
Overview

This unit is concerned with ensuring that safe and efficient planning, for Marine Operations and preparation of the relevant Marine systems, as defined by your organisation, are carried out for the following operations:

- 1 cargo handling
- 2 ballast handling
- 3 bilges
- 4 offloading station
- 5 bunker station
- 6 controlled space entry
- 7 restricted space entry
- 8 enclosed space entry

This unit deals with the following:

- 1 Plan the operation and prepare to start up marine operations

During this work you must take account of the relevant worksite operational requirements, procedures and safe working practices AS THEY APPLY TO YOU.

Previous version:

Unit MOT1 National Occupational Standards in FPSO/FSU – April 2005

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Plan and prepare for FPSO/FSU marine operations

Performance criteria

You must be able to:

- P1 carry out FPSO/FSU/Field operational pre-planning
- P2 update impact of weather conditions on operations
- P3 monitor all field marine operations and navigational operational parameters were established and maintained
- P4 evaluate heading control requirements against operational parameters and prevailing weather conditions
- P5 update operational pre-planning as required
- P6 validate Cargo Handling Plan
- P7 conduct team briefings
- P8 establish and maintain communications with supervisor/operations
- P9 validate vessel, process, ballast/bilge tank status, tank priorities, hydrostatic profile, power generation and utilities
- P10 carry out operational line pressure tests
- P11 complete pre-operational safety checks
- P12 establish and maintain external communications links as required
- P13 verify cargo system, ballast system, crude oil washing system, inert gas system status, bilge system and bunker system

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Knowledge and understanding

You need to know and understand:

- K1 the procedures necessary to carry out FPSO/FSU/field operational pre-planning
- K2 how to update operations taking impact of weather conditions into account (e.g. heavy weather, adverse weather, normal weather, synoptic chart, weather forecast) as appropriate
- K3 the monitoring requirements for field marine operations
- K4 how to establish and maintain navigational operational parameters using appropriate navigational aids (e.g. radar, GPS, UTM's, ARPA, charts, light/sound signals)
- K5 how to evaluate heading control requirements (e.g. prevailing weather data) against operational parameters as appropriate
- K6 how to update operational pre-planning, taking heading control requirements against operational parameters and prevailing weather conditions into account
- K7 the procedure for validating Cargo Handling Plan
- K8 how to conduct effective team briefings
- K9 the procedures for validating vessel, process, ballast/bilge tank status, tank priorities, hydrostatic profile (to include list, trim, draft), power generation utilities
- K10 how to carry out line pressure tests
- K11 the pre-operational safety checks required on navigation systems, marine systems, safety systems and utility systems
- K12 how to verify the cargo system, ballast system, crude oil washing system, inert gas system status, bilge system and bunker system
- K13 how to select, use and care for PPE (to include sight/hearing protection, gloves, footwear, hard hats, respirators)
- K14 the implications of statutory (e.g. HASAWA and COSHH) and organisational requirements
- K15 how to interpret operational requirements (e.g. relevant policies, procedures, instructions, codes of practice, standards and schedules)
- K16 the safety measures that need to be put in place and all the safety practices/procedures that need to be adhered to
- K17 how to locate and identify all control room equipment using P + ID's as appropriate
- K18 how to carry out effective shift handovers and maintain continuity
- K19 how to carry out positive reporting of instructional actions, tasks, safety measures and checks, ensuring they are clear, accurate and complete
- K20 the layout of appropriate working areas (e.g. control room, control stations)

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- K21 the structure/function/operation of: process flows, ballast system, cargo system, crude oil washing, inert gas system, cargo heating system, FPSO/FSU mooring system, bunkering systems (e.g. polymers, potable water, lube oil, diesel), instrument and plant air, vessel cooling water, diesel system and hydraulic system using P + ID's and Process Flow Diagrams as appropriate
- K22 the location of process high pressures, high temperatures and the relevant safety measures
- K23 the procedures necessary to carry out effective trouble shooting
- K24 the location, function and operation of ESD systems using P & ID's as appropriate
- K25 how to establish/maintain effective fixed/mobile communications with relevant internal/external personnel (e.g. supervisor, other operators, supply vessels)
- K26 the permit to work system
- K27 the emergency procedures relevant to the marine systems
- K28 working understanding of the terms TPC, MCTC, KG, KM, LCB, C of G, moments, Displacement, Reserve Buoyancy, angle of Loll, Volume, RVP, BS & W
- K29 the minimum and maximum allowable draft
- K30 the maximum allowable trim and limitation source
- K31 effects on vessel due to loading or discharging weights on draft, freeboard, trim, list, density (of water and crude oil)
- K32 effects on vessel of staggered loading conditions
- K33 terms and consequences of FS Effect, Stiff and Tender ship, Hogging and Sagging, Stable, Unstable and Neutral Equilibrium
- K34 terms and effects of shear force and bending moments, compressive and tensile loadings, area under curve of stability
- K35 tensile loadings
- K36 information sources in relation to the performance of manual calculations
- K37 the routine checks on the loading calculator/computer equipment

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