assessment a costs, risks and scheduling profile per strategy is created by their corresponding execution related activities. The differences between the execution strategies are defined by the amount of deconstruction related man hours, using the platform deconstruction capacities or support by a lifting vessel and the reduction in fabric maintenance work scope. A 'removal' execution strategy is optimized based on approaching the removal on an opportunity basis.

The selection methodology is applied to a case study to evaluate its capability to select and support an execution strategy to be used as a basis for minimizing the operational expenditure relating to maintaining or removing the redundant work scope.

From the case study application, it is found that the methodology is capable to select and support an execution strategy suitable for the specific redundant work scope and correlates with the early phase project application.

Further research on including a case-by-case strategy optimization and other affected operational expenditure contributing systems is recommended.

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Student

Michiel Smit  
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Sponsor

Shell, Nederlandse Aardolie Maatschappij B.V.

Thesis committee

Prof.dr. A. Metrikine  
Ir. P.G.F. Sliggers  
Ir. J.S. Hoving  
Dr.ir. K.N. van Dalen  
H. van Kempen  
T. Wildenbeest  
H. Zant