

COGFPSO6

Plan and prepare for FPSO/FSU cargo handling and ballast control operations



Overview

This unit is concerned with ensuring that safe and efficient planning and preparation work is carried out for the following Cargo Handling and Ballast Control operations by the FPSO/FSU Control Room:

- 1 processing (to include temperature control)
- 2 offloading/metering
- 3 storage
- 4 blowdown
- 5 isolations (effects on operations)
- 6 offloading station
- 7 shuttle connection

This unit deals with the following:

- 1 Plan the operation and prepare to start up cargo handling and ballast 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 MOT6 National Occupational Standards in FPSO/FSU – April 2005

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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 evaluate heading control requirements against operational parameters and prevailing weather conditions
- P4 update operational pre-planning as required
- P5 validate Cargo Handling Plan
- P6 conduct team briefings
- P7 establish and maintain communications with supervisor/operators
- P8 validate vessel, process, ballast tank status, tank priorities and hydrostatic profile
- P9 complete pre-operational safety checks
- P10 establish and maintain navigational operational parameters
- P11 establish and maintain external communication links as required
- P12 verify cargo system, ballast system and inert gas system status

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Knowledge and understanding

You need to know and understand:

- K1 the procedures necessary to carryout FPSO/FSU/field operational pre-planning
- K2 how to update operations taking into account the impact of weather conditions (e.g. heavy weather, adverse weather, normal weather)
- K3 how to evaluate and action heading control requirements against operational parameters (e.g. heading control, turret, thrusters, power generation, auxiliaries and prevailing weather data) as appropriate
- K4 how to update operational pre-planning taking heading control requirements against operational parameters and prevailing weather conditions into account
- K5 the procedure for validating Cargo Handling Plan
- K6 how to conduct effective team briefings
- K7 the procedures for validating vessel, process, ballast, tank status, tank priorities and hydrostatic profile (to include list, trim, draft)
- K8 how to carry out pre-operational safety checks
- K9 how to establish and maintain navigational (e.g. radar, GPS, UTM's, ARPA, charts, light/sound signals) operational parameters as appropriate
- K10 how to verify cargo system, ballast system and inert gas system status
- K11 how to select, use and care for PPE (to include sight/hearing protection, gloves, footwear, hard hats, respirators)
- K12 the implications of statutory (e.g. HASAWA and COSHH) and organisational requirements
- K13 how to interpret operational requirements (e.g. relevant policies, procedures, instructions, codes of practice, standards and schedules)
- K14 the location and identity of all control room equipment using P + ID's as appropriate
- K15 the layout of appropriate working areas (e.g. control room, control stations)
- K16 the structure/function/operation of: process flows, ballast system, cargo system, crude oil washing, inert gas system, cargo heating system, cargo metering, cargo offloading system, shuttle tanker mooring 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
- K17 the location of process high pressures, high temperatures and the relevant safety measures
- K18 how to carry out effective trouble shooting procedures
- K19 the location, function and operation of ESD systems using P & ID's as

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- appropriate
- K20 how to carry out effective handovers between shifts and maintain continuity
- K21 the permit to work system
- K22 how to carry out positive reporting of instructional actions, tasks, safety measures and checks ensuring reports are clear, accurate and complete
- K23 the emergency procedures relevant to the cargo handling and ballast control operations
- K24 the emergency procedures relevant to the marine systems
- K25 working understanding of the terms TCP, MCTC, KG, KM, LCB, C of G, moments, Displacement, Reserve Buoyancy, angle of Loll, Volume, RVP, BS & W
- K26 the minimum and maximum allowable draft
- K27 the maximum allowable trim and limitation source
- K28 effects on vessel due to loading or discharging weights on draft, freeboard, trim, list, density (of water and crude oil)
- K29 effects on vessel of staggered loading conditions
- K30 terms and consequences of FS Effect, Stiff and Tender ship, Hogging and Sagging, Stable, unstable and Neutral Equilibrium
- K31 terms and effects of shear force and bending moments, compressive and tensile loadings, area under curve of stability
- K32 tensile loadings
- K33 information sources in relation to the performance of manual calculations
- K34 the routine checks on the loading calculator/computer equipment

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