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8 Collision Risk Management

Vessel Owners and Masters should ensure that any operations which involve approaching, working alongside and departing from any offshore facility are at all times undertaken in accordance with the best practices described below.

8.1 Safety Zones

Most offshore facilities will be protected by the establishment of a safety zone around the structure, unit or vessel.

The best practices described in this document have been developed on the presumption that such a safety zone exists but it should be noted that some offshore facilities, particularly vessels, may not be protected by such a zone. However, it is strongly recommended that when attendant vessels are approaching any offshore facility the practices described in this Section should be observed, irrespective of whether a safety zone has been established around the facility.

8.2 Bridge Team Organisation and Management

It is the responsibility of vessel Owners and Masters to ensure that the team directing operations on the bridge has the necessary experience for proposed operations such that all activities can be undertaken in a safe and expeditious manner.

Matters which may require particular consideration include, but are not necessarily limited to those below:

8.2.1 Competencies

At any time competencies of personnel available within the bridge team should comply with those identified in the relevant operational level for the current activities, as described in Chapter 5 of these Guidelines.

8.2.2 Distractions

Each member of the bridge team should be able to concentrate on his primary responsibilities.

Other activities should only be undertaken when they will not compromise such responsibilities. Any members of the team who find themselves in a situation where primary responsibilities are being compromised by additional activities should immediately cease such activities, drawing this to the attention of the senior watchkeeper.
8.2.3 Situational Awareness

Typically, modern marine equipment installations include a variety of aids to provide bridge team members with navigational information necessary for the safe operation of the vessel. However, maintenance of a visual watch at all times remains an important part of the bridge team’s responsibilities and should not be overlooked.

8.2.4 Awareness of Environmental Conditions

The bridge team should use all means at their disposal to ensure that they remain aware of prevailing environmental conditions. They should also be aware of any “trigger points” which have been identified in relation to any operations presently being undertaken.

In the event of environmental conditions changing such that the threshold levels in “trigger points” are (or are likely to be imminently) exceeded the bridge team should assess whether current operations can continue or should be suspended until circumstances improve.

8.2.5 Hand-Overs

Adequate arrangements should be in place to ensure that at the change of each watch each member of the bridge team is able to give his relief a complete briefing regarding the status of present activities and the vessel’s current operational status.

In some circumstances, where complex operations are being undertaken clear bridge team relief procedures should be in place to ensure positive hand-over. Consideration may be given to arranging for members of the bridge team to be relieved at different times to ensure continuity of awareness within the team.

Requirements for written record of hand-overs, to be signed off by all watchkeepers, may exist for some circumstances which should be described in the vessel’s SMS manual.

8.2.6 Precautions Against Fatigue

In all but the most extraordinary circumstances international legislation relating to hours of work and rest periods should be complied with.

Certain operations may require an unusually high level of control for extended periods. Personnel involved in such operations are therefore required to maintain an unusually high level of concentration with the result that early on-set of fatigue is likely. In such circumstances arrangements should be made for the relevant personnel to be relieved more frequently than might be normal practice.

Operations where such arrangements might be prudent should be identified at the early planning stage and appropriate measures put in place at that time.
Operations likely to fall into this category should be risk assessed to ensure that the provisions of the Manila Amendments to the STCW Convention, 2010 are adhered to.

### 8.3 Approaching Location

Wherever practical, when approaching any facility vessels should set a course which is off-set from it, at a tangent to the safety zone, as shown in Figure 3.

This course should take the vessel to a position where it can be set up for intended operations and the check lists completed in a drift-off situation.

### 8.4 Selection of Station Keeping Method

Following an assessment of the operations to be supported together with the prevailing and forecast conditions, the most appropriate method of station keeping whilst in the vicinity of the offshore facility will be selected at the discretion of the Master or senior Watchkeeper on duty at the time.

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**Figure 1: Approach to Facility**

NOTES
1. Direct Approach is Forbidden
2. Facility Location NOT to be used as Way Point
   - Set Up for Logistics Operations
3. 1.5 Vessel Lengths if drift off situation
4. 2.5 Vessel Lengths if drift on situation
The choice of station keeping method should be advised to the facility as part of the pre-entry process.

8.5 Pre-Entry Check Lists

Prior to entering the safety zone at any facility the pre-entry check list for the vessel should be completed. Completion of these check lists should be viewed as a safety-critical function.

A typical example of such a check list is included as Appendix 8 - A to this document.

Each check list should be signed off by ALL watch-keepers. Copies should be retained on file for audit for a limited period - c. 3 months.

Where laminated check lists are in use an entry should be made in the vessel’s log of each such use, together with a summary of the outcomes.

Electronic copies of signed-off check lists will be acceptable and should be filed in a suitable manner.

8.6 Change of Control Station or Operating Mode

Whenever control of a vessel is transferred to another station or a different operating mode is selected it should be ensured that all manoeuvring arrangements are responding as anticipated prior to undertaking any operations in the close proximity of an offshore facility, another vessel or other obstruction.

8.7 Setting Up Before Moving Alongside

Vessels should set up in the vicinity of the face to be worked on the appropriate heading at a distance from the facility of not less than 1.5 ship’s lengths in a drift-off situation or 2.5 ship’s lengths in drift-on circumstances.

When setting up to work in a drift-on situation the vessel should not be directly up-weather and/ or up-tide of the facility.

The set-up position should also take into account any obstructions in the vicinity of the intended working location.

Prior to moving from the setting up to the working location sufficient time should be allowed to ensure that all station keeping arrangements are stable and environmental factors can be fully assessed. It is suggested that a minimum of 10 - 15 minutes is allowed for this or as otherwise required by vessel’s operating procedures.
8.8 Use of Dynamic Positioning

Section 8.7 above relates to all vessels, and further requirements may relate to those maintaining station by means of dynamic positioning.

Vessel specific directions and guidance relating to the use of dynamic positioning facilities for station keeping will be included in operating procedures prepared by the equipment manufacturer and / or Owner. These should be complied with at all times.

Further guidance is included in Section 7.5 of these Guidelines.

8.9 In Operating Position

Whilst alongside the facility power consumption, thruster utilisation and environmental factors must be monitored on a regular basis, particularly if working on a weather face.

Similarly, actions required to depart from the facility at short notice, should this be necessary, should be continuously reviewed. The exit route to depart from the immediate vicinity of the facility should be reviewed at the same time.

If, for any reason, there is any concern regarding the vessel's ability to maintain position operations must be suspended and the vessel manoeuvred to a safe position clear of the facility. Such action is at the sole discretion of the Master or senior Watchkeeper.

Please also see guidelines relating to “Vessel Operational Capability” included in Section 7.2 of these Guidelines.

8.10 Change of Operating Location

Where it is necessary for the vessel to move from one working location to another such movement should be carefully planned and executed.

Wherever practical, risks associated in moving between locations should be assessed and personnel instructed accordingly.

Wherever practical, if moving from one working face to another the vessel should avoid passing up-wind and / or up-current of the facility. It should move well clear of the facility, move to the appropriate setting up location and carry out the setting up procedure described above prior to moving into the new working position.

The facility should be kept fully advised regarding the progress of any move between working locations.

If available, a consequence analyser may be used in simulation mode as an aid in assessing the implications of moving from one working location to another. However, the availability of this aid should never be considered as a substitute for the proper planning and implementation of such a move so that it is executed in a safe and controlled manner.
8.11 Weather Side Working

Any potential requirements to work on the weather side of a facility must be risk assessed as described in Chapter 4 of this document prior to moving into the set-up position and continuously thereafter until the relevant operations have been completed.

When preparing to work a weather face, the vessel must not set up directly to windward of the facility, but in a drift off position so that in the event of a power failure whilst setting up the vessel will drift clear of the facility.

Where, at any location, tidal or other currents are significant, similar precautions should be observed.

8.12 Requests to Stand-By for Further Instructions, Etc.

The risk of contact between an offshore facility and a vessel operating are increased if the two remain in close proximity for extended periods.

If, therefore, for any reason operations at a facility cannot be completed and a vessel is requested to stand by for further instructions, cargo, etc. it should move to a location at a safe distance from the facility and in a drift off position.

When returning to an operating location the pre-entry checks and set-up procedures as described above should be repeated.

8.13 Extended/Protracted Cargo Handling Operations

The potential risk of contact between any vessel and facility is reduced when the time that the vessel is in close proximity to the facility is minimised.

It is the expectation that the facility personnel will plan operations to minimise this time alongside, but should the Master believe that this is not the case, resulting in the vessel having to remain alongside for protracted periods this should be brought to the attention of the person in charge of operations at the facility.

Where performance reporting arrangements have been made by the Charterer such events should also be reported through this channel.

8.14 Departure and Commencement of Passage

In all cases a safe exit route should be selected, taking the vessel well clear of all hazards, including any other vessels and to leeward of the facility.

In all cases changes in operating mode from position keeping to passage making should not take place within 1.5 ship’s lengths of the facility if departing from the lee side, or within 2.5 ship’s lengths if departing from the weather side.
Furthermore, if departing from the weather side such changes in operating mode must only be implemented in a drift off position.

8.15 Field Transits

Some offshore developments may consist of a number of independent facilities. In some instances vessels which are not supporting or undertaking operations within the safety zones around such facilities may be required to pass through the development. When making such a field transit courses should be planned so that, where practical, the vessel passes at a distance of at least 1 nautical mile from each facility and any operations which might be in progress in its immediate vicinity.

8.16 Other Recommendations to Minimise Collision Risk

Other recommendations to minimise the risk of contact between offshore facilities and their attendant vessels are included throughout the remaining chapters of these Guidelines. These do not appear in this Chapter since it is considered they are more appropriate in the general context of the subjects in which they are included.