Subsea Engineering Competency Profile

DECOMMISSIONING FUNDAMENTALS	DE-008

This competency demonstrates a subsea engineer has experience in subsea and topside production system operations so that they can ensure that structures or equipment are isolated, depressurised and free of hydrocarbons, in order that they may be dismantled and/or demolished in a safe sequence.

This competency is based on the fact that others have defined the decommissioning timing and scope and that the subsea engineer will work as part of a broad multi discipline decommissioning engineering team, interfacing parties and stakeholders.

This competency ensures a subsea engineer can develop fit for purpose decommissioning scopes, recognise issues that could arise during decommissioning planning phases, develop contingencies and risk mitigations for subsea facilities or equipment destined for removal or in-situ abandonment and execute the decommissioning works.

ELEMENT OF COMPETENCE	WHAT THIS COMPETENCE MEANS IN PRACTICE	INDICATORS OF ATTAINMENT Refer to only as many Indicators of Attainment as you need to demonstrate the Element of Competence
Understanding of the business, legislative and regulatory considerations behind the decision to decommission an asset. Working knowledge of the regulatory requirements applicable to protect and preserve the environment during decommissioning, dismantling and demolition activities. Working knowledge to allow engagement with experts from relevant service providers including logistics, shipping, marine salvage, onshore recycling and onshore disposal.	Contributes to decommissioning key decisions. Can interface with relevant stakeholders to ensure the timely and cost-effective execution of decommissioning, dismantling and demolition activities.	Has experience of key non-engineering considerations at each stage of the decommissioning project lifecycle including: • Health, safety and environment • 3rd party stakeholder interests • Applicable Codes, Standards and Regulations • Project risk analysis and mitigation • Economics, Operating expenditure vs abandonment expenditure • Operating facility planning timelines

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Working knowledge of operating subsea production systems from reservoir to processing plant including: • Subsea system hardware components • Integrity management • Isolation testing for intrusive interventions • Commissioning / flushing • Topside production system operations • Pigging operations • Tree installation / removal • Subsea well plug & abandonment operations Working knowledge of offshore construction and installation techniques including: • ROV and Diver operations • Vessel Operations • Flushing • Cutting • Rigging and Lifting • Towing	Supports subsea system decommissioning methods and operations and can apply general subsea and topside production knowledge. Understands those components of the subsea production system that have the risk of explosion and/or fire. Can challenge other disciplines to ensure decommissioning is “fit for purpose” and as cost effective as possible. Can plan or execute operations in support of decommissioning, dismantling or demolition phase projects, including contingency planning for unexpected as-found conditions.	Has demonstrable expertise in managing / supporting multi discipline teams to deliver successful decommissioning scopes. Originator of scopes of work to meet fit for purpose Decommissioning outcomes, offering alternate methods and solutions where feasible. Can cite examples where the engineer has contributed significantly into a multi discipline team with minimal supervision to deliver an isolated and shut in subsea system for decommissioning project handover.
Practical experience in subsea decommissioning engineering and intrusive interventions including: • Flexible flowline and riser installation / removal • Umbilical installation / removal • Pipeline installation / removal	Can describe in detail the procedures and operations required to unload, depressurise, make hydrocarbon free and otherwise prepare particular asset types for dismantling or demolition.	Has been involved in at least two different projects with experience gained during subsea installation support, intervention campaigns or decommissioning, with offshore vessels / rigs / light well intervention.

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• Floating facility mooring systems • Mothballing and preservation • Decommissioning and Abandonment • Dealing with hazardous wastes including but not limited to naturally occurring radioactive materials, mercury and carcinogenic substances		
Working knowledge of the phased approach to decommissioning, with ability to optimise scope for current or future phases, manage decommissioned equipment integrity risks to minimise total cost.	Can describe in detail a phased approach to decommissioning including engagement with the regulator and integration with other simultaneous operations	