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Decom North Sea – Lunch and Learn

Tuesday 29th September 2015



Introduction

Presentation Overview

- What Sureclean do...
- Other decommissioning experience
- FEED Studies
- Kuito FPSO
- CNRI Murchison
- Lessons learned

Sureclean Decommissioning Services

- Water Jetting
- Tank and Vessel Cleaning
- Vacuum Transfer and Pumping Solutions
- Asbestos Management
- NORM Management
- Cold Cutting and Milling Equipment
- Waste Management
- Camera Inspection

Who We Are & What We Do

- Multi-discipline service provider to the Oil and Gas Industry
- Carry out a diverse range of decommissioning services
- Facilities in Alness and Aberdeen, with strategic hubs in North Africa, West Africa, Middle East and the Mediterranean
- Large asset fleet of the latest technology certified for use in hazardous areas
- We often “collaborate” with others to work as part of an integrated team, or work direct with the operator
- We ensure the installation is hydrocarbon and hazard free, to minimise hazard exposure to the workforce and environment
- Focus on waste minimisation and have developed efficient technologies to reduce, reuse, and recycle where possible
- Highly trained, multi-skilled, experienced workforce





Water Jetting



Tank & Vessel Cleaning



Gas Monitor Management



Vacuum Transfer



Asbestos Management

Decommissioning Services



NORM Management



Pumping Solutions



Cold Cutting Techniques



Waste Management



Camera Inspection

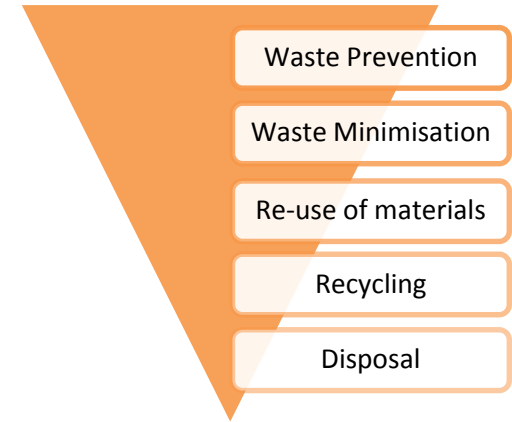
Decommissioning Experience

- We have held high profile project management roles during Engineering Down phases of various installations including North West Hutton, Maureen Alpha and Brent Spar
- Provided both equipment and manpower in support of other contractors involved in subsea and topside decommissioning projects such as MCP01 and Miller Platform decommissioning
- Provided water jetting and cold cutting during Ekofisk COD platform removal and Ekofisk EDDA decommissioning projects
- Recently carried out essential descaling and cleaning of NORM contaminated equipment in support of decommissioning Xikomba FPSO in Angola
- We collaborate with the industry engineering consultancy companies to provide feed studies with the joint aim of providing cost effective and efficient solutions for the client



FEED Studies

- Participated in a number of FEED studies to assist Operators with compliance and Duty of Care to identify best practicable environmental solution (BPES), HSE Considerations and create waste minimisation and waste separation plan
- Our concept FEED studies provide information on:
 - Development and feasibility of study
 - Alternative options
 - Project scope review
 - Hazard identification and disposal options
 - Technology solutions
 - Project schedule
 - Estimated project costs
- One recent FEED study on-board the North Sea Producer FPSO to identify options for the handling and disposal of NORM contaminated sludges: 4 NORM disposal options were suggested to the client following the study, including information on treatment facilities, current and future technologies, and estimated disposal costs



Kuito FPSO – Phased Decommissioning

- Phased decommissioning of Kuito FPSO, offshore Angola, January – December 2014
- Contracted to carry out removal of all hydrocarbons and undertake essential tank cleaning adopting minimal man entry approach in preparation for decommissioning
- We developed management and safe operating procedures to ensure the project was executed safely and efficiently
- Vacuum transfer and pumping solution used to remove materials over 100m horizontally and 30m vertically, typical removal rate of 8-12m³/h
- Over 600 tonnes of crude oil and hydrocarbon sludge with a specific gravity (SG) of up to 2.4 removed from Cargo Oil Tanks and Topside Vessels
- Scopes extended to include pipework descaling and NORM Management and cleaning of topsides modules such as hydrocyclone and separator vein packs
- Integrated team consisting of ex-pat technical supervisors and trained local workforce



Murchison Decommissioning

- Awarded the Cleaning and Waste Management contract by Aker Solutions during the Engineering-Down and Cleaning phase (EDC) of Decommissioning the Murchison Platform
- From the FEED Study phase Sureclean have been consulting on and providing key waste management and cleaning services, including the development of necessary procedures, and will continue to do so until offshore close-out
- During the EDC phase we are delivering essential descaling of pipework and vessels to remove hydrocarbon deposits
- Scopes have since extended to include cold cutting, NORM management, waste treatment and atmospheric monitoring to ensure required 10% lower explosive limits (LEL) are not exceeded



Murchison Decommissioning

- Throughout the project high pressure water jetting has been used to meet the required cleanliness standard
- We intentionally use a closed-loop cleaning system in order to capture all washings, treat the waste in order to remove hydrocarbons and recycle the water for further cleaning
- From Jan – May, the unit (fitted with a flow meter) recycled just over 1,500,000 litres of platform produced water, and returned less than 100,000 Litres of heavily contaminated onshore for treatment and disposal (Saving to the Client of approx. £210,000)
- To date, during the EDC phase, over 30,000 Sureclean man hours have been worked with zero LTI's



Lessons Learned...

- Importance of having advanced planning meetings and regular communication with the client and wider integrated team / departments
- Consideration for same dedicated focal point or dedicated project resource
 - Planning and management of tasks to optimise offshore PoB and avoid conflicting activities
 - Mob / de-mob of equipment and personnel
 - Cost control on behalf of company and client
- Weather implications and potential delays should be considered in project estimates
- Potential hazards such as NORM, Benzene, and Asbestos should be planned for at the beginning of the project instead of being flagged as an after thought
 - Waste classification should be established early to prevent confusion during offshore works
- Having the ability and flexibility to provide or have additional equipment on standby
- Importance of maintaining safety standards leading towards and during project i.e. access points v's the condition of installation and the need for reassessed risk assessments
- Importance of having multi-disciplined personnel to reduce PoB and increase project up-time and task productivity
- It is important to reduce and recycle waste streams where possible
 - Good cost control measures and reduced hidden costs i.e. boat transit, onshore treatment and disposal
 - Reduce overall carbon footprint, physical handling, risk to personnel and environment

Thank you...

Any Questions?

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