



Marine Order 47 (Offshore industry units)

The Australian Maritime Safety Authority (AMSA) has repealed Marine Order 47 (*Mobile offshore drilling units*) and Marine Order 60 (*Floating offshore facilities*), replacing them with one new document called **Marine Order 47 (Offshore industry units)**.

Introduction

This guidance assists the offshore oil and gas industry in understanding the intent of Marine order 47 (Offshore industry units). The new marine order combines elements of *Marine Order 47 (Mobile offshore drilling units) 2012* and *Marine Order 60 (Floating offshore facilities) 2001*, both of which have been repealed.

The previous orders duplicated large amounts of text from other documents, and contained provisions of a largely operational nature. Once vessels become 'facilities', they are governed by the regulatory framework in and under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGSA), including the operational requirements of their safety case. AMSA has no jurisdiction and Marine order 47 does not apply.

Background

For the purposes of Marine order 47, offshore industry unit means a vessel that is for use for any activity mentioned in sub-clause 4(1) or 4(5A) of Schedule 3 to the OPGGSA 2006, and includes:

- dis-connectable vessels whether self-propelled or non-propelled and
- vessels designed to be permanently moored.

The marine order applies to regulated Australian vessels operating anywhere, including overseas, and to foreign vessels. Examples include:

- floating production, storage and offtake vessels (FPSOs)
- floating storage and offtake vessels (FSOs)
- floating storage units (FSUs)
- mobile offshore drilling units (MODUs)
- mobile offshore units (MOUs)
- floating liquefied natural gas facilities (FLNGs)
- central processing facilities (CPFs)
- pipe-lay and cable-lay vessels and accommodation vessels (FLOATELS).

Vessels that are not offshore industry units include:

- fixed platforms
- platform supply vessels
- anchor handling tugs
- offtake tankers
- crew transfer vessels
- diving support or ROV support vessels
- well stimulation vessels
- heavy lift or seismic vessels or
- any other vessel involved in the support of or supply to facilities.

The OPGGSA 2006, regulated by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), dis-applies the Navigation Act whenever a vessel transitions to a 'facility'. A vessel becomes a 'facility' when it is being used, or prepared for use, for a purpose mentioned in clause 4(1) or 4(5A) of Schedule 3 to the OPGGSA. Therefore, offshore industry units will only be subject to the Navigation Act and hence, Marine order 47, when not 'facilities'. This includes a delivery voyage, a docking voyage, or a voyage away from the riser to avoid extreme weather or as a result of another planned or unplanned event.

Given that some offshore industry units may be on-station for many years outside of AMSA's jurisdiction, it is essential that AMSA has assurance that in the event of a planned or unplanned disconnection and departure from the field, the facility is fit to proceed to sea. Upon departure, the Navigation Act is reapplied and marine orders again come into effect. AMSA must be confident that the integrity of the hull and equipment has been maintained, and that the vessel can make best speed.

The consequences of a hull breach or biosecurity event cannot be understated, not to mention the significant reputational risk for Australia's oil and gas operators, regulators and maritime community should sub-standard facilities return to a foreign port for maintenance, only to be detained by a foreign flag State.

There is in place a Memorandum of Understanding between AMSA and NOPSEMA to facilitate cooperation on safety and environmental management for the offshore sector. This includes information sharing with respect to:

- audits, inspections and investigations
- consultation and cooperation in regards to assessments of safety cases and/or
- environmental plans and general management of the matters related to the transition from one regulator to another.

Navigation Act 1912 versus Navigation Act 2012

AMSA has been involved in interpreting the divide between the operational practices of FPSOs and FSUs and SOLAS docking requirements since the mid 1980's. During this period, operators were converting single-hulled tankers for offshore operations, but as 'tankers' the obligation of a bottom inspection at the start of a five-yearly survey cycle, and an intermediate bottom inspection during that cycle, remained.

Under the *Navigation Act 1912*, an FPSO was categorised as an off-shore industry mobile unit (OSIMU) and all OSIMUs excluded from the definition of 'trading ship'. A non-self-propelled OSIMU was excluded from the definition of 'ship' in Part IV (Ships and shipping) of the Act, with a few exceptions. Non dis-connectable FPSOs were regarded as fixed platforms.

Other than to require dis-connectable FPSOs to maintain valid Load Line and SOLAS certification for use when the vessel detached from the riser due to weather or docking requirements, AMSA had little to do with these vessels. The five-year docking cycle was stretched as far as possible, and the results were far from satisfactory. There are examples of emergency dry-docking due to extensive deterioration and the inability to reach even manoeuvring speed away from the riser due to heavy fouling and/or propulsion machinery failure due to the long period of inactivity.

Marine order 47 is made under the *Navigation Act 2012*, which contemplates offshore industry units as vessels. As a result, all international conventions applicable to trading ships, such as SOLAS, the *Maritime Labour Convention* and the *Load Line Convention* now apply whenever the *Navigation Act 2012* is in effect, together with other relevant marine orders. Australia is not at liberty to contravene SOLAS or any of the other international treaties to which it is a signatory, but recognises that the operations and risks faced by offshore industry units differ from those of trading ships.

Double-hull requirements under the *International Convention for the Prevention of Pollution from Ships (MARPOL)*

Following the Exxon Valdez disaster and subsequent moves by the USA to mandate double hulls for all tankers calling at US ports, the International Maritime Organization (IMO) followed suit and amended MARPOL Annex I (Prevention of Pollution by Oil), requiring the world tanker fleet to be double-hulled. This created significant hurdles for those oil and gas operators using converted tankers. AMSA was instrumental in the IMO acknowledging that FPSOs and FSUs are not subject to the same navigational hazards as oil tankers.

The resulting IMO Resolution, 'MEPC.139(53) – *Guidelines for the application of the revised MARPOL Annex I requirements to floating production, storage and offloading facilities (FPSOs) and floating storage units (FSUs), as amended*', calls up the IMO's Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers (ESP Code) to be applied to FPSOs and FSUs as the highest available IMO survey standard, and provides flexibility in achieving the desired survey outcomes.

Consequently, detachable FPSOs, FSUs and like-vessels must comply with the survey requirements for oil tankers (the ESP Code), in accordance with Regulation 6 of MEPC.139(53). SOLAS vessels will be issued a SOLAS Safety Construction certificate displaying 'type of ship' as oil tanker. Non-SOLAS vessels will be issued a Certificate of Survey for a Cargo Vessel Class 2A.

Equivalent survey arrangements for statutory requirements

The guidelines contained within MEPC.139(53), as amended, are designed to assist flag State administrations in adopting a pragmatic approach to applying trading ship conventions to offshore facilities. AMSA recognises that the rigid requirements for periodic dry-docking may severely impact on the economics of subsea field exploitation, particularly towards the end of field life. To assist the offshore oil and gas industry in meeting its statutory obligations, while facilitating productivity, the guidelines allow AMSA to consider equivalent survey arrangements.

An equivalent survey arrangement may be a:

- performance-based inspection regime (PBI)
- an existing hull survey program approved by AMSA
- an inspection regime incorporating elements of PBI
- continuous hull survey (CSH), ESP, or any combination thereof, taking into account the operational nature of the unit.

AMSA must be satisfied that any equivalent arrangement satisfies the statutory bottom inspection provisions of SOLAS and the ESP Code.

A PBI will involve extensive up-front assessment and modelling of the unit's structure to create a benchmark, along with predicted corrosion losses and a clearly articulated program for utilising and updating the plan over the life of the facility. An approved PBI will be a 'living' document in that it allows for the focus to be shifted to where additional resources or survey is needed, based on survey outcomes, whilst not neglecting other areas. For example, deterioration of hull, machinery or equipment outside of predicted parameters would trigger escalated inspections and/or review of management plans for that item.

Should a PBI be approved, AMSA would issue an equivalence under section 7 of Marine order 47. A PBI may be amended by AMSA and/or the vessel's recognised organization (RO). Any conditions associated with the equivalence mechanism will be listed on the approval document, together with a clear statement that the equivalence is void upon breach of any of those conditions.

Certificate of Class requirements

Along with surveys to meet statutory requirements, offshore industry units are surveyed to maintain classification certification in accordance with classification society rules. In this case, the classification society system (eg CSH) will run over a five year survey cycle. Where an approved PBI is running in parallel, should an adverse outcome arise during a survey resulting in more frequent inspections under the PBI, only one inspection would be credited to the classification society system. It is expected that the adverse outcome would be documented as a condition of class and rectified to the satisfaction of the RO in its capacity as the classification society.

Offshore industry units and the STCW Code

The training and certification of personnel aboard offshore industry units during voyages shall be determined in accordance with international guidelines and AMSA's marine orders.

All maritime crew members on self-propelled offshore industry units (OIUs), and where required, other units, shall meet the requirements of the *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)* and receive training and instruction in the type of emergencies which might arise on the particular unit on which they are working.

Non-maritime personnel shall be inducted, trained and certified in accordance with IMO Resolution A.1079(28) – *Recommendations for the training and certification of personnel on Mobile Offshore Units (MOUs)* and/or MSC-MEPC.2/Circ.9 – *Guidance for the application of safety, security and environmental protection provisions to FPSOs and FSUs*.

Certificates required under MO47

Mobile Offshore Drilling Units (MODUs) and Mobile Offshore Units (MOUs) ie surface units, self-elevating units, column-stabilised units, submersible units, self-propelled and non-self-propelled units.

- Certificate of Registry
- Certificate of Classification
- MODU Safety Certificate
- International Load Line Certificate
- Tonnage Certificate
- MARPOL
 - International Oil Pollution Prevention Certificate (IOPP) – MARPOL I
 - International Sewage Pollution Prevention Certificate (ISPP) – MARPOL IV
 - Garbage Certificate of Compliance – MARPOL V
 - International Air Pollution Prevention Certificate (IAPP) – MARPOL VI

- Anti-Fouling System Certificate
- Cargo Ship Safety Radio Certificate (unless the vessel complies with s.11.4.2 of the MODU Code)
- Bunkers Convention Certification (If applicable)
- Diving Systems Safety Certificate (if applicable)
- Minimum Safe Manning Document*
- Declaration of Maritime Labour Convention Compliance*
- Safety Management Certificate and ISM Code Document of Compliance*

*If propelled by mechanical means

SOLAS vessels ie dis-connectable, self-propelled vessels

- Certificate of Registry
- Certificate of Classification
- SOLAS
 - Cargo Ship Safety Construction Certificate
 - Cargo Ship Safety Equipment Certificate
 - Cargo Ship Safety Radio Certificate or
 - Cargo Ship Safety Certificate
- International Load Line Certificate
- Tonnage Certificate
- MARPOL
 - International Oil Pollution Prevention Certificate (IOPP) – MARPOL I
 - International Sewage Pollution Prevention Certificate (ISPP) – MARPOL IV
 - Garbage Certificate of Compliance – MARPOL V
 - International Air Pollution Prevention Certificate (IAPP) – MARPOL VI
- Anti-Fouling System Certificate
- Minimum Safe Manning Document
- Declaration of Maritime Labour Convention Compliance
- Bunkers Convention Certification
- Safety Management Certificate and ISM Code Document of Compliance

Non-SOLAS vessels ie non-propelled and/or permanently moored, eg *accommodation vessels, FPSOs, **FLNGs, CPUs.

- Certificate of Registry
- Certificate of Classification
- Certificate of Survey Class 2A (construction and equipment)
- *Certificate of Survey for a Passenger Ship Class 1A
- Cargo Ship Safety Radio Certificate
- International Load Line Certificate
- Tonnage Certificate
- MARPOL
 - International Oil Pollution Prevention Certificate (IOPP) – MARPOL I
 - International Sewage Pollution Prevention Certificate (ISPP) – MARPOL IV
 - Garbage Certificate of Compliance – MARPOL V
 - International Air Pollution Prevention Certificate (IAPP) – MARPOL VI
- Anti-Fouling System Certificate
- Safety Management System declaration
- Declaration of Maritime Labour Convention Compliance
- Bunkers Convention Certification
- **Certificate of Fitness issued in accordance with the IGC Code
- Diving Systems Safety Certificate (if applicable)

Marine Orders with which offshore industry units must comply

As for all other vessels subject to the *Navigation Act 2012*, Offshore industry units must comply with a suite of marine orders when not under NOPSEMA's jurisdiction. A number of subjects in the previous Marine order 47 and Marine order 60 were duplicated from these other orders. As such, they have been removed from the new MO47 to reduce duplication and operators must now refer to those other orders.

Exemptions from the requirements of these marine orders may be sought under section 334(1)(a) of the *Navigation Act 2012*, using AMSA form 288. For vessels not normally engaged on international voyages, AMSA may utilise the exemption provisions contained within SOLAS Regulation 1/4(a) to issue a single document, covering any dispensations for such voyages. In these circumstances, an operator must apply for an exemption before disconnecting.

Marine order 11 (Living and working conditions on vessels), for *Maritime Labour Convention* obligations, noting that some flexibility is provided for via AMSA's equivalence provisions for facilities in regard to MLC compliance and accommodation.

Marine order 12 (Construction—subdivision and stability, machinery and electrical installations) and the MODU Code that applies to the vessel for construction requirements, noting that some OIU's may not be MODU's but are built to aspects of the MODU Code.

Marine order 15 (Construction—fire protection, fire detection and fire extinction) and the MODU Code that applies to the vessel for construction standards relating to fire protection.

Marine order 16 (Load lines) for requirements of the *International Load Line Convention*.

Marine order 18 (Measures to enhance maritime safety) for ship identification number, continuous synopsis record and port state control requirements.

Marine order 19 (Tonnage measurement) for obtaining an International Tonnage Certificate.

Marine order 21 (Safety and emergency arrangements) and IMO Resolution A.1047(27) - Principles of minimum safe manning or paragraph 14.9.10 of the MODU Code for manning, musters, drills and emergency preparedness.

Marine order 25 (Equipment—lifesaving) for the carriage and testing of lifesaving equipment.

Marine order 27 (Safety of navigation and radio equipment) and Chapter IV of SOLAS or 11.4.2 of the MODU Code for radio communications and danger, safety and urgency signals and messages.

Marine order 28 (Operations standards and procedures) for watch-keeping and hours of rest requirements.

Marine order 30 (Prevention of collisions) for collision prevention measures including the rules of the road and lights, shapes and signals to be utilised by vessels. Vessels under tow are the responsibility of the tow master. A bridging document shall be provided to AMSA, linking the towing manual and safety management system (SMS) of the towing contractor to the SMS of the towed vessel.

Marine order 32 (Cargo handling equipment) for the loading or unloading of an Australian regulated vessel anywhere; the loading or unloading of a foreign vessel that is an offshore industry unit at an Australian port or in the territorial sea of Australia.

Marine order 57 (Helicopter operations) for helicopter operations whilst underway.

Marine order 58 (Safe management of vessels) for requirements of the ISM Code

Marine order 70 (Seafarer certification)

Marine order 71 (Masters and deck officers)

Marine order 72 (Engineer officers)

Marine order 73 (Ratings) for seafarer certification on board self-propelled regulated Australian vessels.

Marine order 76 (Health—medical fitness) for the requirement for seafarers to hold a certificate of medical fitness.

Marine pollution

With regard to pollution prevention under MARPOL, it should be noted that fixed or floating platforms are included in the MARPOL 73 Article 2 (4) definition of 'ship'. The provisions of MARPOL are therefore international law for offshore industry units and those requirements are implemented through the Prevention of Pollution from Ships (POTS) Act. These are not affected by the dis-application of the *Navigation Act 2012* by the *Offshore Petroleum and Greenhouse Gas Storage Act* and therefore the 90 series marine orders apply throughout.

An International Oil Pollution Prevention (IOPP) Certificate will be issued displaying 'type of ship' as 'ship other than any of the above' in accordance with Regulation 9 of MEPC.139(53).

There are some concessions in MARPOL Annex I for permanently moored facilities in relation to operational discharges and the notion of being 'en route'. Details are available within IMO Resolution MEPC.311(73) – *2018 Guidelines for the application of MARPOL Annex I requirements to floating production, storage and offloading facilities (FPSOs) and floating storage units (FSUs)*.