



Subsea Engineering Competency Profile



STRUCTURAL DESIGN ELECTIVE

SSS-002

This competency demonstrates that the subsea engineer is equipped with sufficient knowledge to effectively and successfully perform or supervise or approve the design of subsea structures.

In this context subsea structures includes such things as: temporary installation aids, manifolds, in-line structures, moorings or foundations and protection frames

ELEMENT OF COMPETENCE	WHAT THIS COMPETENCE MEANS IN PRACTICE	TYPICAL EXAMPLES OF EVIDENCE
<p>Expert Knowledge of:</p> <ul style="list-style-type: none"> ● Relevant codes and standards ● Structural design using industry recognised software packages ● External loads (subsea equipment / pipeline / environmental) and resistance (foundation) ● Equipment and structural layouts ● Fabrication constraints and methods and their impact on subsea structure design ● Diver, ROV and construction/IMR vessel interfaces ● Structural load paths during installation & operations ● Accidental load types including dropped objects, snagging loads, trawling loads <p>Working Knowledge of:</p> <ul style="list-style-type: none"> ● Material selection, corrosion protection including CP & coating systems 	<p>The subsea engineer shall be capable of:</p> <ul style="list-style-type: none"> ● Rapid identification and high level screening of conceptual layouts, installed weights and configurations ● Identifying risks, opportunities, drivers and barriers associated with subsea structure design ● Development of design basis and specifications ● Identifies how operating loads are generated and transferred through the structure to the foundation system ● Identifies which aspects of the structure design can be modified to reduce commercial, schedule, operating and installation risk ● Understands the design interfaces which must be managed to achieve acceptable design, including the interfaces between engineering disciplines on a subsea / pipeline structure design project 	<p>Refer to only as many Indicators of Attainment as you need to demonstrate the Element of Competence</p> <p>The subsea engineer shall have experience in more than two projects working in or managing a structural design team.</p> <p>Has experience of managing the design interfaces to achieve an acceptable design, including the interfaces between engineering disciplines on a subsea / pipeline structure design project</p>



ENGINEERS
AUSTRALIA

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<ul style="list-style-type: none">• Loadout, transport and offshore/subsea lifting logistics & limitations• Pipelay methods and in-line structure deployment constraints• Foundation selection optimisation based on seabed type, functional requirements and available construction spread including a knowledge of driven piles, grouted piles, suction piles and gravity based structures• Piping stress analysis		