
No. 145 Recommendation for the Operation of Shore-Based Emergency Response Services

(May 2016)

1. General

1.1 This document gives recommendations for the operation of shore-based emergency response services in order to assist in complying with the following regulations and guidelines, as well as any applicable National Authority requirements.

- MARPOL Annex I, Regulation 37 - Shipboard oil pollution emergency plan (SOPEP)
- MARPOL Annex II, Regulation 17 - Shipboard marine pollution emergency plan for noxious liquid substances (SMPEP)
- Oil Pollution Act (OPA 90), CFR 155.240 - Damage stability information for oil tankers and offshore barges
- ISM Code, Regulation 8 - Emergency Preparedness
- SOLAS, Chapter II-1, Part B-1, Regulation 8-1 - System capabilities and operational information after a flooding casualty on passenger ships
- MSC Circular 1400 - Guidelines on Operational Information for Masters of Passenger Ships for Safe Return to Port by Own Power or Under Tow

2. Goals and objectives

2.1 In a ship emergency, a safe course of action to protect the ship, crew, cargo and the marine environment may not be obvious. A ship's crew and management need rapid precise technical information on the behaviour of the ship after the casualty as well as information on the consequences of any proposed remedial actions.

2.2 The aim of an emergency response service is to provide rapid technical assistance to Masters and other authorities in a casualty situation by assessing the damage stability and residual longitudinal strength of the ship.

2.3 This assistance can only be provided rapidly if:

- A 24 hour all year round emergency response service is available
- The calculation results can be provided rapidly by using computer programs
- Models of the ship are prepared in advance

2.4 The following are example of casualties for which an emergency response service should be capable of assessing the impact on the ship's stability and strength.

- Flooding
- Grounding
- Fire/explosion

**No.
145**
(cont)

- Collision
- Hull failure
- Excessive list
- Containment system failure
- Cargo Liquefaction

3. Recommendations for operation

3.1 The response service should be available 24 hours per day, all year round.

3.2 The response service should be available to input details of the conditions of the ship within two hours of being activated. For passenger ships addressed by MSC.1 Circ. 1400, the response service should be available within one hour.

3.3 There should be clear lines of communication between the response centre, master and/or ship manager with a dedicated means of initiating a response such as an emergency phone number.

3.4 There should be a dedicated response facility with a back-up system in place capable of carrying out stability and global strength calculations at all times.

3.5 There should be at least two team members responding to any emergency who are qualified to undertake stability and ship strength calculations.

3.6 Appropriate training should be provided to response team members; both before they join an emergency response service and throughout their time as an emergency response team member.

3.7 Regular drills/exercises should be carried out to ensure familiarity with response procedures.

4. Software and ship modelling

4.1 In order to create accurate models of ships the following information should be available:

- Lines plan/offset data or equivalent
- Capacity plan
- Midship section
- Transverse sections including engine room
- Profile and deck plans
- Shell expansion
- Hydrostatics

**No.
145**

(cont)

- Co-ordinates (x, y, z) of all openings (doors, air pipes, ventilators, hatches) located on the exposed deck with indications of whether they are weathertight or watertight. This information may be obtained from the Damage Control Plan or similar. In the case of passenger ships, the locations (x, y, z) of all internal openings in decks and watertight bulkheads as well as the locations (x, y, z) of partial bulkheads are also required.
- Trim & stability booklet/loading manual
- Lightweight distribution

4.2 Models should be validated against the supplied ship information to appropriate tolerances.

4.3 Software should be stable, rigorously tested and capable of carrying out stability and longitudinal strength calculations in both the intact and the damaged condition where the following types of assessment can be performed.

- Flooding (including progressive flooding)
- Oil outflow
- Grounding
- The effects of time and tide
- Any combination of the above

4.4 Additional software capable of calculating the section modulus in way of a damaged 2D cross-section should also be available.

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