



Guidelines on the marine assessment of F(P)SOs

Assessment Criteria and Questionnaire

(Second Edition 2019)



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Glossary

As Low as is Reasonably Practicable (ALARP) Each company should develop their own definition of ALARP. OCIMF uses the UK Health and Safety Executive definition in this publication:

Making sure a risk has been reduced to ALARP is about weighing the risk against the sacrifice needed to further reduce it. The decision is weighted in favour of health and safety and against commercial interest because the presumption is that the duty-holder (e.g. the vessel operator) should implement the risk reduction measure. To avoid having to make this sacrifice, the duty-holder must be able to show that it would be grossly disproportionate to the benefits of risk reduction that would be achieved. Thus, the process is not one of balancing the costs and benefits of measures but, rather, of adopting measures except where they can be ignored because they involve grossly disproportionate sacrifices.

F(P)SO A floating offshore facility that receives stabilised hydrocarbon liquids directly or from an onboard processing facility and has a cargo transfer system to transfer cargo to offtake tankers. The term includes: FPSOs, FSOs and Floating Storage Units.

Hazard Identification study (HAZID) A structured, team-based approach to identify hazards, their potential consequences, and requirements for risk reduction.

Hazard and Operability Study (HAZOP) A structured, team-based approach to investigate how a system or plant in operation deviates from the design intent and creates risk for personnel and equipment and results in operability issues.

Permit to Work (PTW) system A system for controlling activities that expose the F(P) SO, personnel or the environment to hazard. The system will provide risk assessment techniques and apply them to the varying levels of risk that may be experienced. The system should conform to a recognised industry guideline.

Safety case A structured argument, supported by a body of evidence that provides a compelling, comprehensible and valid case that a system is safe for a given application in a given operating environment. Formal Safety Cases may be a locally legislated requirement.

Simultaneous Operations (SIMOPS) Activities that take place at the same time and are either in the same area, and/or could directly or indirectly affect the safe performance of any other activity on the facility.

System of Record (SOR) An information storage and retrieval system that is the authoritative source, to ensure data integrity.

For F(P)SO operations, the SOR controls the facility's as-built library documentation and operation and procedure manuals.

Work management system Set of work instructions for the tasks to be performed in accordance with the safety management system. It uses the PTW form as a basis to plan the task and to identify what will be required to execute the task.

Abbreviations

AI	Asset Integrity
ALARP	As Low As Reasonably Practicable
ASOG	Activity Specific Operating Guidelines
bbls	Barrels
BCM	Bow to Centre Manifold
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CALM buoy	Catenary Anchor Leg Mooring buoy
CCTV	Closed Circuit Television
COW	Crude Oil Washing
CPA	Closest Point of Approach
DP	Dynamic Positioning
DPVAD	Dynamic Positioning Verification Acceptance Document
ESD	Emergency Shutdown
ETA	Estimated Time of Arrival
F&G	Fire and Gas
FME(C)A	Failure Mode Effects (and Criticality) Analysis
F(P)SO	Floating (Production) Storage and Offloading
FSOG	Field Specific Operating Guidelines
GHG	Greenhouse Gas
H ₂ S	Hydrogen Sulphide
HAZID	Hazard Identification Study
HAZOP	Hazard and Operability Study
HSSE	Health, Safety, Security and Environment
HUET	Helicopter Underwater Evacuation Training
ICS	International Chamber of Shipping
IMO	International Maritime Organization
IOGP	International Association of Oil and Gas Producers
IPIECA	International Petroleum Industry Environmental Conservation Association
ISGOTT	International Safety Guide for Oil Tankers and Terminals
ISM Code	International Safety Management Code
ISO	International Standards Organization
ISPS	International Ship and Port Facility Security
ITPM	Inspection, Testing and Preventive Maintenance
JHA	Job Hazard Analysis
JSA	Job Safety Analysis
KPI	Key Performance Indicator
LEL	Lower Explosive Limit
LOA	Length Overall
LPG	Liquid Petroleum Gas
LSA	Life-Saving Appliance
MARPOL	The International Convention for the Prevention of Pollution from Ships
MBC	Marine Breakaway Coupling
MCP	Manual Call Point
MLC	Maritime Labour Convention
MOB	Man Over Board
MOC	Management of Change
MODU	Mobile Offshore Drilling Unit

NDT	Non-Destructive Tests
NORM	Naturally Occurring Radioactive Material
NOx	Nitrogen Oxides
OEM	Original Equipment Manufacturer
OIM	Offshore Installation Manager
OSV	Offshore Support Vessel
OVID	Offshore Vessel Inspection Database
P&ID	Piping and Instrumentation Drawing
PLT	Pneumatic Line Throwers
PMS	Planned Maintenance System
PPE	Personal Protective Equipment
PPU	Portable Pilot Unit
P/V	Pressure/Vacuum
PRS	Positioning Reference System
PSV	Pressure Safety Valve
PVSV	Pressure-Vacuum Safety Valve
QC/DC	Quick Connect/Disconnect Coupling
RRDA	Rapid Response Damage Assessment
SBS	Side-by-Side
SDS	Safety Data Sheet
SDV	Shut Down Valve
SIGTTO	Society of International Gas Tanker and Terminal Operators
SIMOPS	Simultaneous Operations
SMCP	Standard Marine Communication Phrases
SMS	Safety Management System
SO ₂	Sulphur Dioxide
SOLAS	The International Convention for the Safety of Life at Sea
SOR	System of Record
SPM	Single Point Mooring
STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
STOLGOE	The Safe Transfer of Liquefied Gas in an Offshore Environment
SWL	Safe Working Load
TAV	Towing Assistance Vessel
TCPA	Time to Closest Point of Approach
TOPM	Terminal Operations Procedures Manual
UKC	Under Keel Clearance
UNCLOS	United Nations Convention on the Law of the Sea
VOC	Volatile Organic Compounds

Bibliography

Cargo Guidelines for F(P)SOs (OCIMF)

Competence Assurance Guidelines for F(P)SOs

Competence Assurance Guidelines for Mooring, Loading and Lightering Masters (OCIMF)

Dynamic Positioning Assurance Framework: Risk-Based Guidance (OCIMF)

Guidance on Failure Modes and Effects Analysis (FMEA) (IMCA)

Guidance on Shipboard Towing and Mooring Equipment, MSC/Circ.1175 (IMO)

Guide to Manufacturing and Purchasing Hoses for Offshore Moorings (GMPHOM) (OCIMF)

Guidance for Developing and Conducting DP Annual Trials Programmes (IMCA).

Guidelines for Dynamic Positioning System (DP) Operator Training, MSC.1/Circ.738/Rev2 (IMO)

Guidelines for Offshore Marine Operations (G-OMO) (Assorted industry bodies)

Guidelines for Offshore Tanker Operations (OCIMF)

Guidelines for the application of the revised MARPOL annex I: Requirements to Floating Production, Storage and Offloading Facilities (FPSOs) and Floating Storage Units (FSUs) (Resolution MEPC.139(53)) (IMO)

Guidelines for the Design and Operation of Dynamically Positioned Vessels (IMCA)

Guidelines for Vessels and Units with Dynamic Positioning (DP) Systems, MSC.1/Circ.1580 (IMO)

Guidelines for Vessels with Dynamic Positioning Systems, MSC/Circ.645 (IMO)

International Safety Guide for Oil Tankers and Terminals (ISGOTT) (OCIMF)

International Life-saving appliance Code (MSC.48(66)) (IMO)

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW) (IMO)

Lifting and Hoisting Safety Recommended Practice (IOGP)

Pilot transfer arrangements (A.1045(27)) (IMO)

Recommendations for the Training and Certification of Personnel on Mobile Offshore Units (MOUs) (A.1079(28)) (IMO)

The Safe Transfer of Liquefied Gas in an Offshore Environment (STOLGOE) (OCIMF)

Seafarers' Hours of Work and the Manning of Ships Convention, 1996 (C180) (International Labour Organization)

Ship to Ship Transfer Guide for Petroleum, Chemicals and Liquefied Gases (OCIMF, CDI, ICS, SIGTTO)

Single Point Mooring Maintenance and Operations Guide (SMOG) (OCIMF)

Tandem Loading Guidelines (Oil and Gas UK)

The Training and Experience of Key DP Personnel (IMCA)

Transfer of Personnel by Crane Between Vessels (OCIMF)

The Use of Large Tankers in Seasonal First-Year Ice and Severe Sub-Zero Conditions (OCIMF)

Introduction

Purpose and scope

These guidelines facilitate the uniform assessment of Floating (Production) Storage and Offloading (F(P)SO) facilities. They provide a robust method for assessing the marine aspects of F(P)SO operations against international legislation and recognised industry best practice and are designed to supplement other internal assessments conducted as part of a company's auditing process.

Areas covered in this publication are marked on figure 1. below. However, the guidelines do not address aspects such as production management or non-marine F(P) SO operations. Areas excluded from this publication are helidecks/equipment, topsides equipment/procedures, turret, mooring and subsea systems. These are shown in red in figure 1. below.

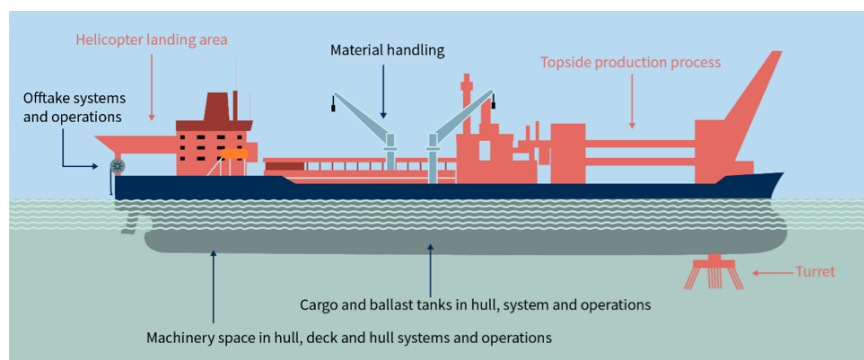


Figure 1: Areas of an FPSO included in this publication are labelled. Areas excluded from the scope of this publication are shown in red.

This publication provides a basic framework for assessment. Although the red areas in figure 1. are excluded from the publication, its scope includes marine interfaces and relationships with the areas such as those with topsides production, turret mooring, subsea systems, hydrocarbon offtake systems, pilots, support craft operators and local authorities.

The guidelines are comprised of an assessment questionnaire grouped into 12 sections, each covering a different aspect of FPSO activities. Four appendices provide examples of documentation that can be used to support the assessment process:

Appendix A is an F(P)SO particulars questionnaire to be completed by the F(P)SO. This information should be completed in as much detail as possible and forwarded to the assessor before the assessment visit.

Appendix B is a list of certificates to be completed by the F(P)SO and forwarded to the assessor before the assessment visit.

Appendix C is an example scorecard that provides a concise summary of the assessment results and findings, together with the F(P)SO's response.

Appendix D is a template that assessors can use to prepare for opening and closing meetings with the offshore F(P)SO management.

The guidelines complement other publications listed in the bibliography, such as:

- *International Safety Guide for Oil Tankers and Terminals (ISGOTT)* (OCIMF).
- *Guidelines for Offshore Tanker Operations* (OCIMF).
- *Cargo Guidelines for F(P)SOs* (OCIMF).
- *Competence Assurance Guidelines for F(P)SOs* (OCIMF).
- *Competence Assurance Guidelines for Mooring, Loading and Lightering Masters* (OCIMF).
- *Guidelines for Offshore Marine Operations (G-OMO)* (Assorted industry bodies).
- *Single Point Mooring Maintenance and Operations Guide (SMOG)* (OCIMF).
- *Safe Transfer of Liquefied Gas in an Offshore Environment (STOLGOE)* (OCIMF).
- *Dynamic Positioning Assurance Framework* (OCIMF).

ISGOTT remains the main guidance for identifying, assessing and controlling risks associated with offtake tanker and F(P)SO offtake operations. Guidelines and codes of practice published by OCIMF and other organisations such as Oil & Gas UK provide further recommendations on safely managing F(P)SO operations. Note that F(P)SOs usually operate under the national regulations of a Coastal State so those regulations take precedence over these guidelines. Where F(P)SOs are documented as vessels they may also be subject to Flag State regulations, which would also take precedence over these guidelines.

Using the assessment questionnaire

Structure of the assessment questionnaire

The assessment questionnaire addresses the full range of marine activities associated with F(P)SO operations.

Guidance is provided to help assessors judge compliance with each set of questions' objectives.

Guidelines for assessment

F(P)SO assessments should be undertaken by independent assessors accompanied by at least one representative of the F(P)SO. The scope of the assessment is centred on marine activities and it is necessary for the assessor to be experienced in this field and have at least one of the following:

- Lead auditor training, e.g. ISO/ISM or Classification Society training.
- A marine qualification, e.g. a senior certificate of competency at management level.
- F(P)SO or other Floating Offshore Installation (FOI) service in a senior marine rank.
- Supervisory/management experience in a similar type of facility.

The assessor should organise the assessment and prepare the report for the F(P)SO management.

Pre-assessment activities

Assessors should familiarise themselves with all available information about the F(P)SO before the visit. Appendices A and B contain templates that F(P)SO personnel can use to give assessors this information before their arrival.

To help the F(P)SO to prepare for the assessment, the assessor should give the F(P)SO a copy of the assessment guidelines and a clearly defined scope so that they have a clear understanding of the assessment process.

Conducting the assessment

The assessment should start with an opening meeting to brief the F(P)SO's management and operating supervisors on the process. It is essential to agree on the assessment schedule and on the F(P)SO personnel that will be made available. Appendix D is a template that can be used to prepare for this meeting and the closing meeting.

Sections 10, 11 and 12 of the questionnaire should only be completed if applicable.

The assessment process begins after the opening meeting. Observations should be made with enough detail to allow for sound judgments and assessment.

Reporting

The assessment should conclude with a meeting with the local management and operating supervisors in which the assessor presents the findings before writing the final report. Appendix C is a template for the assessment scorecard to be submitted to the F(P)SO management.

A full assessment report should be prepared for the F(P)SO management team's consideration and guidance, within an agreed timeframe.

Assessment questionnaire

1. Regulatory compliance

1.1 Certification

	Question	Y	N	N/A
1.1.1	Are F(P)SO certificates available, valid and free of memoranda and/or conditions of class?			

Guidance

The assessor should check a random sample of certificates against the information in Appendix B.

Assessor observation

Additional comment

F(P)SO response

1.2 Compliance

	Question	Y	N	N/A
1.2.1	Where compliance with a self-regulatory regime (such as a safety case) is required, does the F(P)SO meet the applicable code's intent and the guidelines for its implementation?			

Guidance

All F(P)SOs should aim to reduce the risks associated with major accident hazards to the health and safety of personnel on board. The safety case gives confidence to both the operator and other interested parties that the Operator has the ability and means to manage risks effectively.

See also: *Cargo Guidelines for F(P)SOs*, section one: Safety management.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
1.2.2	Does the F(P)SO have records demonstrating it complies with applicable legislation and regulations, as well as company policies and procedures?			

Guidance

The F(P)SO management should have a process for managing compliance with applicable legislation and regulations.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
1.2.3	Where the F(P)SO is required to comply with the ISM Code, is there a designated person in the company responsible for maintaining the ISM certification and updating procedures?			

Guidance

To ensure safe operation and to provide a link between the operator and those on board, every company should designate a person or persons ashore who have direct access to the highest level of management.

See also: *International Safety Management (ISM) Code*, part A section 4: Designated person(s).

Assessor observation

Additional comment

F(P)SO response

1.3 Documentation

	Question	Y	N	N/A
1.3.1	Does the F(P)SO keep an up-to-date library of relevant marine process safety information and industry publications to support safe operations?			

Guidance

The library should include the following principle process safety information for the FPSO managed in a System of Record (SOR):

- Safety system descriptions.
- Piping and electrical diagrams.
- Electrical classifications.
- Relief system design and basis.
- Physical plot plans.
- Mooring system and turret basis of design and commissioning data.
- Hull and structure drawings.
- Trim and stability booklets.
- Ventilation system design.
- Integrity critical equipment data sheets.
- Process flow diagrams and heat and material balances.
- Hazardous zone classification.

It should also include the following industry documents and publications:

- *ISGOTT*.
- *Guidelines for Offshore Tanker Operations*.
- *Cargo Guidelines for F(P)SOs*.
- *Competence Assurance Guidelines for F(P)SOs*.
- *G-OMO*.
- *Mooring Equipment Guidelines (MEG)*.
- *SOLAS*.
- *The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL)*.
- *International Life-Saving Appliance Code (LSA Code) (MSC.48(66))*.
- *International Ship and Port Facility Security (ISPS) Code*.

Assessor observation

Additional comment**F(P)SO response****2. Personnel and contractor management****2.1 General**

	Question	Y	N	N/A
2.1.1	Is the F(P)SO staffed to meet operational, emergency and relevant regulatory requirements?			

Guidance

The F(P)SO should provide enough personnel to ensure that all marine operations can be conducted safely and to provide emergency response. Roles should be appropriately resourced to ensure there are enough personnel to effectively monitor operations.

The F(P)SO should consider the following when allocating personnel:

- Minimum Flag State and coastal authority requirements.
- Operational and emergency response.
- Type and size of the F(P)SO.
- Level of Simultaneous Operations (SIMOPS) to be handled in routine operations and in emergency.
- Volume and type of products handled.
- Extent of topsides–marine interfaces.
- Offtake frequency, type, and size of the offtake tankers visiting the F(P)SO.
- Frequency of support boat operations alongside.
- Frequency and type of personnel transfer operations.

- Frequency of helicopter operations.
- Degree of mechanisation employed.
- Level of automation employed.
- Firefighting and emergency response duties.
- Required environmental response.
- LSA Code attendance duties (lifeboat coxswain duties).
- Liaison with adjacent/neighbouring marine facility operators.
- Requirements for facility operations including pilotage, mooring boats, line handling, hose handling and assistant mooring masters or loading masters.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
2.1.2	Are personnel resources adequately managed to prevent fatigue?			

Guidance

Extended hours or insufficient rest periods between shifts can cause fatigue.

Roles should be appropriately resourced to ensure there are enough personnel to effectively monitor operations, and to ensure that all marine operations can be conducted in a safe manner and to provide emergency response.

The F(P)SO should have a process in place to avoid fatigue by managing work/rest hours. The process should consider:

- Minimum Flag State and coastal authority requirements.
- Operational and emergency response.
- Type and size of the F(P)SO.
- Level of SIMOPS to be handled in routine operations and in emergency.
- Volume and type of products handled.
- Extent of topsides–marine interfaces.
- Offtake frequency, type and size of the offtake tankers visiting the F(P)SO.
- Frequency of support boat operations alongside.
- Frequency and type of personnel transfer operations.
- Frequency of helicopter operations.
- Degree of mechanisation employed.
- Level of automation employed.
- Fire-fighting and emergency response duties.
- Required environmental response.
- LSA Code attendance duties (lifeboat coxswain duties).
- Liaison with adjacent/neighbouring marine facility operators.
- Requirements for facility operations, including pilotage, mooring boats, line handling, hose handling, and assistant mooring masters (loading masters).

See also: *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers*, 1978 (STCW); *Seafarers' Hours of Work and the Manning of Ships Convention*, 1996 (ILO 180); *Maritime Labour Convention* (MLC) 2006 or local rules and regulations.

Assessor observation

Additional comment**F(P)SO response****2.2 Training and competency of personnel**

	Question	Y	N	N/A
2.2.1	Is there a documented process for defining and assessing staff competency?			

Guidance

F(P)SO management should have processes in place to ensure that personnel engaged in marine activities are trained and competent in their duties. Personnel should be trained in the operations undertaken and have site-specific and role-specific knowledge of safety and emergency procedures.

The following should be in place:

- Competency requirements defined for all positions.
- Training requirements defined and onboarding programme available.
- Safety critical positions defined.
- Operations continuity plan available, which details the minimum safe manning requirements to ensure safe operations and meets any applicable regulatory requirements.

See also: *Competence Assurance Guidelines for F(P)SOs; Recommendations for the Training and Certification of Personnel on Mobile Offshore Units (MOUs)* (IMO A.1079(28)) and Flag State training and competence requirements, if applicable.

Assessor observation

Additional comment

F(P)SO response

3. Safety management

3.1 Management of Change

	Question	Y	N	N/A
3.1.1	Is there a process to manage temporary and permanent changes to the facility, operations, products or the organisation?			

Guidance

The assessor should:

- Review a sample of Management of Change (MOC) documentation to confirm:
 - Due dates are reasonable, given the hazards and risks of the temporary operation.
 - Any required approvals have been obtained.
 - An adequate risk assessment has been performed.
- There is a plan for resolution (return to original service, replace by or convert to a permanent change, or extension of the temporary change).
- Check that there is an MOC authorisation process that names individuals. This should include at least a first-level authoriser (requestor), a second-level authoriser (after the technical reviews and risk assessment are complete) and a third-level approver for post-change operation.
- Check that there is an effective system for defining, categorising, approving and monitoring action items; to track and communicate temporary changes regularly; and to send notifications to MOC owners.
- Check that process safety information reflects the temporary change or that other appropriate communication of the change is provided to stakeholders.
- Check that there is a process for ceasing operation of systems and equipment if the temporary or permanent change management process is not being followed.
- Check that organisational charts, the responsibility matrix and procedures are updated according to both temporary and permanent changes.

Example of a change

The design venting capacity to maintain the pressure in any storage tank within the design limits at all times might have to be reassessed during the F(P)SO's lifecycle to take into account changes in the produced oil, production and processing, which can affect vapour generation. Operational scenarios and non-standard activities that can affect the amount of gas flashing off from the crude oil are summarised in section 4 of *Cargo Guidelines for F(P)SOs*.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
3.1.2	Does the documentation available include comprehensive ‘as-built’ construction drawings, Piping and Instrumentation Diagrams (P&IDs) and any modifications since commissioning?			

Guidance

The MOC process should include a process for updating documentation, including but not limited to: P&IDs, cause-and-effect charts, and operating and maintenance manuals.

Assessor observation

Additional comment**F(P)SO response****3.2 Safety Management System**

	Question	Y	N	N/A
3.2.1	Does the F(P)SO operate under a Safety Management System (SMS)?			

Guidance

Every F(P)SO should implement an SMS that demonstrates risks are mitigated as much as possible.

The F(P)SO's SMS should define policy and procedures specific to maritime activities, including:

- Roles and responsibilities of F(P)SO operating personnel.
- Permit to work system.
- Stop work/intervention process.
- Incident and near miss reporting process.
- Hazard identification and reporting system.
- Risk assessment process.
- Personal Protective Equipment (PPE) requirements, including supply and use.
- Safety meetings, work team briefings, toolbox meetings, Job Safety Analysis (JSA) and Job Hazard Analysis (JHA).

See also: *Cargo Guidelines for F(P)SOs*, section one: Safety management.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.2.2	Is the SMS available in the working language on board and do all F(P)SO personnel have access to it?			

Guidance

Every F(P)SO should have a written, comprehensive and up-to-date SMS available in the working language on board that is readily accessible to all personnel.

See also: *Cargo Guidelines for F(P)SOs*, section one: Safety management.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.2.3	Is an SMS in place, with documented proof of compliance with company policies and procedures, and do all F(P)SO personnel have access to the documentation?			

Guidance

The developed, implemented and maintained SMS should include the following:

- A safety and environmental protection policy and procedures that are in line with relevant international and Flag State legislation.
- Defined levels of authority and lines of communication between and among shore and shipboard personnel.
- Procedures for reporting accidents and non-conformities with the provisions of the ISM Code.
- Procedures for preparing for and responding to emergency situations.
- Procedures for internal audits and management reviews.

See also: ISM Code.

Assessor observation

Additional comment

F(P)SO response

3.3 Emergency response plan

	Question	Y	N	N/A
3.3.1	Does the F(P)SO have a written, comprehensive and up-to-date emergency response plan?			

Guidance

The emergency response plan should address at least the following incident scenarios, based on major accidents and hazards identified in the F(P)SO safety case or equivalent:

- Fire and explosion on the F(P)SO.
- Loss of containment of flammable or toxic vapours, gases, oil or chemicals (see also question 5.3).
- Collisions/loss of hull integrity.
- Environmental hazards such as high winds, waves, currents or storms.
- Security breaches, including criminal and terrorist activities, sabotage or threats against the F(P)SO.
- Man overboard.
- Loss of stability.
- Loss of structural integrity.
- Loss of mooring.
- Loss of station keeping.
- Major incidents on offtake tankers, tugs or other support vessels.
- Communications failure.
- Failure of essential monitoring systems (Green Line, Fire and Gas (F&G), Emergency Shutdown (ESD), tension, Portable Pilot Unit (PPU)).

The operators should know what actions to take and which personnel to contact for Rapid Response Damage Assessment (RRDA) or emergency response. The assessor should also check RRDA/emergency response drill compliance.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.3.2	Is the emergency response plan specific to the F(P)SO?			

Guidance

The emergency response plan should include:

- Identification of an F(P)SO emergency management team with defined roles and responsibilities.
- Support offered to the F(P)SO by onshore management (RRDA).
- Training for roles within emergency management teams.
- Linking arrangements with national authorities, local administration, local emergency services and support services.
- Contact details and resource information.
- An emergency response exercise programme, including pre-defined drill frequency.
- A procedure for medical emergency assistance, including personnel on offtake tankers and other infield vessels.

See also: *Guidelines for Offshore Tanker Operations*, section one: Applicable codes and standards.

Assessor observation**Additional comment**

F(P)SO response**3.4 Emergency evacuation**

	Question	Y	N	N/A
3.4.1	Does the F(P)SO have primary and alternative evacuation routes?			

Guidance

The F(P)SO should have at least two separate evacuation routes from all occupied or work areas. Escape routes should be located so that in the event of fire, at least one route provides a safe evacuation path far enough from the source of a probable fire to keep personnel safe during an evacuation. Evacuation routes and secondary evacuation routes should be clearly marked, and preferably numbered, so that precise route and disembarkation instructions can be given.

The emergency evacuation plan should consider the number and location of personnel to be evacuated.

See also: *ISGOTT*.

Assessor observation**Additional comment**

F(P)SO response**3.5 Risk management**

	Question	Y	N	N/A
3.5.1	Does the field operations manual contain procedures to control marine operations across the field?			

Guidance

The field operations manual should contain plans and procedures addressing:

- An up-to-date field layout showing the position of all structures and potential obstructions, including Single Point Moorings (SPMs), subsea wellheads, Mobile Offshore Drilling Units (MODUs), workover vessels, and its moorings and anchors.
- Approach route waiting areas or anchorages, safe exit corridors, restricted zones, vessel exclusion zones and pilot boarding areas.
- The manoeuvring area around an F(P)SO and SPM, criteria for determining approach and departure sectors and controlling minimum safe distance.
- Liaison with the surrounding fields about temporary obstructions, e.g. MODUs.
- Traffic management and communication with arriving vessels in the field.
- The suitability and acceptance of vessels.
- Station-keeping ability and loss of station keeping.
- The size of offtake tankers likely to be handled, including alternatives if the primary tankers are temporarily unavailable.
- Updates from formal risk assessments and Hazard and Operability studies (HAZOPs).

See also: *Guidelines for Offshore Tanker Operations and Single Point Mooring Maintenance and Operations Guide (SMOG)*.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
3.5.2	Is there an established F(P)SO Maritime Exclusion Safety Zone and vessel access arrangements that are communicated to all vessels approaching and attending to the F(P)SO?			

Guidance

There should be a vessel exclusion zone surrounding the facility that is monitored and controlled continuously for unauthorised vessel entry. Procedures should be in place for communication checkpoints, vessel identification and approval for entry.

See also: *United Nations Convention on the Law of the Sea*, article 60.5.

Assessor observation

Additional comment**F(P)SO response****3.6 Security**

	Question	Y	N	N/A
3.6.1	Does the F(P)SO have an implemented security plan with management roles and responsibilities clearly defined and assigned?			

Guidance

The assessor should check that the F(P)SO complies with the maritime security measures in:

- SOLAS.
- Parts A and B of the International Ship and Port Facility Security (ISPS) Code.

If the F(P)SO is not required to comply with SOLAS or the ISPS Code, the assessor should check whether these regulations have been considered in its security plan.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
3.6.2	Are there procedures to control access to the F(P)SO?			

Guidance

Procedures for controlling access should address:

- Restricted areas.
- Induction briefings.
- Access barriers.
- Identity checks for F(P)SO personnel, contractors and visitors.
- Personnel safety and security briefings.
- Prohibited items such as matches, cigarette lighters, firearms, weapons and unapproved portable electrical equipment.
- Physical searches for personnel and visitors (including baggage).

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.6.3	Are security plan records kept?			

Guidance

- Records should include:
- Training, drills and exercises.
 - Security threats and incidents.
 - Changes in security level.
 - Communications about the direct security of the F(P)SO, such as specific threats.
 - Internal audits and reviews of security systems.
 - Reviews of the security plan.
 - Any amendments to the plan.
 - Declaration of security.

Assessor observation

Additional comment**F(P)SO response****3.7 Personnel transfer**

	Question	Y	N	N/A
3.7.1	Are there procedures to safely transfer personnel to and from the F(P)SO and other infield vessels?			

Guidance

The following safety measures and procedures for personnel transfers should be in place:

- All personnel to be transferred have received safety training for the transfer .
- Access points are clear of obstructions and adequately lit.
- Handrails and safety netting are in place.
- Where transfer arrangements extend over the F(P)SO side, lifebuoys with light and line are available.
- There is a designated person in charge.
- Safety checklists for personnel transfer equipment are completed before first use at each transfer operation.
- A copy of the IMO poster for pilot boarding arrangements is displayed .
- Risk assessments have been carried out and documented.
- Suitable PPE, including personal flotation devices, is worn during all personnel transfers.

See also: *Guidelines for Offshore Tanker Operations*, section seven: Personnel transfer facilities; *G-OMO*, section seven: Operational best practice; and *Transfer of Personnel by Crane Between Vessels*.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
3.7.2	Do the personnel transfer procedures detail the requirements for basket transfers?			

Guidance

The following safety measures and procedures for personnel transfers should be in place:

- Crane certified for man riding.
- Crane driver trained and certified.
- Supporting personnel trained and certified.
- Inspection and maintenance regime for the baskets in use.

- Basket certificates in date.
- Safety briefings given to personnel being transferred.
- An independent pre-transfer inspection of the basket, e.g. by the safety department on board.
- Suitable PPE, including personal flotation devices, is worn during all personnel transfers.

The assessor should check whether the baskets are collapsible or rigid.

See also: *Guidelines for Offshore Tanker Operations*, section seven: Personnel transfer facilities; *G-OMO*, section seven: Operational best practice; and *Transfer of Personnel by Crane Between Vessels*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.7.3	Do the personnel transfer procedures detail the requirements for safely transferring personnel using ladder structures?			

Guidance

Note the type of ladder structure: surfer steps, a combination of pilot ladder and accommodation ladder or heave compensated mobile gangway.

The following safety measures and procedures for ladder structures should be in place:

- Ladder structures designed according to a recognised standard, i.e. classification by width, lighting and maximum load allowed.
- If a pilot ladder and accommodation ladder combination is used, it meets IMO and SOLAS requirements.
- All types of ladder structures in use are part of the Asset Integrity (AI) programme and are load tested regularly.
- Suitable PPE, including personal flotation devices, is worn during all personnel transfers.

See also: *Guidelines for Offshore Tanker Operations*, section seven: Personnel transfer facilities; *G-OMO*, section seven: Operational best practice; IMO resolution A.1045(27) and SOLAS regulation V/23 and I.

Assessor observation

Additional comment

F(P)SO response**3.8 Lifesaving appliances and first aid/medical equipment**

	Question	Y	N	N/A
3.8.1	Is the F(P)SO's lifesaving equipment suitable for site-specific hazards?			

Guidance

The F(P)SO should demonstrate that it has conducted a risk assessment to determine the quantity and type of lifesaving appliances, as well as first aid and medical equipment, needed for site-specific hazards.

For example:

- Emergency escape breathing devices.
- Respiratory protective equipment.
- Personal gas monitors.
- A marine evacuation system, e.g. chute system, lifeboats and liferafts.
- Flotation aids, including life rings, life vests and immersion suits.
- First aid kits.
- Chemical shower and eye baths.
- Resuscitation equipment.
- Defibrillator (Automated External Defibrillator (AED)).
- Hospital outfitting.
- Medical locker.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.8.2	Is the lifesaving equipment accessible and in good working condition?			

Guidance

The F(P)SO should have a programme for testing equipment to ensure its readiness for use and to meet performance standards.

Assessor observation

Additional comment**F(P)SO response****3.9 Fire protection**

	Question	Y	N	N/A
3.9.1	Is the F(P)SO's firefighting capability suitable and available for immediate use for the site-specific hazards?			

Guidance

The F(P)SO should have firefighting capabilities suited to the type and volume of cargo being handled. The firefighting capabilities and equipment should be based on regulatory requirements as a minimum, if applicable. If there are no applicable regulations, firefighting capabilities should be based on a risk assessment that considers the following:

- Design size of the offtake tankers programmed to the F(P)SO.
- Location of the F(P)SO.
- Potential impact of a product release.
- Areas to be fire protected.
- Training and experience of emergency response personnel.
- Number of personnel onboard.
- Number of trained firefighters available.

The equipment to be considered for the F(P)SO includes:

- Fire water sources.
- Foam capability and type.
- Foam and firewater delivery systems, e.g. pumps, monitors, fire lines, hoses, hydrants and deluge systems.
- Dry powder systems.

- CO2 systems.
- Water mist/fog systems.
- Portable fire extinguishers.
- Firefighting outfits and protective clothing.
- Self-contained breathing apparatus (SCBA) and compressor.
- Firefighting support vessels.
- Fire and explosion protection of essential equipment.

Assessor observation

Additional comment

F(P)SO response

3.10 Occupational health

	Question	Y	N	N/A
3.10.1	Do the F(P)SO procedures address occupational health hazards relevant to operations?			

Guidance

The F(P)SO should have procedures and controls in place to protect and monitor personnel against occupational health hazards and associated risks.

- Risk assessments should be performed when developing processes and procedures for identified hazards.
- Hazard control barriers and systems should be implemented and monitored.
- Personnel should be given awareness training on hazards, barriers and control measures.
- Personnel should have access to required PPE for all identified hazards.

Minimum safety requirements and exposure limits should be defined when handling, working in or around certain hazardous conditions or materials.

The following occupational hazards should be addressed, if applicable:

- Toxic liquids and vapours:
 - BTEX (Benzene, Toluene, Ethylbenzene and Xylenes).
 - Hydrogen Sulphide (H₂S).
 - Mercaptans.
 - Naturally Occurring Radioactive Material (NORMs).
 - Mercury.
 - Methanol.
 - Production chemicals.
- Corrosive liquids, e.g. acids or alkalis.
- Chemical powders.
- Smothering agents (CO₂, nitrogen, Inert Gas).
- Products of combustion.
- Dust (particulates), grit and dirt.
- Asbestos.
- Ergonomic work hazards.
- Slip and trip hazards.
- Fall from heights.
- Head impact hazards and dropped objects.
- Lifting injury (manual handling procedures).
- Line of fire hazards.
- Rotating equipment.
- Electrical hazards.
- Effects of heat and cold.
- Noise and vibration.
- Biological factors (micro-organisms, insects, parasites, rodents).
- Fatigue (work hour policy).
- Performance impairment (drug and alcohol policy).

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.10.2	Have occupational health hazards been identified for F(P)SO operations?			

Guidance

HAZOPs (Hazard and Operability Studies) should be in place and repeated at set intervals during the F(P)SO's life cycle to identify any new hazards introduced by operational changes.

Occupational health hazards that assessors should consider include:

- Chemical/toxic exposures.
- Physical stresses.
- Ergonomic factors.
- Biological factors.

The F(P)SO should have access to a health management provider that includes an industrial hygienist to regularly collect and monitor occupational health data.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.10.3	Are identified occupational health hazards being effectively controlled?			

Guidance

In addition to the HAZOP recommendations, a hierarchy of controls should be in place to eliminate or minimise hazard exposures as follows:

- Elimination of the hazard or hazardous material.
- Engineering controls to eliminate hazard exposure.
- Substitution with a less hazardous material.
- Administrative controls such as permit to work system, procedures and job safety analysis.
- Personal Protective Equipment (PPE).

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.10.4	Are there policies and procedures to provide PPE to personnel and visitors?			

Guidance

The assessor should check the PPE policies and procedures in place.

See *Cargo Guidelines for F(P)SOs*, section 1.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.10.5	Are Safety Data Sheets (SDSs) available for all bulk cargoes and packaged solvent and chemical products used onboard?			

Guidance

- Health and safety information for materials being handled should be available through SDSs. SDSs for cargo should be provided to all vessels loading at the F(P)SO. Infield support vessels should also be provided with SDSs as required.
- SDSs should be a maximum of five years old.
- Health and safety information for stored bulk cargoes and packaged solvent and chemical products, such as process and cleaning chemicals and paints, should be available through SDSs.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.10.6	Does the F(P)SO have a drug and alcohol policy?			

Guidance

See guidance on drugs and alcohol onboard ships, including OCIMF’s Guidelines on the Control of Drugs and Alcohol Onboard Ship.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
3.10.7	Does the F(P)SO have an asbestos management, monitoring and awareness programme?			

Guidance

Structures and piping containing asbestos should be clearly labelled, with signs warning not to disturb labelled areas.

Awareness training should be provided to all personnel at regular intervals. Visitor safety orientation should include facility asbestos awareness.

A register of facility asbestos locations, records of regular condition inspections and personnel awareness training should be kept on board.

If no asbestos is present, mark N/A.

Assessor observation

Additional comment

F(P)SO response

4. Pollution prevention and environmental management

4.1 Pollution prevention

	Question	Y	N	N/A
4.1.1	Are isolation and Shut Down Valves (SDVs) fitted in the cargo and offtake system?			

Guidance

The offtake manifold on either F(P)SOs or SPM buoys can include combinations of the following:

- Isolation valves, which may need to be sealed or locked for fiscal purposes.
- Remotely operated or automatic closing valves for ESD of cargo transfer operations.

A risk assessment should determine the need for additional remotely-operated SDVs within the F(P)SO's cargo system in case of fire, explosion or damage from impact.

See also: *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
4.1.2	Is surge protection fitted in the cargo and offtake system?			

Guidance

Surge protection should be provided based on a surge analysis of the cargo and offtake systems.

Surge analysis states to be checked are:

- Setting SDV closing times.
- Fitting of Pressure Safety Valves (PSV), surge drum or rupture disk to crash tank.

See also: *Guidelines for Offshore Tanker Operations* and *Cargo Guidelines for F(P)SOs*, section five: F(P)SO cargo operations.

Assessor observation

Additional comment

F(P)SO response

4.2 Cargo system/topsides draining and containment

	Question	Y	N	N/A
4.2.1	Does the F(P)SO have a closed drain system and procedures for clearing the cargo transfer lines and hoses?			

Guidance

The F(P)SO should have provisions for managing any operational spillages, and for safely draining and flushing the cargo transfer system, including offtake hoses. It should also have a written policy or guidance on the marine system's contents and drainage.

Closed drain system management should include:

- Containment at the cargo offtake manifold areas, metering skid and ancillaries, if applicable.
- Procedures for collecting residue, draining and disposal.
- Procedures for safely disposing of accumulated rain water and other environmentally-friendly discharges.
- Draining pipelines and hoses for routine maintenance and testing.

See also: *Cargo Guidelines for F(P)SOs*.

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
4.2.2	Are all unused cargo connections blanked or capped?			

Guidance

All hoses, manifold connections, drains and associated cargo connections should be blanked or capped. Blank flanges should be of the same rating as the system to which they are attached and fully bolted.

Decommissioned equipment should be positively isolated from the cargo system.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
4.2.3	Are hazardous and non-hazardous drain management procedures available and understood by F(P)SO operations personnel?			

Guidance

The F(P)SO should have well-defined procedures to manage both hazardous and non-hazardous drain systems. These procedures should address their impact on topsides operations and cargo storage quality, as well as the management of the different operating pressure regimes of topsides and marine systems.

Personnel carrying out F(P)SO operations need to understand how hazardous and non-hazardous drains can affect topsides operations and cargo storage (tank pressures/ cargo quality).

See also: *Cargo Guidelines for F(P)SOs*, section six: Water management.

Assessor observation**Additional comment**

F(P)SO response**4.3 Oil and chemical spill response plan**

	Question	Y	N	N/A
4.3.1	Does the F(P)SO have a marine spill response plan with clearly defined roles and responsibilities, and are there enough materials and equipment onboard to address hydrocarbon and chemical spills?			

Guidance

Every F(P)SO should be prepared to respond effectively to a spill and should have an approved oil and chemical spill response plan.

The plan should be developed in accordance with the company's policies and should include sections that address roles and responsibilities, response strategy, operations and data directories.

The plan should include:

- The name of an owner who is responsible for the plan.
- A document control section that identifies copyholders and revisions.
- Scope, including operations, type of pollutants likely to be released and a map of the geographic area.
- A description of the Tier 1 response strategy to cover all the potential pollutant types.
- Name and contact details of the spill response organisation.
- A spill risk assessment section that lists all credible spill scenarios.
- Clearly defined Tier 1, Tier 2 and Tier 3 responses and responsibilities.
- Action checklists for members of the spill response organisation.

Health and safety guidance for spill situations.

- Spill size assessment guide.
- Reporting procedures required by the company and authorities.
- Notification section, including current contact details, which is regularly reviewed.
- Inventory and maintenance records of F(P)SO clean-up resources.
- Inventory and location of out-of-area resources.
- References to hydrographical charts and sensitivity maps for the scope of the plan.

The F(P)SO's oil and chemical spill response plan should link to the local plan, national plan and any regional plan.

See also: International Petroleum Industry Environmental Conservation Association (IPIECA) guidance documents: www.ipieca.org.

Assessor observation
Additional comment
F(P)SO response

4.4 Protection of the environment from pollution and emissions

	Question	Y	N	N/A
4.4.1	Does the F(P)SO have an approved waste management plan?			

Guidance

Every F(P)SO should have procedures in place for treating or controlling the waste and harmful emissions generated by its operations.

It should also have an approved waste management plan for handling and disposing of garbage and, as appropriate, oil, oil mixtures or noxious liquid substances.

F(P)SOs must also comply with all relevant regulations or operational restrictions on:

- Slop and produced water handling.
- Sludge and oil contaminated waste handling.
- Ballast water management (including harmful aquatic organisms).

- Volatile Organic Compound (VOC) emissions.
- Greenhouse Gas (GHG) emissions.
- Nitrogen Oxides (NOX) and Sulphur Dioxide (SO₂) emissions.
- Sewage.
- Recycling.
- Garbage.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
4.4.2	Does the F(P)SO maintain oil record book entries for cargo and engine room tanks while connected to the risers?			

Guidance

The F(P)SO should have guidance on oil record book entries for cargo and engine room tanks while connected to the risers and these records should be in line with IMO guidance.

It should also have Classification Society and Flag State-approved procedures on transferring engine room bilge to the cargo slop tank, in line with IMO MEPC.139(53).

See also: IMO MEPC.139(53); *Cargo Guidelines for F(P)SOs* and *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
4.4.3	Are water overboard system procedures available and understood by personnel carrying out F(P)SO operations?			

Guidance

Personnel carrying out F(P)SO operations should be familiar with the water overboard system and its procedures. They should understand how it affects cargo storage quality and the facility's environmental impact, e.g. gravity, mechanical oil separation, discharge and oil content monitoring and chemical injection.

Records should be kept according to local, national or international regulations.

See also: *Cargo Guidelines for F(P)SOs*, section six: Water management.

Assessor observation

Additional comment

F(P)SO response

5. F(P)SO marine operations

5.1 Hazardous materials associated with F(P)SO operations

	Question	Y	N	N/A
5.1.1	Are hazardous materials identified, categorised and documented?			

Guidance

Unlike trading tankers, F(P)SOs continuously receive and manage unprocessed hydrocarbons and their associated hazardous materials. Over time, the composition of the incoming stream can change and concentrations of hazardous materials can increase.

Hazardous materials need to be identified and documented. Examples of hazardous materials are Hydrogen Sulphide (H₂S), including the formation of pyrophoric iron sulphide), Naturally Occurring Radioactive Material (NORMs), mercury, VOCs and BTEX.

The documentation should address, as a minimum:

- Hazardous material origin and properties.
- Associated hazards.
- Mitigating measures.
- Locations where the hazardous material might be present.
- Factored-in design criteria.
- Periodic re-evaluation through the lifecycle of the field.

See also: *Cargo Guidelines for F(P)SOs*, section two: Hazardous materials associated with F(P)SO operations.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
5.1.2	Are there procedures for managing the bulk storage of methanol and production chemicals?			

Guidance

Procedures for managing the bulk storage of methanol and production chemicals should include:

- Bulk chemical and methanol transfer to topsides service tanks.
- The different pressure regimes of topsides and marine systems.
- The properties of liquids, e.g. flammability, permeability, corrosiveness, volatility and density.
- Exposure to health risks (including an SDS).
- Breaking containment to maintain piping and equipment.
- Isolation requirements.

See also: *Cargo Guidelines for F(P)SOs*, section two: Hazardous materials associated with F(P)SO operations.

Assessor observation

Additional comment**F(P)SO response****5.2 General hazards associated with F(P)SO operations**

	Question	Y	N	N/A
5.2.1	Are hazardous areas identified, categorised and documented?			

Guidance

F(P)SOs are required to undertake oil and gas processing, loading, discharging and maintenance activities concurrently. These activities can introduce hazards that are not typically experienced on tankers or offshore process platforms.

Hazards should be identified through a risk analysis.

Drawings should be available, showing the F(P)SO's hazardous zones both in plan and elevation.

See also: *Cargo Guidelines for F(P)SOs*, section three: General hazards associated with F(P)SO operations.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
5.2.2	Does the F(P)SO have a gas management plan?			

Guidance

The gas management plan should address:

- Keeping tank pressure within operational limits.
- Cold venting of hydrocarbon vapours (inert gas vented from cargo spaces usually contain high concentrations of hydrocarbon vapours).
- Positioning of Pressure/Vacuum (P/V) valves.
- Monitoring of the Lower Explosive Limit (LEL) through the gas detection system.
- Continuous loading during other activities.

- Gas moving to a hazardous area, e.g. expected venting from cargo tanks in calm weather.
- Gas release in pump room.
- Purging of cargo tanks.
- Electrical storms.
- Equipment failure.
- SIMOPS, particularly during helicopter operations, Side-by-Side (SBS) and personnel transfer.

See also: *Cargo Guidelines for F(P)SOs*, section three: General hazards associated with F(P)SO operations and section four: Storage tank atmosphere control and venting arrangements.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
5.2.3	Do procedures address portable electrical and electronic equipment?			

Guidance

The procedures should address:

- Using portable electrical and electronic equipment in hazardous areas.
- Inspecting and marking portable electrical equipment.
- Permits for using portable battery-operated equipment that is not intrinsically safe.

See also: *Cargo Guidelines for F(P)SOs*, section three: General hazards associated with F(P)SO operations.

Assessor observation

Additional comment

F(P)SO response

5.3 Storage tank atmosphere control and venting arrangements

	Question	Y	N	N/A
5.3.1	Are there procedures for keeping storage tanks in an oxygen-deficient condition and keeping tank pressure within operating limits?			

Guidance

Protection against tank explosion is based on inert gas or gas blanketing and venting systems to keep the cargo storage tanks in an oxygen-deficient condition and keep tank pressure within operating limits. Compared to tankers, the header system on an F(P)SO is more complex due to the need for concurrent cargo loading and offloading operations, as well as storage tank inspection and maintenance while offshore and producing.

Storage tank atmosphere control and venting procedures should address, as a minimum:

- Venting and inert gas supply, or vapour recovery and hydrocarbon gas supply, to the storage tanks during oil and gas processing, loading and offloading of the F(P)SO.
- Clear sequential overview of the various vacuum release and pressure release settings of the P/V valves, Pressure-Vacuum Safety Valves (PVSVs) and liquid-filled breakers, including associated alarm settings.
- Regular routine checks, such as levels in liquid-filled breakers.

See also: *Cargo Guidelines for F(P)SOs*, section four: Storage tank atmosphere control and venting arrangements.

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
5.3.2	Are there maintenance routines and procedures (with records available) to ensure proper functioning of the safety devices that prevent over- and under-pressure of the storage tanks?			

Guidance

The maintenance procedures should address:

- The risks of carrying out maintenance activities while the F(P)SO is in operation.
- Cleaning and function checks of safety devices.
- Liquid levels and cleanliness of sight glass of liquid-filled P/V breakers.
- Cold weather.

The F(P)SO's maintenance management system should include records that demonstrate proper functioning of the safety devices that prevent over- and under-pressure of the storage tanks.

See also: *Cargo Guidelines for F(P)SOs*, section four: Storage tank atmosphere control and venting arrangements.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
5.3.3	Are there procedures for taking one or more tanks out of service for inspection and maintenance while producing into the remaining tanks?			

Guidance

The procedures to take one or more tanks out of service should address the operational needs of the F(P)SO. They should also:

- Permit safe access to cargo tanks.
- Allow inspection and maintenance to be carried out in a tank while the other tanks are in service.
- Meet isolation requirements.

See also: *Cargo Guidelines for F(P)SOs*, section four: Storage tank atmosphere control and venting arrangements.

Assessor observation

Additional comment**F(P)SO response****5.4 F(P)SO cargo operations**

	Question	Y	N	N/A
5.4.1	Is there a cargo tank management plan in place with procedures for F(P)SO cargo operations?			

Guidance

The plan should provide procedures for:

- Loading from the processing plant to storage tanks.
- Preventing storage tanks from being overfilled.
- Managing the different operating pressure regimes of topsides and cargo storage (and the potential over-pressurisation of storage tanks in case of topsides blowdown).
- Taking precautions to evade unintended shut-in against rundown flow, resulting in a process shutdown.
- Minimising hull fatigue through a set of cyclic loading conditions.
- Offloading.
- Controlling pump speed, including flow, pressure and surge prevention.
- Water ballasting and deballasting.
- Internal cargo transfer.
- Cargo tank stripping.
- Crude oil washing.
- Cargo tank heating.
- Sampling.
- Cargo measurement and calculation.
- Handling live crude oil or weathered crude oil.

- Deck and pumproom duties.
- Alternative means to discharge a tank in case of deepwell pump failure.

While concurrently undertaking:

- Hull stress stability management.
- Water management (see also section 5.5).
- IG/Hydrocarbon (HC) gas supply and venting.
- Oil and gas processing.

And possibly while concurrently undertaking:

- In-tank maintenance activities.

See also: *Cargo Guidelines for F(P)SOs*, section five: F(P)SO cargo operations and *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
5.4.2	Are stability and stress requirements managed within operating limits?			

Guidance

The F(P)SO is normally equipped with approved stability software to give the operators information on the F(P)SO's stability and the stresses being imposed on the hull form. This software should not be used as a substitute for the approved stability information book, but only as additional information.

There should be procedures in place for using the loading computer, addressing:

- Facility-specific stability and longitudinal and local strength requirements.
- Cyclic loading conditions that break up the loading operation between offtakes into several sequential steps. This is to minimise hull fatigue and keep trim/heel sets within set limits to avoid process upsets.
- Loading conditions that allow access for inspection and repair of storage and ballast tanks.
- Loading conditions for special activities such as disconnection from field, transit, dry-docking, hook up or thruster maintenance.
- Damage stability.

See also: *Cargo Guidelines for F(P)SOs*, section five: F(P)SO cargo operations.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
5.4.3	Is there a documented process for management of off-specification (off-spec) products?			

Guidance

The F(P)SO should have storage and reprocessing procedures for off-spec product (such as oil or water) to address its influence on production, as well as the different operating pressure regimes of topsides and cargo storage.

Personnel engaged in F(P)SO operations should be familiar with off-spec product storage and reprocessing procedures and should understand how it affects the production operations and cargo storage quality, e.g. settling, oil skimming, water decanting, pumping back to topsides and water over-boarding.

See also: *Cargo Guidelines for F(P)SOs*, section six: Water management.

Assessor observation**Additional comment**

F(P)SO response**5.5 Water management**

	Question	Y	N	N/A
5.5.1	Is an in-hull water management plan developed and used?			

Guidance

The F(P)SO should have an in-hull water management plan developed to address water mixtures that originate from sources including:

- Off-spec produced water that does not meet permissible discharge or injection limits.
- Water washing of storage tanks, cargo, piping, metering and hose systems.
- Open and closed drain systems.
- Machinery space bilge water.
- Water in cargo tanks (free water), cargo pumps, piping and offloading systems.

The plan should address their influence on storage capacity, cargo quality and production operations, as well as the environmental impact of the facility operations.

Personnel engaged in F(P)SO operations should be familiar with in-hull water management procedures and should understand how it affects production operations and cargo storage quality (such as in-hull polishing, settling, oil skimming, water decanting, pumping back to topsides, co-mingling of water streams, chemical treatment or discharging overboard).

See also: *Cargo Guidelines for F(P)SOs*, section six: Water management.

Assessor observation

Additional comment**F(P)SO response****5.6 Crude Oil Washing**

	Question	Y	N	N/A
5.6.1	Is there an F(P)SO field-specific Crude Oil Washing schedule and is it being followed?			

Guidance

Most F(P)SOs will experience a build-up of sediments, sludge and scale, referred to as muck, in the bottom of the storage tanks. This muck poses a problem for tank entry and has to be removed and disposed of before inspection or repair activities, due to health and safety hazards. The most efficient way to control muck and reduce the need for manual removal is to use the facility's Crude Oil Washing (COW) system to reintroduce the muck back into the crude stream and discharge it in the offtake crude. A COW schedule for the F(P)SO should cover all the crude tanks. Records of COW should be kept.

See also: *Cargo Guidelines for F(P)SOs*, section seven: Crude Oil Washing.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
5.6.2	Are all COW machines operational?			

Guidance

COW machines might remain unused for several months. The F(P)SO's asset integrity (AI) programme and maintenance management system should address the planned maintenance routines according to the manufacturer's recommendations.

There should also be a programme in place to ensure fixed tank cleaning machines remain operational between periods of use. The programme should include:

- Moving the machines manually or by pumping fluids.
- Records of use for each COW machine.

See also: *Cargo Guidelines for F(P)SOs*, section seven: Crude Oil Washing.

Assessor observation

Additional comment**F(P)SO response****5.7 Tank cleaning and gas freeing for entry**

	Question	Y	N	N/A
5.7.1	Are there tank cleaning and gas freeing procedures for storage tanks?			

Guidance

Muck can build up in storage tanks due to sediments from well fluids, sand, NORMs, completion fluids and tank corrosion. This muck can pose a problem for tank entry and in many cases, it has to be removed and disposed of before inspection or repair activities can take place. In all cases, the health and safety hazards should be assessed before any in-tank work or inspection is undertaken.

Cleaning of storage tanks should be pre-planned and can include:

- COW.
- Cold or hot water tank washing. In some cases, chemicals are required for cleaning.
- Flushing, stripping and draining of piping and tanks.
- Closing and securing valves.
- Gas freeing using permanently installed blowers (including associated positive isolation).
- Using portable gas freeing fans to maintain the gas free tank environment.
- Determining air intake locations.
- A continued tank inspection programme using integrated skids suitable for use in hazardous areas and containing ventilation, lighting, fire and gas detection systems, automated ventilation dampers and ESD functionality with audible and visual alarms.
- Isolations.
- De-mucking.

See also: *Cargo Guidelines for F(P)SOs*, section eight: Tank cleaning and gas freeing for entry.

Assessor observation

Additional comment

F(P)SO response

5.8 Control of work in storage and ballast tanks

	Question	Y	N	N/A
5.8.1	Are there tank entry procedures?			

Guidance

The tank entry procedures should address:

- Preparing storage and ballast for executing work such as in-tank integrity inspections and equipment repairs, while concurrently producing oil, water and gas.
- Precautions such as atmospheric monitoring, isolation measures or SIMOPS.
- Ventilation arrangement and ducting lighting.
- The number of entrants.
- Entry points and access arrangement.
- Internal access ladders, platforms and catwalks.
- Material handling, hoses and other support and service equipment.
- Removal of muck.
- Emergency evacuation and rescue.

See also: *Cargo Guidelines for F(P)SOs*, section nine: Control of work in storage and ballast tanks.

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
5.8.2	Is there a specific isolation standard and evidence that this standard is applied to tank entry and associated systems maintenance?			

Guidance

F(P)SOs present risks not normally experienced aboard tankers, since F(P)SOs are continuously loading (and sometimes simultaneously discharging) and tank entries are frequently undertaken with adjacent tanks containing hydrocarbons. Isolation practices that are used on tankers might not provide the same level of protection on an F(P)SO, so wherever possible, positive isolations should be used.

An isolation standard provides guidance on the general principles of safe equipment isolations. It describes how to isolate a plant and equipment safely, how to reduce the risk of releasing hazardous substances during intrusive activities such as maintenance and outlines preventive and risk reduction measures.

The F(P)SO's isolation standard should address the following:

- Isolation of the cargo system and associated equipment, such as:
 - IG/HC blanketing-venting systems.
 - Pumping system.
 - COW system.
 - Interconnections between storage tanks and pumproom.
- How to reduce the risk of releasing hazardous substances during tank entry and maintenance execution in the tanks and during maintenance execution on individual systems, e.g. taking one IG/vent header out of service.
- Preventive and risk-reduction measures.
- Guidance on variations from the isolation standard.

Associated procedures should include:

- Draining, venting and flushing pipework before breaking containment, e.g. for placing an isolation.
- Installing isolations (actuating line blinds; placing blinds, spades, plates and blank flanges; removing spool piece).
- Plant reinstatement.

See also: *Cargo Guidelines for F(P)SOs*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
5.8.3	Are there procedures for de-mucking storage and ballast tanks?			

Guidance

Sediments can often build up on the bottom structure and other horizontal surfaces in F(P)SO cargo and slop tanks, even with effective COW operations and ballast tanks. This build-up of sediments needs to be removed periodically to allow for close visual inspection of the tank surfaces and to prevent corrosion of the plating under the deposits. This removal activity is commonly referred to as de-mucking.

The procedures should address:

- Possible or likely compounds and contaminants such as wax, sand, oilfield scale, NORMs, heavy metals, sulphur and calcium naphthenates.
- Precautions: sediment sample analysis, ventilation or extraction and monitoring.
- Removal of sediments.
- Method of de-mucking.
- Disposal.

See also: *Cargo Guidelines for F(P)SOs*, section two: Hazardous materials associated with F(P)SO operations and section nine: Control of work in storage and ballast tanks.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
5.8.4	Are there procedures for hot work in storage and ballast tanks?			

Guidance

The procedures should include:

- Hot work categorisation.
- Preparations: area cleaning, adjacent tanks.
- Precautions: separation, heat transfer.
- Use of habitats.
- Ventilation, monitoring.
- Equipment and work methods.
- Isolation requirements.
- SIMOPS.

See also: *Cargo Guidelines for F(P)SOs*, section nine: Control of work in storage and ballast tanks.

Assessor observation

Additional comment

F(P)SO response**6.9 Environmental limits**

	Question	Y	N	N/A
5.9.1	Is there an adverse weather policy?			

Guidance

Every F(P)SO should have an adverse weather policy detailing environmental operating limits for all types of operations affected. The policy should address:

- Personnel access to main deck.
- Production to storage tanks.
- Crane and mechanical handling operations.
- Helicopter operations.
- Vessel operations at the F(P)SO:
 - For all types and sizes of vessels visiting the F(P)SO.
 - Manoeuvring for arrival and berthing, if applicable.
 - Stopping loading or discharging, e.g. for offtake tankers or platform supply vessels.
 - Stopping personnel transfer by boat, crane or helicopter.
 - Disconnecting cargo hoses.
 - Tug operability.
 - Manoeuvring for unberthing and departure.
- Communication of limits to visiting vessels.
- Cargo venting.
- F(P)SO disconnection.
- Use of marine radar for squall and soliton detection.
- Routine weather reports:
 - Frequency.
 - Passing to arriving vessels.
- Extreme events such as hurricanes or cyclones, including evacuation plan.

Limits can be expressed in prevailing or forecasted wind speed and direction; wave height; period and direction; current speed and direction; F(P)SO motions (pitch, roll, heave); relative or absolute position of vessels; presence of electrical storm, squall, soliton, hurricane or cyclone; ice movement; or extreme temperature.

The policy should also provide processes and procedures so that F(P)SO personnel are not under time pressure to perform marine operations in marginal weather conditions, e.g. in the absence of a wave rider buoy or other limiting criteria in combination with the environmental conditions.

These limits should be incorporated into the F(P)SO's Terminal Operations Procedures Manual (TOPM), terminal regulations manual or field operations manual.

See also: *Guidelines for Offshore Tanker Operations*, *Cargo Guidelines for F(P)SOs* and *Guidelines for Offshore Marine Operation and Lifting and Hoisting Safety Recommended Practice* (IOGP).

Assessor observation

Additional comment

F(P)SO response

5.10 F(P)SO operation communications

	Question	Y	N	N/A
5.10.1	Does the F(P)SO have a primary and secondary means of communication within the F(P)SO and with visiting vessels?			

Guidance

The F(P)SO should ensure that the means of communication, including a backup system between the F(P)SO and visiting vessels will be agreed upon the vessel's entry into the 500m safety zone.

See also: *Guidelines for Offshore Tanker Operations* and *Cargo Guidelines for F(P)SOs*.

Assessor observation**Additional comment****F(P)SO response**

5.11 F(P)SO mooring systems monitoring

	Question	Y	N	N/A
5.11.1	Are the mooring systems' safe operating conditions defined and have mooring system monitoring procedures been implemented?			

Guidance

F(P)SO mooring systems' safe operating conditions should be defined and available to operations personnel, including maximum and minimum allowable mooring leg tensions, mooring chain angles and F(P)SO position offset.

Relevant mooring system monitoring procedures should be developed and observed, e.g. chain angle or tension recording, or underwater inspections or surveys.

F(P)SO facilities (including offloading SPM, where applicable) should define the mooring system's limitations. The operational limitations in case of single mooring leg failure should be identified, with relevant procedures developed and available to facility management.

See also: applicable Class and Coastal State requirements.

Assessor observation**Additional comment****F(P)SO response**

6. Topsides–marine interfaces

6.1 Topsides–marine interfaces

	Question	Y	N	N/A
6.1.1	Are there documented procedures for topsides and marine interface systems and equipment and do they include operations and roles and responsibilities?			

Guidance

The topsides–marine interfaces are typically addressed by definition of scope during the design phase.

F(P)SOs typically draw a line of demarcation between the processing systems (topsidess) and the hull storage/cargo/utilities systems (marine). Not all of these systems necessarily interact with one another, but many are interdependent. Therefore, it is essential that the interdependencies are fully considered and that all the interfaces, both physical and system-related, are identified and addressed in procedures.

Depending on the F(P)SO's design, the topsides–marine interfaces can include the following:

- Non-hazardous and hazardous drain systems.
- Reception of product to storage from topsides or exterior facility.
- Off-spec product storage and reprocessing.
- Produced water system.
- Oily water overboard system.
- Cargo tank gas blanketing and venting.
- Hydrocarbon blanketing and vapour recovery.
- Dead oil displacement (bull-heading) system.
- Closed drains (knockout drum and scrubber) liquid management.
- Methanol and production chemicals bulk storage system.
- Sump and bilge management.
- Cooling systems.
- Utility and control air systems.
- Heating medium and heat exchangers.
- Firewater deluge systems.
- Power generation.
- Diesel bunkering systems.
- Marine boiler fuel gas systems.

The F(P)SO should have management procedures in place and used for all trim, list and hull motions to address its influence on the topsides operation as well as on performance of the F(P)SO's mooring systems (including the turret, if applicable).

Personnel engaged in F(P)SO operations should be familiar with the procedures and understand how they affect the topsides operations and mooring system.

See also: *Cargo Guidelines for F(P)SOs*.

Assessor observation**Additional comment****F(P)SO response****6.2 Hydrocarbon blanketing and vapour recovery**

	Question	Y	N	N/A
6.2.1	Are there procedures for hydrocarbon blanketing and vapour recovery?			

Guidance

Hydrocarbon blanketing and vapour recovery procedures should address their influence on marine systems and topsides operations.

Personnel engaged in F(P)SO operations should be familiar with the procedures and understand how they affect both topsides and marine systems, e.g. the difference in pressure regimes between cargo tanks and low pressure gas systems on topsides, the vapour recovery compression gas quality regime, pressure controls or over-/under-pressure safety.

See also: *Cargo Guidelines for F(P)SOs*.

Assessor observation**Additional comment****F(P)SO response****6.3 Dead oil displacement (bull-heading)**

	Question	Y	N	N/A
6.3.1	Are there procedures for dead oil displacement?			

Guidance

Dead oil displacement (bull-heading) procedures should address its influence on marine systems and topsides operations.

Personnel engaged in F(P)SO operations should follow the dead oil displacement procedures and understand how it affects both topsides and marine systems, e.g. the different pressure regime, dead oil quality, and the temperature regime.

See also: *Cargo Guidelines for F(P)SOs*.

Assessor observation

Additional comment

F(P)SO response

7. Asset integrity, reliability and maintenance

7.1 Asset Integrity programme

	Question	Y	N	N/A
7.1.1	Does the F(P)SO have a written and approved asset integrity (AI) management programme including procedures, roles, responsibilities, competency requirements and process governance?			

Guidance

The marine asset integrity (AI) management programme should include the hull, moorings and all marine systems. It should be executed and administered consistently and in alignment with topsides process equipment AI management plans.

See also: *Cargo Guidelines for F(P)SOs*, section one: Safety management.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
7.1.2	Does the AI programme define the criticality of marine structures and equipment?			

Guidance

The marine structures and equipment included in the AI programme should be identified and documented through a formal assessment process. The assessment process should focus on the layers of protection that exist to prevent, detect, mitigate and control events with high risks for health, safety, the environment or assets.

Structures, equipment and spares included in the AI programme should be identified in an existing digital maintenance management system so that required activities can be scheduled, tracked and documented.

The F(P)SO should have a risk-based list of critical spares for all marine equipment and an associated inventory maintenance programme.

The F(P)SO might choose to include additional marine structures and equipment in its AI programme.

Examples of marine systems that should be included in the AI programme are:

- Mooring system components and installation winches.
- Turret and structure.
- Hull, deck and primary structure (the structure welded directly to the hull, deck or longitudinal and transverse bulkheads).
- Storage tank opening seals and gaskets.
- Ballast equipment.
- Cargo, IG/HC and vent system components.
- Emergency generator or essential generator.
- Station-keeping thrusters.
- Internal tank structure.
- Hawsers, including quick release mechanisms.
- Marine transfer hoses including quick release mechanisms.
- Offtake systems.
- LSA.
- SDV.
- Berthing, mooring and navigational aids.
- Accommodation ladders.
- Marine boilers and associated systems, e.g. feedwater, condensate, forced draft, etc.
- Material handling equipment, e.g. cranes, lifting equipment, etc.
- Marine auxiliary systems.

Assessor observation

Additional comment**F(P)SO response****7.2 Asset Integrity plan**

	Question	Y	N	N/A
7.2.1	Does the F(P)SO have AI plans, as part of its AI programme, that define the full range of tasks necessary to maintain the required level of functionality?			

Guidance

Structures and equipment designated by the AI programme should have Inspection, Testing and Preventive Maintenance (ITPM) and repair activities to maintain their required integrity functionality. The AI plan should note the frequencies of ITPM and repair activities.

The AI plans for structures and equipment that are part of the AI programme should include manufacturer's recommendations, industry standards and company standards or regulatory requirements.

Appropriate damage mechanisms should be considered for hull ITPM, such as general corrosion, localised corrosion, pitting, fracture or damage due to impact on side of vessel.

Survey intervals for tanks and other marine structures should coincide with IACS standards. Alternatively, inspection schedules should be risk-based taking into account structural fatigue analysis and prior inspection results.

A documented system should be in place for developing and managing ITPM procedures and repair activities. Acceptance criteria should be specified for all required ITPM and repair tasks and leverage industry, OEM or company standards.

Written quality assurance and quality control requirements should be established to ensure replacement materials are suitable.

AI plans should be updated as equipment and conditions change. Additions or changes to equipment or operating conditions should be reviewed through the applicable MOC process.

See also: applicable Classification Society and Coastal State regulations

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
7.2.2	Are records kept of all ITPM and all defects and remedial maintenance, and are the results reviewed, analysed and trended?			

Guidance

Inspection and test results should be reviewed, analysed and trended to determine current and long-term projected performance and lifespan. This will ensure that structures and equipment remain suitable for use.

Any required actions should be taken before integrity functionality is affected. These can include:

- Trending corrosion rates and fatigue analysis for life expectancy and life extension.
- Additional rope access and other types of general, close-up and Non-Destructive Testing (NDT) inspections to address found or new damage, and to verify the integrity of similar structures and equipment elsewhere on the F(P)SO.
- Aligning preservation or renewal plans with corrosion/fracture conditions.
- Carrying out a coating condition assessment for corrosion.

Refer to IACS guidelines related to suspect areas and substantial corrosion to modify inspection intervals or until preservation activities return the equipment to a non-discrepant condition.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
7.2.3	Is there a procedure to address any AI plan tasks that will not be performed on schedule?			

Guidance

There should be a documented procedure to identify and track AI plan tasks that are not performed on schedule.

If a task is not completed by its due date, an appropriate risk analysis should be performed.

Any outstanding critical equipment deficiencies should be considered as non-conformance and require the F(P)SO management’s approval to continue operating. If available and appropriate, interim measures can be taken until the deficiencies are rectified, following an MOC process.

See also: applicable Classification Society and Coastal State requirements.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
7.2.4	Is there a procedure to identify and address any marine structure or equipment deficiencies?			

Guidance

There should be a documented procedure for operating with outstanding deficiencies in structures or equipment, as part of the AI programme.

Any structure or equipment operating with a deficiency should have a documented performance analysis and risk assessment.

Any critical equipment deficiencies should be considered as non-conformance and should require the F(P)SO management's approval to continue operating. If available and appropriate, interim measures can be taken until deficiencies are rectified, following an MOC process.

See also: applicable Classification Society and Coastal State regulations.

Assessor observation

Additional comment

F(P)SO response**8. F(P)SO marine terminal services****8.1 Navigation and berthing aids**

	Question	Y	N	N/A
8.1.1	Does the F(P)SO have a process to ensure that the navigation aids, berthing aids and mooring aids are fully operational?			

Guidance

The F(P)SO should have processes in place to ensure that the navigation aids (such as buoys, Racons or flashing ‘U’ lights), berthing aids (such as portable pilot units or radar guns) and mooring aids (such as load cells on mooring hooks) are in place and operational.

Navigation aids

Facilities should liaise closely with regulatory authorities regarding changes to navigational aids on the F(P)SO or approaches that could affect the safe operation of vessels. Facilities should be kept informed of any changes to the navigational aids and any operational failures.

Berthing aids

Facilities should use berthing aids (such as portable pilot units incorporating speed of approach monitors) to minimise the risk of damage to facilities or visiting vessels and the subsequent risk of fire or pollution.

Mooring aids

F(P)SOs should use load cells to monitor the load tension on tandem mooring systems. They are also recommended for side-to-side operations.

See also: *Guidelines for Offshore Tanker Operations*, section six: Station keeping and SMOG.

Assessor observation

Additional comment**F(P)SO response****8.2 Water depth surveys**

	Question	Y	N	N/A
8.2.1	Is there a clear awareness of the water depth within the F(P)SO's 500m safety zone?			

Guidance

This question only applies to F(P)SOs operating in depths of less than 30m within the 500m safety zone.

The F(P)SO should keep up-to-date records of water depths within the 500m safety zone. Any depth restrictions for offtake tankers within the 500m safety zone should be clearly marked in the F(P)SO TOPM, with procedures in place to notify the offtake tanker before it enters the 500m safety zone.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
8.2.2	Is there a minimum Under Keel Clearance (UKC) policy?			

Guidance

F(P)SOs whose access is limited by water depth should have a UKC policy in place.

The policy should contain:

- The minimum UKC for the F(P)SO and arriving vessels.
- Baseline data from an initial depth survey.
- Up-to-date records of the water depths, including the chart datum.
- The history of siltation. Surveys should be conducted by competent personnel at regular intervals to identify trends.

The UKC should be communicated to all interested parties.

See also: *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment**F(P)SO response****8.3 Mooring Master**

	Question	Y	N	N/A
8.3.1	Does the F(P)SO use trained and competent Mooring Masters to handle offtake tankers?			

Guidance

The F(P)SO should have a process for assessing Mooring Master competence, including periodic site-specific simulator training and assessment of response to emergency scenarios.

The F(P)SO should have a procedure to follow if the Mooring Master is unavailable or becomes incapacitated.

See also: *Competence Assurance Guidelines for Mooring, Loading and Lightering Masters* and *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment**F(P)SO response****8.4 Tugs/support craft**

	Question	Y	N	N/A
8.4.1	Has the F(P)SO established the minimum requirements for tugs and support craft?			

Guidance

F(P)SOs that require tugs or other support craft for offtake tanker berthing and unberthing operations should have a documented process to check that the design, number and power of tugs or support craft are suitable.

The F(P)SO's criteria for tug and support craft should address:

- The full range of offtake tanker types, sizes and loading conditions to be handled.
- Environmental conditions, such as the wind, sea, swell and current.
- Bollard pull certification.
- Suitability and ability to handle lines and hoses.
- Communications (all support craft).
- Permanent tug fendering requirements.
- Tug manoeuvrability.
- Towing suitability.
- Personnel transfer capabilities.
- 24-hour operation.
- Personnel training.

See also: *Guidelines for Offshore Tanker Operations*.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
8.4.2	Do the tug and support craft meet the F(P)SO's emergency and standby needs?			

Guidance

Tug and support craft requirements should be based on a formal risk assessment, including the need for:

- Pollution control.
- Emergency evacuation.
- Medical evacuation.
- Firefighting.
- Man Over Board (MOB).

- Security.
- Availability.
- Speed of response.

See also: *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
8.4.3	If any assisting tugs are used, have their minimum bollard pull and manoeuvring requirements been established for the sizes and types of offtake tankers that use them?			

Guidance

Simulation studies should be undertaken to establish the minimum requirements and operational constraints and limitations.

See also: *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
8.4.4	Do the F(P)SO's records show that all support vessels and tugs have been surveyed for suitability before they were accepted for operation in the field?			

Guidance

A suitability survey should be conducted to confirm a supporting vessel's suitability for a task.

This should be based on a recognised industry format and should check the field support vessel's and its personnel's ability to perform the operations or activities.

See also: *Guidelines for Offshore Tanker Operations*, sections three: Offshore terminal mooring configuration and equipment, six: Station keeping, and nine: DP bow loading tanker operations (which provide guidance on selecting support vessels such as pull-back tugs and tanker assist vessels); and *Cargo Guidelines for F(P)SOs*.

Assessor observation

Additional comment

F(P)SO response

8.5 Mooring deck equipment, including mooring winches

	Question	Y	N	N/A
8.5.1	Is the Safe Working Load of each mooring point or lead known and marked according to the mooring arrangement plan?			

Guidance

The Safe Working Load (SWL) of each mooring point or lead should be known and marked on each mooring point.

The SWL for the intended use of each shipboard fitting should be noted in the mooring arrangement plan on board for the guidance of the Offshore Installation Manager (OIM) and Mooring Master. The plan should include, for each shipboard fitting:

- Location on the F(P)SO.
- Fitting type.
- SWL.
- Purpose (mooring or fendering).
- Method of applying load, including limiting fleet angles.

See also: *Guidance on Shipboard Towing and Mooring Equipment, MSC/Circ.1175* (IMO) and *Mooring Equipment Guidelines*.

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
8.5.2	Does the F(P)SO have adequate mooring arrangements for tandem mooring of offtake tankers?			

Guidance

F(P)SOs should be equipped with mooring systems that are compatible with the bow mooring equipment on board the offtake tankers. A terminal operator should provide mooring hawsers, weak links, appropriate chafe chains, pick-up ropes and flotation equipment as per *Guidelines for Offshore Tanker Operations*.

The SWL of each mooring point or lead should be known and marked on each mooring point. Mooring equipment should be operational and functionally tested.

The F(P)SO should have operational procedures and appropriate equipment in place to:

- Monitor the vessel's moorings and take corrective action when required.
- Ensure that the vessel remains securely moored in the correct position at the F(P)SO.
- For tandem operations, the F(P)SO should ensure that the hawser tension and hawser angle are monitored.
- Measure wind speed and direction, e.g. using an anemometer.
- Measure and monitor sea state and swell condition, e.g. using a locally installed current meter.
- Measure current speed and direction.

See also: *Guidelines for Offshore Tanker Operations*, section 3: Offshore terminal cargo transfer configuration and equipment.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
8.5.3	Does the F(P)SO have adequate mooring arrangements for side-by-side mooring of offtake tankers?			

Guidance

- The safe working load (SWL) of each mooring point or lead should be known and marked on each mooring point.
- Mooring equipment should be maintained and functionally tested.

The F(P)SO should have operational procedures and appropriate equipment in place to:

- Check the adequacy of moorings for each vessel.
- Monitor the vessel's moorings and take corrective action when required.
- Ensure that the vessel remains securely moored in the correct position at the F(P)SO.
- Ensure that line tension is measured and monitored, with alarm settings set.
- Monitor relative motions between the F(P)SO and the offtake tanker.
- Measure wind speed and direction, e.g. using an anemometer.
- Measure and monitor sea state and swell condition.
- Measure current speed and direction, e.g. using a locally installed current meter.
- Determining the mooring pattern applicable for each offtake tanker.

The mooring patterns for all vessel sizes should be determined through an engineering (mooring and fendering) analysis during the initial stages of designing the F(P)SO.

Offshore terminals should be equipped with mooring systems that are compatible with the mooring equipment on board the proposed offtake tankers.

See also: *Guidelines for Offshore Tanker Operations*, section 3: Offshore terminal cargo transfer configuration and equipment; *MEG*; and *STOLGOE*, section 2: Safety in design.

Assessor observation

Additional comment

F(P)SO response

8.6 Mooring of support vessels

	Question	Y	N	N/A
8.6.1	Does the F(P)SO have adequate mooring arrangements for side-by-side mooring of support vessels?			

Guidance

- The safe working load (SWL) of each mooring point or lead should be known and marked on each mooring point.
- Mooring equipment should be operational and functionally tested.

The F(P)SO should have operational procedures and appropriate equipment in place to:

- Check the adequacy of moorings for each vessel.
- Ensure mooring lines are monitored, including relative motions between the F(P)SO and support vessel.
- Monitor the vessel's moorings and take corrective action when required.
- Ensure that the vessel remains securely moored in the correct position at the F(P)SO.
- Measure wind speed and direction, e.g. using an anemometer.
- Measure and monitor sea state and swell condition.
- Measure current speed and direction, e.g. using a locally installed current meter.
- Determine the mooring pattern applicable for each support vessel.

The mooring patterns for all vessel sizes should be determined through an engineering (mooring and fendering) analysis during the initial stages of designing the F(P)SO.

See also: *Guidelines for Offshore Tanker Operations*, section 3: Offshore terminal cargo transfer configuration and equipment and MEG.

Assessor observation

Additional comment

F(P)SO response**8.7 Lifting equipment**

	Question	Y	N	N/A
8.7.1	Does the F(P)SO have a programme for examining and load testing the lifting equipment?			

Guidance

Equipment to be tested and examined should include:

- Cranes, derricks, davits and gantries.
- Slings, lifting chains, pendants, stingers, delta plates, pad eyes and shackles.
- Chain blocks, hand winches and similar mechanical devices.
- Personnel lifts and hoists.
- Personnel transfer equipment.
- Swing ropes.
- Fork lift trucks.
- Transfer equipment to offtake tanker.

See also: *Guidelines for Offshore Tanker Operations*, section 3: Offshore terminal cargo transfer configuration and equipment.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
8.7.2	Is there a management process for critical or high-risk lifts?			

Guidance

Assessors should check that:

- Critical/high risk lifts are defined.
- Lifting plans are in place for critical or high-risk lifts.
- Critical or high-risk lifts have been risk assessed.

See also: *Lifting and Hoisting Safety Recommended Practice* (IOGP).

Assessor observation

Additional comment**F(P)SO response****9. Offtake operation management****9.1 Control of work: emergency shutdown of cargo transfer offtake operations**

	Question	Y	N	N/A
9.1.1	Do procedures list the circumstances under which cargo operations between the F(P)SO and the offtake tanker must stop immediately?			

Guidance

The procedures should be incorporated into the TOPM/terminal regulations manual/field operations manual and should address:

- The locations of emergency stops as well as the testing regime and records.
- Communication methods used and backup.
- Manual ESD by telemetry.
- Automatic shutdown by telemetry (Green Line).
- The personnel's knowledge.
- The consequences of an emergency stop, e.g. pressure surges and valve closure times.
- HAZOPs and risk assessments.
- Circumstances under which cargo operations between the F(P)SO and the offtake tanker must stop immediately, as well as how they should be stopped, including:
 - F(P)SO ESD activation.
 - Fire.
 - Loss of containment or uncontrolled gas release.

- Failure of mooring system integrity (either tanker hawser or F(P)SO/CALM buoy mooring).
- Helicopter incident.
- Security breach.
- Exceeded (environmental) operating limits.
- Loss of offtake tanker station-keeping ability.
- Cargo difference between the F(P)SO and the offtake tanker.

See also: *Guidelines for Offshore Tanker Operation Operations*.

Assessor observation

Additional comment

F(P)SO response

9.2 F(P)SO/offtake tanker safety operational agreement

	Question	Y	N	N/A
9.2.1	Does the F(P)SO conduct a pre-mooring conference with the offtake tanker's Master (or responsible officer) before the start of mooring operations?			

Guidance

The type and conduct of the pre-mooring conference depends on whether an F(P)SO representative is on board the offtake tanker. If so, a pre-mooring conference should be held between both parties.

If there is no F(P)SO representative on board the offtake tanker, the checks and information exchanged should be guided by *Guidelines for Offshore Tanker Operations*.

All information exchanged should be formalised, with documents endorsed by representatives of both the F(P)SO and the offtake tanker. This exchange can be electronic. The records should be kept on the F(P)SO in case they need to be verified later.

See also: *Guidelines for Offshore Tanker Operations*, section 8: Conventional tanker operations and appendix E: Examples of conventional tanker-terminal information exchanges.

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
9.2.2	Do the F(P)SO and the offtake tanker undertake an exchange of safety information before the cargo transfer begins?			

Guidance

After mooring is completed, the F(P)SO should exchange information with the offtake tanker and complete a safety checklist. The information exchanged should be standardised and should include but not limited to the following:

- Health, Safety, Security and Environment (HSSE) policy.
- Security declaration.
- F(P)SO terminal regulations manual.
- SDSs.
- Fire and emergency instructions.
- Approved smoking area signs.
- Incident reporting requirements.
- Environmental reporting requirements.
- F(P)SO timesheet.
- Cargo loading plan template.
- Cargo manifold layout, if applicable.
- F(P)SO offtake tanker safety checklist.
- Note of protest templates.
- Emergency stop requirements.
- Communications.

Where possible, the information should be completed after a joint inspection and confirmed in writing, with copies retained by both parties.

See also: *ISGOTT's ship/shore safety checklist* and *Guidelines for Offshore Tanker Operations*, section eight: Conventional tanker operations.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
9.2.3	Are the offtake tanker's approaching, mooring, loading and unmooring activities presented in a concise and chronological sequence?			

Guidance

The process and procedures to be followed by the offtake tanker should be detailed in a field operations manual, with appropriate verification and signature where required. The records should be kept on the F(P)SO in case they need to be verified later.

See also: *Guidelines for Offshore Tankers Operations*, appendix E: Examples of conventional tanker–terminal information exchanges.

Assessor observation**Additional comment****F(P)SO response****9.3 F(P)SO/offtake tanker safety checklist**

	Question	Y	N	N/A
9.3.1	Is the safety checklist completed before offtake operations?			

Guidance

The F(P)SO/offtake tanker checklist should include the content of the *ISGOTT* ship/shore safety checklist, as applicable, as well as:

- The field layout, including the location of all infield structures and navigational hazards.
- The location of subsea equipment, including pipelines, flowlines, risers and any associated prohibition of anchor use.

- The availability and use of infield support vessels.
- Restrictions while in the F(P)SO 500m safety zone, including the presence of other vessels in the field.
- Compliance with the terminal handbook.
- Cargo operations arrangements.
- Monitoring of hawser tension during tandem offloading and regular checks of bow chain stopper.
- Emergency and contingency planning.

At F(P)SOs where there is no exchange of personnel between the F(P)SO and the offtake tanker, the signed critical safety documents should be exchanged electronically.

See also: *ISGOTT's* ship/shore safety checklist and *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
9.3.2	Are any repeat items on the safety checklist revalidated at the agreed intervals?			

Guidance

Critical elements of the F(P)SO–offtake tanker safety checklist should be revalidated at agreed intervals throughout the offtake and recorded. Records of completed revalidation checks should be kept so they can be verified later.

See also: *ISGOTT's* ship/shore safety checklist.

Assessor observation

Additional comment

F(P)SO response

9.4 Offtake tanker compatibility criteria

	Question	Y	N	N/A
9.4.1	Does the F(P)SO have a list of offtake tanker acceptance criteria for each offtake operation?			

Guidance

Every F(P)SO should have a definitive and comprehensive list of acceptance criteria for nominated offtake tankers. This should be documented in the TOPM and should include:

- Minimum draft and maximum freeboard.
- Whether the propeller is immersed.
- Maximum draft, determined in consultation with the F(P)SO and based on the restricting depth at the F(P)SO or in the approaches.
- Minimum displacement.
- The fully loaded displacement of the offtake tanker.
- Maximum arrival displacement.
- Length Overall (LOA).
- Bow to Centre Manifold (BCM).
- Minimum parallel body length required forward and aft of the manifold for FPSO's SBS operations to ensure that the offtake tanker will rest against the fenders when in position, with the cargo transfer connection made.

F(P)SOs may also include site-specific limitations, such as:

- Suitable mooring arrangements and SWLs to meet F(P)SO mooring requirements.
- Minimum crane requirements (SWL and operability).
- Cargo manifold number and size.
- Outfitting for static towing.

Note: F(P)SOs should clearly identify the units of measurement used.

See also: *Guidelines for Offshore Tanker Operations*, section two: F(P)SO subsea mooring and cargo transfer philosophy, and *MEG*.

Assessor observation

Additional comment**F(P)SO response****9.5 Vetting and offtake tanker acceptance**

	Question	Y	N	N/A
9.5.1	Does the F(P)SO have a procedure for ensuring offtake tankers accepted to call at the F(P)SO meet minimum standards of safe operation, as established by the F(P)SO and the company's vetting system?			

Guidance

Vessel acceptability should be determined by the F(P)SO and the company's vetting system.

If the F(P)SO has specific requirements or limitations, procedures should be in place to ensure that only acceptable vessels are allowed at the F(P)SO. The F(P)SO should have a documented procedure for responding if a vessel is found to be sub-standard on arrival.

The F(P)SO should provide feedback on the vessel's performance or report any deficiencies to the vetting department.

See also: *Guidelines for Offshore Tanker Operations*.

Assessor observation**Additional comment****F(P)SO response****9.6 Pre-offtake equipment inspection**

	Question	Y	N	N/A
9.6.1	Is there a systematic inspection of equipment before the offtake starts, with a formal system for reporting defects?			

Guidance

The integrity of cargo transfer equipment is critical for safe and pollution-free cargo offloading operations. To maintain this, the F(P)SO needs to keep records of the design, operating conditions and maintenance of cargo transfer equipment, including the following:

- An offloading equipment testing, inspection and maintenance programme, which should be included in the AI programme (see question 8.1.2), e.g. wall thickness measurements and pressure testing.

- The intervals between tests and inspections should be determined by the pipeline material, duty, location and previous experience with the equipment.
- Certification.

The F(P)SO's operating manual should describe how to check cargo transfer equipment for proper functioning, such as pre-offtake checklists that include:

- Visual inspection of equipment (pipeline, hawser and hose string, protective coatings and insulation materials, if fitted).
- Testing equipment such as winches, reels, valves and ESD.

See also: *Guidelines for Offshore Tanker Operations*, section eight 8: Conventional tanker operations and nine: DP bow loading tanker operations, and SMOG.

Assessor observation

Additional comment

F(P)SO response

9.7 Single Point Mooring operations

	Question	Y	N	N/A
9.7.1	Does the F(P)SO have specific requirements for SPM operations?			

Guidance

Every F(P)SO operating an SPM should have procedures to ensure compliance with standards and industry codes of practice for operations and maintenance.

If Marine Breakaway Couplings (MBCs) are installed in the offloading hose string, they should be fit for service and installed according to both the manufacturer's recommendations and the terminal's requirements.

The F(P)SO should have SPM-specific operating limits for berthing, stopping cargo transfer, disconnecting cargo connections and removing the offtake tanker from the berth. Refer to section 5.9.1 and 9.1.1.

See also: *Guidelines for Offshore Tanker Operations* and *SMOG*.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
9.7.2	Has the F(P)SO established SPM-specific operating limits for berthing, stopping cargo transfer, disconnecting cargo and removing the offtake tanker from the berth?			

Guidance

Offtake tankers loading at the F(P)SO's SPM should be provided with procedures that address the entire offtake operation before the operation starts.

The F(P)SO should have procedures to prevent the offtake tanker from overrunning or colliding with the SPM buoy, including approach speed and approach sectors.

See also: *Guidelines for Offshore Tanker Operations* and *SMOG*.

Assessor observation

Additional comment

F(P)SO response

9.8 Fendering

	Question	Y	N	N/A
9.8.1	Can the F(P)SO demonstrate that the fender design is compatible with the range of vessel sizes and types that berth there?			

Guidance

Fendering systems should be designed to suit the size of offtake tankers expected to use the F(P)SO, and to ensure the safe berthing and mooring of vessels.

The fendering system includes the fender, supporting equipment and the deployment system.

The F(P)SO should also be able to demonstrate that:

- The fendering system addresses:
 - Position of the fenders relative to the offtake tanker's mid-point and the available parallel body.
 - Maximum allowable displacement and speed of approach. This should be detailed in the operating procedures and understood by responsible F(P)SO personnel.
- The offtake tanker personnel and support craft are aware of the maximum fender operating limits.
- The fenders lie within the parallel mid-body length of the offtake tankers expected to use the berth.
- The fendering system is in good condition.
- Fenders are inspected as part of a routine maintenance plan.
- When fender panels are used, they are kept vertical with their faces free of obstruction and protrusions.
- Procedures are in place to deal with damaged fendering system components and spare parts are readily available.
- If temporary fendering is needed, an engineering analysis and risk assessment is carried out before implementation.

See also: *Ship to Ship Transfer Guide for Petroleum, Chemicals and Liquefied Gases* (OCIMF, CDI, ICS, SIGTTO) and *STOLGOE*.

Assessor observation

Additional comment**F(P)SO response****9.9 Offtake tanker mooring**

	Question	Y	N	N/A
9.9.1	Is the mooring equipment positioned and sized for the vessels that moor at the F(P)SO?			

Guidance

Adequate mooring arrangements should be provided for all vessels that will moor at the F(P)SO. The safe working load (SWL) of each mooring point or lead should be marked on each mooring point. Mooring equipment should be maintained and tested according to the AI.

The F(P)SO should have established operating limits that define thresholds for berthing operations, and removing the vessel from the berth, as well as for any support vessel operations. The F(P)SO should have operational procedures and appropriate equipment in place to:

- Check the moorings for each vessel, including issues such as mixed moorings.
- Monitor the vessel's moorings and take corrective action when necessary.
- Ensure that the vessel stays securely moored in the correct position.
- Ensure that the hawser tension and hawser angle are monitored during tandem operations.
- Ensure that line tensions are monitored during side-by-side operations.
- Measure wind speed and direction.
- Measure and monitor sea state and swell condition.
- Measure current speed and direction.

The F(P)SO should have its own locally installed anemometer for measuring wind speed and direction and a locally installed current meter.

The mooring patterns for all vessel sizes should be determined through an engineering (mooring and fendering) analysis during the initial stages of designing the F(P)SO.

The F(P)SO should have operational procedures in place for safe berthing of offtake tankers, such as:

- The use of Pneumatic Line Throwers (PLT)/infrared range finders.
- Two-vessel operations for safe berthing using a work boat for messenger, hawser or hose exchange and an Offshore Support Vessel (OSV) or tug as a brake tug during the approach, followed by the OSV/tug as a static tow tug during the offtake.

See also: *Guidelines for Offshore Tanker Operations*.

Assessor observation

Additional comment

F(P)SO response

9.10 Offtake operation communications

	Question	Y	N	N/A
9.10.1	Is there an effective and dedicated means of communication between the F(P)SO and the offtake tanker for cargo offtake operations?			

Guidance

The F(P)SO should provide a means of communication between the F(P)SO and offtake tanker, including a backup system. Communication between the person on duty and the responsible person on the offtake tanker should be continuously manned and maintained. The communications system should be dedicated to cargo transfer operations to prevent interference from other communication activity on the F(P)SO.

If the national language is used by both the F(P)SO and the offtake tanker, it is acceptable for communications to be conducted in that language. If not, the common language should be English. The IMO's Standard Marine Communication Phrases should be used to convey all necessary basic communications.

The F(P)SO should have a written operating procedure that requires the cargo transfer to be suspended if there is any failure of communications, or if language difficulties threaten the safety of operations. The cargo transfer should not start up again until the problem has been resolved.

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
9.10.2	Does the F(P)SO have a documented shift handover for control room operators?			

Guidance

A formal shift handover should include the following:

- HSSE incidents or hazards reported during shift and steps taken to resolve them.
- The status of active procedures and any follow-ups needed during the next shift.
- Current operations, changes made during shift and required follow-ups for next shift.
- The status and mitigation plans for any HSSE critical equipment defeats.
- Any MOCs initiated and approved during shift.
- Any work notifications initiated during shift.
- Abnormal or non-routine conditions, including actions taken.
- Permit to work status.
- Alarm management.
- Environmental awareness and compliance.

Additional shift activities related to tanker offtake operations:

- Communication system status.
- Cargo transfer plan status.
- Cargo transfer equipment status, including inert gas and COW.
- Tanker mooring status.
- Metocean status and forecasts.
- Tanker operations logistics.

Assessor observation

Additional comment**F(P)SO response****9.11 Pre-arrival communications**

	Question	Y	N	N/A
9.11.1	Are pre-arrival communications between the F(P)SO and the offtake tanker conducted according to the TOPM?			

Guidance

Before the offtake tanker's arrival, it should exchange information with the F(P)SO according to the TOPM, as well as details of its Estimated Time of Arrival (ETA) in accordance with voyage instructions. Before arriving at the F(P)SO, the offtake tanker should exchange information (as defined by the TOPM) with the F(P)SO.

The F(P)SO should have procedures in place to manage the exchange of information between the offtake tanker and the F(P)SO before it moors. This ensures the offtake tanker's safe and timely arrival at the F(P)SO, with both parties ready to start operations.

Assessor observation

Additional comment**F(P)SO response****9.12 Dynamic Positioning offtake tankers**

	Question	Y	N	N/A
9.12.1	Does the F(P)SO have an acceptance procedure to ensure compatibility between the terminal and the DP tanker?			

Guidance

Compatibility should be assessed by an F(P)SO assurance representative as part of the nomination process and using the following process:

- Review the DP offtake tanker design.
- Review the DP bow loading tanker's Dynamic Positioning Verification Acceptance Document (DPVAD), Failure Mode Effects and Criticality Analysis (FME(C)A) study, FME(C)A trials report and annual DP trials report.
- Assess the DP bow loading tanker by an on-board inspection to check that equipment, personnel competency, training and experience comply with performance standards and regulations and assessment matrices.
- Check annual DP trials and close out recent inspection records on board.
- Check the personnel's understanding of the DP system and its failure modes.
- Ensure that the thruster, DP control software and all radio telemetry frequencies and position reference settings are adapted to the field operations.
- Conduct field trials to confirm the terminal and tanker are compatible.

Communications, position references, telemetry and shutdown systems, hawser interface and offtake hose interface should be addressed in the design phase to ensure compatibility. A Hazard Identification Study (HAZID) or risk assessment should be carried out on the risks associated with offloading emergency shutdown procedures.

See also: *Guidelines for Offshore Tanker Operations*, appendix C: Assurance processes for DP bow loading tankers; *Norwegian Oil and Gas Recommended Guidelines for Offshore Loading Shuttle Tankers*, No. 140 (Norwegian Oil and Gas) and *Tandem Loading Guidelines* (Oil and Gas UK).

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
9.12.2	Does the F(P)SO position reference system have the right level of redundancy, and has this been verified by an FME(C)A?			

Guidance

Regardless of whether the F(P)SO has thruster assist, it should establish redundancy levels so that any single point failure on the F(P)SO does not result in an unmanageable situation. Examples of single point failures are:

- Mooring line failure.
- Power generation or power distribution failure.
- Thruster failure.

- Gyro compass drift.
- Position reference fault.

See also: *Guidelines for Offshore Tanker Operations*, section six: Station keeping and *Guidelines for the Design and Operation of Dynamically Positioned Vessels* (IMCA).

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
9.12.3	Does the F(P)SO check that the bow loading tanker has enough competent personnel for the DP operation?			

Guidance

The DP bow loading tanker should provide training and experience matrices for validation by the F(P)SO's assurance representative, as part of the nomination process.

See also: *Guidelines for Offshore Tanker Operations*, section nine: DP bow loading tanker operations and appendix B: Recommendations for DP bow loading tanker training and experience.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
9.12.4	Does the F(P)SO operator have a competence assurance programme to ensure adequate and competent manning throughout the DP offtake operation?			

Guidance

F(P)SO operators should have competence programmes in place for personnel tasked with marine roles to cover competencies required for the safe deployment of mooring equipment and cargo transfer operations. Any competency programme for F(P)SO marine personnel should cover competencies related to cargo transfer operations, including:

- F(P)SO mooring and cargo hose deployment.
- It is critical to keep regular communications with the DP bow loading tanker's Master to confirm that the offtake tanker is able to maintain position within safe limits and it is safe to continue cargo transfer operations.
- Understanding of DP systems on the offtake tanker, how they operate and the consequences of partial or complete DP failure.
- Operation of F(P)SO position references, remote position monitoring, sensors and cargo radio telemetry systems (green line), including the effects on the DP bow loading tanker.

See also: *Guidelines for Offshore Tanker Operations*, section nine: DP bow loading tanker operations and *Competence Assurance Guidelines for F(P)SOs*.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
9.12.5	Does the F(P)SO send the field operations manual to the DP bow loading tanker’s personnel before it arrives in the field?			

Guidance

Providing the field operations manual early gives the personnel an opportunity to review and comment on any field procedures or equipment that could lead to conflicts.

See also: *Guidelines for Offshore Tanker Operations*, appendix C: Assurance processes for DP bow loading tankers.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
9.12.6	Does the field operations manual contain checklists to be completed before each phase of the DP operation?			

Guidance

The checklists should reflect and refer to relevant system manuals and procedures. Records of completion should be kept.

The F(P)SO offtake procedures should require the offtake tanker to confirm the following have been tested:

- BLS equipment.
- Telemetry.
- Position reference systems.
- Main engine and thruster emergency stop or zero pitch.
- DP computers.

See also: *Guidelines for Offshore Tanker Operations*, section nine: DP bow loading tanker operations.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
9.12.7	Does the DP field operations manual contain step-by-step procedures for completing each phase of the operation?			

Guidance

Field-specific operations manuals should provide a clear, step-by-step process for controlling cargo transfer procedures.

See also: *Guidelines for Offshore Tanker Operations*, section nine: DP bow loading tanker operations and appendix F: DP bow loading operational checklists.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
9.12.8	Does the F(P)SO have detailed emergency procedures for DP field operations?			

Guidance

Terminal operators and offtake tanker technical operators should develop procedures for a range of field operation emergencies that are specific to cargo transfers. These procedures should address:

- Worst single failure of the DP system.
- Deteriorating weather during approach and cargo transfer.
- Interrupted approach manoeuvres.
- Power failure during manoeuvres or cargo transfer.
- Communication breakdown.
- Failure of the DP system or functions.
- Part failure of the DP system.
- Mooring hawser failure.
- Collision.
- Fire on the DP bow loading tanker or the F(P)SO.
- Oil pollution actions.
- Leakage and suspected leakage.
- Emergency towing or standby vessel specifications.

See also: *Guidelines for Offshore Tanker Operations*, section eleven: Emergency and contingency planning.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
9.12.9	Does the field operations manual contain field- and activity-specific operating guidelines on actions to take in case of a degraded DP bow loading tanker?			

Guidance

The DP field operations manual should contain field- and activity-specific operating guidelines that list the reporting and equipment operational status requirements for the field. Options for continuous cargo operations should be considered and addressed.

See also: *Guidelines for Offshore Tanker Operations*, section nine: DP bow loading tanker operations.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
9.12.10	Does the field operations manual contain procedures that detail when a Towing Assistance Vessel (TAV) is required and any restrictions during its use?			

Guidance

Field operators should carry out a risk assessment on the need to provide in-field towing assistance as part of their concept selection process for all field developments. Whether and when to use TAVs should be decided based on the demonstration that risks are reduced to ALARP for the life of field.

See also: *Tandem Loading Guidelines* (Oil and Gas UK) and *Guidelines for Offshore Tanker Operations*, section nine: DP bow loading tanker operations.

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
9.12.11	Does the TOPM contain procedures that detail SIMOPS during DP bow loading tanker operations?			

Guidance

The TOPM should contain guidance on the precautions needed when one or more additional vessels are operating near the terminal.

SIMOPS are usually addressed by specific risk assessments that consider the nature of vessel operations, locations, priorities and work scopes. If field support vessels come alongside during cargo transfer operations, the field SIMOPS procedures should be followed.

The DP bow loading tanker Master should agree to procedures before operations begin. The procedures should address the handling of the support vessels alongside the offshore terminal, including the need to have enough personnel available to safely oversee both operations. Issues likely to affect the cargo transfer operation, e.g. the use of 3cm radars and other radio transmissions that can interfere with the Positioning Reference System (PRS), should be identified and managed by mutual agreement with the F(P)SO.

See also: *Guidelines for Offshore Tanker Operations*, section nine: DP bow loading tanker operations.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
9.12.12	Are DP bow loading tankers inspected at regular intervals by duty holders or field operators, i.e. the party responsible to regulators for conducting safe operations within a 500m safety zone of installation?			

Guidance

Operational inspections of the offtake tanker in the field should take place at least every two to three years by a Master Mariner with experience of DP bow loading operations. The assessment should be carried out in the field by witnessing a cargo transfer operation. As a minimum, the following should be assessed:

- Tanker and hardware against the field-specific performance standards for the areas indicated in these guidelines (see 10.12).
- Recent OCIMF Ship Inspection Report Programme (SIRE) inspection reports and closed out actions.
- Personnel experience and training against the levels defined in the matrices included in Guidelines for Offshore Tanker Operations, appendix B for the type of offshore terminal concerned. There should be evidence of increasing experience levels and suitable refresher training.
- Latest DPVAD, FME(C)A and annual trials documented on board, with evidence that the personnel understand the findings and that actions were closed out.
- Correct use of the field operations manual containing Activity/Field Specific Operating Guidelines (ASOG/FSOG) and evidence that the hierarchy of advisory, yellow and red alerts is understood and being used correctly.
- Evidence that if an alert has taken place, correct action was taken.

See also: *Guidelines for Offshore Tanker Operations*, section ten: Risk management and appendix C: Assurance processes for DP bow loading tankers.

Assessor observation

Additional comment

F(P)SO response**10. Dynamic Positioning and active heading control****10.1 F(P)SO Dynamic Positioning**

	Question	Y	N	N/A
10.1	Does the F(P)SO's dynamic positioning system design follow IMO and industry guidance by means of a Dynamic Positioning Verification Acceptance Document (DPVAD)?			

Guidance

The assessor should check that the DPVAD follows IMO requirements, including:

- IMO MSC Circ/645 (applied to vessels and units constructed on or after 1 July 1994 but before 9 June 2017).
- IMO MSC.1/Circ.1580 (applied to vessels and units constructed on or after 9 June 2017).

See also: *Tandem Loading Guidelines* (Oil Gas UK), and *Dynamic Positioning Assurance Framework: Risk-Based Guidance* (OCIMF).

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
10.1.2	Are F(P)SO staff competent in the operation and maintenance of safety critical active heading control equipment?			

Guidance

If the F(P)SO does not have safety critical active heading control, mark this question N/A.

For safety critical active heading control of F(P)SOs/FSUs, a minimum level of competence in the operation of heading or position control systems is required, as well as an appreciation of their importance to tandem loading operations. Guidance with regard to the minimum level of competence can be found in *The Training and Experience of Key DP Personnel* (IMCA).

See also: *Guidelines for Offshore Tanker Operations*, section nine: DP bow loading tanker operations.

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
10.1.3	Does the F(P)SO have enough redundancy to ensure that any shutdown of production does not impact the ability to maintain DP or heading control?			

Guidance

Where thruster power is provided indirectly by produced gas, sudden loss of this fuel should not cause an unacceptable loss of thrust for DP and heading control.

See also: *Guidelines for the Design and Operation of Dynamically Positioned Vessels* (IMCA).

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
10.1.4	Are there at least three reference systems continuously available?			

Guidance

For DP systems, at least three independent position sensors should be continuously available. These do not all need to work on different principles, but for two similar systems to be considered independent, they should not be subject to common modes of failure.

See also: *Guidelines for the Design and Operation of Dynamically Positioned Vessels* (IMCA).

Assessor observation

Additional comment**F(P)SO response**

	Question	Y	N	N/A
10.1.5	Are there primary and secondary means of communication available between key F(P)SO personnel involved with the DP operations?			

Guidance

All essential communications systems should have redundancy, including call-out of off duty personnel if required.

Priority communications should be available to ensure immediate and clear transfer of information between all responsible parties. In particular, these should include:

- DP control position.
- Engine control room.
- Production control room.
- Production supervisor's office/OIM.

See also: *Guidelines for the Design and Operation of Dynamically Positioned Vessels* (IMCA).

Assessor observation**Additional comment****F(P)SO response**

	Question	Y	N	N/A
10.1.6	Does the F(P)SO have a copy on board of the initial survey (FME(C)A proving trials), a periodical test not exceeding five years (FME(C)A revalidation trials) and annual survey reports (annual DP trials)?			

Guidance

Each DP vessel to which the IMO guidelines apply should be subject to the relevant surveys and testing.

An active heading control F(P)SO should have an applicable FME(C)A initial survey and periodic tests on board.

See also: *Guidelines for Vessels with Dynamic Positioning Systems, MSC/Circ.645* (IMO); *Guidelines for Vessels and Units with Dynamic Positioning (DP) Systems, MSC.1/Circ.1580* (IMO); *Guidelines for the Design and Operation of Dynamically Positioned Vessels* (IMCA).; *Guidance on Failure Modes and Effects Analysis (FMEA)* (IMCA) and *Guidance for Developing and Conducting DP Annual Trials Programmes* (IMCA).

Assessor observation
Additional comment
F(P)SO response

	Question	Y	N	N/A
10.1.7	Does the F(P)SO operator have a competence assurance programme to ensure adequate and competent manning throughout the operation?			

Guidance

Personnel engaged in operating a DP system should have received relevant training and practical experience in accordance with the STCW Convention and Code, and the IMO's *Guidelines for Dynamic Positioning System (DP) Operator Training*.

For DP F(P)SOs, full competence in the operation of heading and position control systems is required, as well as an appreciation of their importance to tandem loading operations.

For active heading F(P)SOs, a minimum level of competence in the operation of heading and position control systems is required, as well as an appreciation of their importance to tandem loading operations.

See also: *The Training and Experience of Key DP Personnel* (IMCA) and *Guidelines for Dynamic Positioning System (DP) Operator Training, MSC.1/Circ.738/Rev2* (IMO).

Assessor observation

Additional comment

F(P)SO response

11. Navigation and propulsion on disconnectable F(P)SOs

11.1 Navigation requirements

	Question	Y	N	N/A
11.1.1	Does the F(P)SO have an SMS that complies with the ISM code?			

Guidance

While disconnected, the F(P)SO is subject to SOLAS (including the ISM Code).

See also: *Guidance for the Application of Safety, Security and Environmental Protection Provisions to FPSOs and FSUs, MSC-MEPC.2/Circ.9* (IMO).

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
11.1.2	Is the number of crew and their competence maintained to comply with minimum safe manning and the STCW Convention?			

Guidance

While disconnected, the F(P)SO is subject to SOLAS (including the ISM Code), the STCW, the IMO's International Convention on Load Lines and MARPOL.

See also: *Guidance for the Application of Safety, Security and Environmental Protection Provisions to FPSOs and FSUs* (IMO).

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
11.1.3	Does the F(P)SO maintain valid statutory and Classification Society certification to permit sailing when disconnected from the field?			

Guidance

Flag State compliance and Classification Society certification is required for disconnectable F(P)SOs. The Flag State's statutory requirements might address specific rules and regulations that an F(P)SO must satisfy in a similar way that vessels do.

If it is necessary to disconnect, F(P)SOs should refer to SOLAS article IV and regulation I/4(a) in case limited exemptions from the requirements for physical arrangements or hardware are appropriate.

See section 1.1 of these guidelines.

See also: *Guidance for the Application of Safety, Security and Environmental Protection Provisions to FPSOs and FSUs* (IMO) and *Guidelines for Offshore Tanker Operations*, section one: Applicable codes and standards.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
11.1.4	Does the F(P)SO have emergency response procedures that comply with consider MARPOL, the ISM Code and appropriate guidelines?			

Guidance

Disconnectable F(P)SOs should develop emergency response procedures for safety and pollution risks that consider the MARPOL Convention, the ISM Code and appropriate guidelines.

See also: *Guidance for the Application of Safety, Security and Environmental Protection Provisions to FPSOs and FSUs* (IMO).

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
11.1.5	Is the F(P)SO's level of safety in line with SOLAS and IMO Load Line Convention requirements?			

Guidance

So that disconnectable self-propelled F(P)SOs can be readily and efficiently disconnected in case of severe environmental conditions, they should have a level of safety equivalent to that afforded by the SOLAS and Load Line Conventions. If hardware and arrangements of marine-related systems are affected by production systems, arrangements that are better addressed by other standards (such as the IMO MODU Code) might be accepted by the Flag State, with the coastal authority's agreement.

See also: *Guidance for the Application of Safety, Security and Environmental Protection Provisions to FPSOs and FSUs* (IMO).

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
11.1.6	Does the F(P)SO meet the requirements of SOLAS, chapter V: Safety of Navigation?			

Guidance

F(P)SO reference publications and equipment onboard should be kept in an operational state and up-to-date.

See also: *Guidance for the Application of Safety, Security and Environmental Protection Provisions to FPSOs and FSUs* (IMO) and *SOLAS*, chapter V: Safety of Navigation.

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
11.1.7	Does the F(P)SO have testing records for the propulsion, steering and disconnect systems?			

Guidance

Every F(P)SO that is disconnectable should ensure that the disconnect, propulsion and steering systems are in good working order. The full output and range of propulsion and steering systems should be available.

At least 12 hours before departure, the propulsion and steering systems should be checked and tested. As well as the routine checks and tests, disconnect drills that test disconnection, propulsion and steering systems should be conducted at predefined intervals. The dates and scope of the disconnect drills should be recorded in the log-book, as may be prescribed by the Flag State administration.

See also: *Guidance for the Application of Safety, Security and Environmental Protection Provisions to FPSOs and FSUs* (IMO) and *SOLAS*, chapter I: General Provisions and chapter V: Safety of Navigation.

Assessor observation

Additional comment**F(P)SO response****12. Operations in ice****12.1 Procedures in ice**

	Question	Y	N	N/A
12.1.1	Does the F(P)SO have an ice management plan?			

Guidance

The operator should have procedures in place to for dealing with all forms of sea and glacial ice that can be encountered within the field and that can threaten an F(P)SO or subsea assets, or impede operations in the field.

The plan should include:

- Roles and responsibilities (onshore and offshore).
- Organisational communication.
- The F(P)SO's operating limitations in ice or severe sub-zero conditions.
- Resources available for reconnaissance and gathering of ice data (such as aerial, satellite, vessel sweeps, synergistic sources, ice radar or plotting).
- Procedures for reporting collected ice data.
- Monitoring and assessment of data collected, e.g. ice drift predictions and modelling, metocean data or ocean currents.
- Ice conditions that are threatening to an installation or field assets.
- Details of the installation's ice strengthening and mooring design limits.
- Closest Point of Approach (CPA) calculations and Time to CPA (TCPA) to an installation or field assets.

- Calculations for determining iceberg mass or draft, e.g. waterline length, side scan sonar or imagery.
- Defined actions to be taken based on CPA or TCPA.
- Allocation of resources.
- Joint operations and communications with other facilities, if ice management can affect other operators.
- Preparations for continued operations in ice (such as a sea chest, heading control to reduce stress on moorings by directing bow inflow ice flow direction or removal of surface-moored ocean data equipment).
- Procedures for disconnectable F(P)SOs.
- Support vessel equipment available for ice management and training requirements.
- Ice management techniques for breaking, clearing or towing ice from an asset.
- Down-manning requirements.
- Checklist to prepare all that might be needed during ice encroachment, such as machinery, propulsion, steering, navigation equipment, QC/DC systems passage planning.

See also: *The Use of Large Tankers in Seasonal First -Year Ice and Severe Sub-Zero Conditions* (OCIMF).

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
12.1.2	Does the F(P)SO have personnel trained and competent in ice operations?			

Guidance

The operator should ensure that personnel responsible for ice management are competent and knowledgeable about the facility, subsea assets, the type of ice that might be encountered, ice management technique and resources available such as ice breaking, iceberg tow ropes, ice nets, breaking ice, water cannon and prop washing.

The F(P)SO operator should have a competence assurance programme in place to ensure adequate and competent manning for operations in ice.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
12.1.3	Is the F(P)SO equipped with an ice radar?			

Guidance

An ice radar can significantly enhance ice detection and tracking when compared to a standard marine radar, especially for small targets in areas of high clutter or sea states.

Operators should be trained in the use of ice radars. Plotting aids should be provided as a backup to electronic plotting systems.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
12.1.4	Does the F(P)SO have a procedure to keep enough stocks of essential supplies for safe operation in the ice season?			

Guidance

The F(P)SO should be able to demonstrate that it has enough stocks of fuel and provisions for safe operation as detailed in the procedure.

Assessor observation**Additional comment**

F(P)SO response

	Question	Y	N	N/A
12.1.5	Has the operator assessed the hazards of ice and severe sub-zero conditions?			

Guidance

The PTW system should include supplementary certification for work activities in ice and severe sub-zero conditions.

Assessor observation

Additional comment

F(P)SO response

	Question	Y	N	N/A
12.1.6	Does the operator have procedures to deal with emergencies in ice?			

Guidance

The operator should have procedures to deal with emergencies in ice and these should consider flooding, collision and evacuation systems.

Assessor observation

Additional comment

F(P)SO response**12.2 Support vessels**

	Question	Y	N	N/A
12.2.1	Are all support vessels and tugs surveyed for suitability before they are accepted to operate in ice and severe sub-zero conditions?			

Guidance

Tug and support craft acceptability should consider:

- The full range, size and type of Ice.
- Environmental conditions such as the wind, sea, swell, and current.
- Suitability and ability to handle enough tow ropes /nets or equipment
- Communications (all support craft).
- Manoeuvrability.
- Towing suitability.
- Personnel transfer capabilities.
- 24-hour operation.
- Personnel training.

See also: *The Use of Large Tankers in Seasonal First-Year Ice and Severe Sub-Zero Conditions*, section four: Vetting for ice navigation.

Assessor observation

Additional comment

F(P)SO response

Appendix A: F(P)SO particulars questionnaire

The following form should be completed by the F(P)SO. The information provides basic data that will be included in the assessment report.

Name and location

Country					
F(P)SOs		Lat		Long	
		Lat		Long	
		Lat		Long	
Class Notation					
IMO Number					
Flag State					
Port of Registry					
Gross Tonnage					
LBP					
Breadth					
Depth					

Ownership

Company	% share

Name of designated F(P)SO operator

Tugs		Pilotage	

F(P)SO manager

Name			Email		
Phone		Fax		Title	

Alternative contact (company representative)

Name			Email		
Phone		Fax		Title	

Type of facility

FPSO	FSO	FSU	
New build		Conversion	
Year of conversion			

F(P)SO and external SPM (if applicable) mooring type

Span moored	Fixed turret	Disconnect turret
Fixed buoy	Disconnect buoy	DP
Soft moored		

Offtake manner

Tandem		Side-by-side	
External (CALM, STL, OLS, etc.)		Pipeline	

Production handling

Imports			Exports		
Type of product	Quantity (1,000s) bbls per day	Type of product	Export parcel size (1,000s) bbls	Number of shipments (per year)	Type of Export Tanker
Crude oil		Crude oil			
LPG		LPG			
LNG		LNG			
Condensate		Condensate			
Produced Water		Produced Water			
Others in Bulk (e.g. methanol)					
Total		Total			

Storage capacity of F(P)SO

Capacity	Total capacity (bbls)
Crude	
Condensate	
LPG	
LNG	
Produced Water	
Slop Tanks	
Off-Spec tanks	
Others	

Offtake fiscal metering

Product	Type of Metering Unit
Crude	
Condensate	
LPG	
LNG	
Produced Water	

The following additional information should be provided if available:

	Information	Hose 1	Hose 2	Hose 3	Guidance notes
A1	Product				
A2	Hose type/manufacturer				
A3	Hose diameter				millimetres
A4	Tanker rail hose diameter				millimetres
A5	Hose length (overall)				metres
A6	Single or double tanker rail hose				
A7	Hose storage (reel, chute, floating)				
A8	Number of sections				In complete string
A9	Time in service				Date first used DD-MM-YYYY
A10	Last inspection date				DD-MM-YYYY
A11	Marine Breakaway Coupling (MBC) manufacturer				
A12	Type of MBC				Petal or valve
A13	MBC operation				Single or double acting
A14	MBC last inspection date				DD-MM-YYYY

	Information	Hawser 1	Hawser 2	Guidance notes
B1	Hawser manufacturer			
B2	Hawser type			Grommet or single span
B3	Hawser length			metres
B4	Hawser diameter			millimetres
B5	Time in service			Date first used DD-MM-YYYY
B6	Last inspection date			DD-MM-YYYY
B7	Number of exports			
B8	Hawser weak link			Inspection DD-MM-YYYY

	Information	QCDC 1	QCDC 2	QCDC 3	Guidance Notes
C1	Quick connect/disconnect coupling (QC/DC) manufacturer				
C2	Product				
C3	QC/DC type				
C4	QC/DC diameter				millimetres
C5	Time in service				Date first used DD-MM-YYYY
C6	Last inspection date				DD-MM-YYYY
C7	Activation method				

	Information	FENDER 1	FENDER 2	FENDER 3	FENDER 4	FENDER 5	Guidance Notes
D1	Fender manufacturer						
D2	Fender types						
D3	Number in service						
D4	Fender length						metres
D5	Fender diameter						metres
D6	Fender weight						tonnes
D7	Time in service						Date first used DD-MM-YYYY
D8	Last inspection date						DD-MM-YYYY
D9	Deployment method						

	Number/Type	Guidance Notes
E1	F(P)SO provided mooring ropes	
E2	F(P)SO provided QRHs	
E3	F(P)SO mooring winches/rendering settings	
E4	F(P)SO line throwing appliances	

Appendix B: Certificates

The F(P)SO should provide relevant documents and certificates to the assessment team. These should include:

Certificate	Applicable to F(P)SO type Y/N	Date of expiry DD-MM-YYYY	Certification guidance
Registry/Load Line/Tonnage Certificates			
Certificate of Registry	Y / N		
International Load Line Certificate/Exemption	Y / N		
International Tonnage Certificate	Y / N		
Certificate of Class	Y / N		
Safety Certificates			
Cargo Ship Safety Construction Certificate	Y / N		
Cargo Ship Safety Equipment Certificate	Y / N		
Cargo Ship Safety Radio Certificate	Y / N		
Radio Licence Certificate	Y / N		
Cargo Ship Safety Radio Exemption Certificate	Y / N		
Maritime Labour Convention Certificate DMLC-I and DMLC-II	Y / N		
Rapid Response Damage Assessment	Y / N		
MARPOL Certificates			
International Oil Pollution Prevention Certificate	Y / N		
International Air Pollution Prevention Certificate	Y / N		
International Sewage Pollution Prevention Certificate	Y / N		
International Prevention of Pollution by Garbage	Y / N		
International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (INLS Certificate)	Y / N		
International Anti Fouling System (IAFS) Certificate or Statement of Compliance	Y / N		
Civil Liability for Oil Pollution Damage Certificate (CLC-O)	Y / N		
Civil Liability for Bunker Oil Pollution Damage (CLC-B)	Y / N		
Ship Sanitation Control Certificate or Ship Sanitation Control Exemption Certificate (DERAT)	Y / N		
MARPOL, Annex VI., Tier III Reg 13 (NOx)	Y / N		
ISM Certificates			
Safety Management Certificate	Y / N		
Document of Compliance (copy)	Y / N		
Minimum Safe Manning Certificate/Document	Y / N		

Certificate	Applicable to F(P)SO type Y/N		Date of expiry DD-MM-YYYY	Certification guidance
International Ship and Port Facility Security Code				
International Ship Security Certificate	Y /	N		
Continuous Synopsis Record(s)	Y /	N		
Ship Security Alert System Certificate	Y /	N		
Ship Security Plan (not for examination – to be kept secure on the F(P)SO)	Y /	N		
Miscellaneous				
GMDSS Shore Maintenance Agreement	Y /	N		
Register of Ship’s Lifting Appliances	Y /	N		
Annual Fire Fighting inspection, including SCBA air compressor test	Y /	N		
Intact stability booklet	Y /	N		
Document of Compliance with the special requirements for ships carrying dangerous goods	Y /	N		
Dangerous goods manifest or stowage plan	Y /	N		
Garbage management plan and garbage record book	Y /	N		
Oil Record Book (Part 1 and 2)	Y /	N		
Ship Emergency Response Service (SERS) or Rapid Response Damage Assessment (RRDA)	Y /	N		
Loading Computer Certification	Y /	N		
Medical Certification (Health Regulations)	Y /	N		
Noise Survey Report	Y /	N		
Ballast Water Management Plan	Y /	N		
P&I	Y /	N		
H&M Insurance certificate	Y /	N		
Employer liability insurance	Y /	N		
Locally Applicable Certificates				
	Y /	N		
	Y /	N		
	Y /	N		

Appendix C: Example scorecard

		Compliance	Finding	F(P)SO response
1.	Regulatory compliance			
1.1	Certification			
1.2	Compliance			
1.3	Documentation			
2.	Personnel and contractor management			
2.1	General			
2.2	Training and competency of personnel			
3.	Safety management			
3.1	Management of Change			
3.2	Safety Management System			
3.3	Emergency response plan			
3.4	Emergency evacuation			
3.5	Risk management			
3.6	Security			
3.7	Personnel transfer			
3.8	Lifesaving appliances and first aid/ medical equipment			
3.9	Fire protection			
3.10	Occupational health			
4.	Pollution prevention and environmental management			
4.1	Pollution prevention			
4.2	Cargo system/topsides draining and containment			
4.3	Oil and chemical spill response plan			
4.4	Protection of the environment from pollution and emissions			

		Compliance	Finding	F(P)SO response
5.	F(P)SO marine operations			
5.1	Hazardous materials associated with F(P)SO operations			
5.2	General hazards associated with F(P)SO operations			
5.3	Storage tank atmosphere control and venting arrangements			
5.4	F(P)SO cargo operations			
5.5	Water management			
5.6	Crude Oil Washing			
5.7	Tank cleaning and gas freeing for entry			
5.8	Control of work in storage and ballast tanks			
5.9	Environmental limits			
5.10	F(P)SO operation communications			
5.11	F(P)SO mooring systems monitoring			
6.	Topsides–marine interfaces			
6.1	Topsides–marine interfaces			
6.2	Hydrocarbon blanketing and vapour recovery			
6.3	Dead oil displacement (bull-heading)			
7.	Asset integrity, reliability and maintenance			
7.1	Asset Integrity programme			
7.2	Asset Integrity plan			
8.	F(P)SO marine terminal services			
8.1	Navigation and berthing aids			
8.2	Water depth surveys			
8.3	Mooring Master			
8.4	Tugs/support craft			
8.5	Mooring deck equipment, including mooring winches			
8.6	Mooring of support vessels			
8.7	Lifting equipment			

[illegible]

Appendix D: Record of opening/closing meeting

[illegible]



A voice for safety

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