

CHECKS ON BOARD

Preventive measures to reduce deficiencies



Rev. 01/2024

1/2

Fire Protection & FFE

Fire Protection & Alarm System FFE Fire Fighting Equipment

Assigned to:			
<input type="checkbox"/> Master	<input type="checkbox"/> C/O	<input type="checkbox"/> __NWO	<input type="checkbox"/> other:
<input type="checkbox"/> C/E	<input type="checkbox"/> __TWO	_____	
Remarks / Findings:			
Date:	Initial	Signature:	


It is normal for some technical systems to fail from time to time. Failures are therefore part of managing the bridge. In such a case: **Use the available ISM tools of the company!**

**Keep facilities ready for use.
Also, stay alert and familiar!**

Be aware: an inspection pursues two main objectives:

- 1) The ship was safely navigated into the port(s).
- 2) The ship can be safely navigated to the next port(s).

The inspection thus aims at both: the past & future.

 *Further details: see enclosed information sheet*

01. **Maintenance Plan / PMS**
Planning, instructions & documentation/records available.

02. **Fire Alarm & Detection System**
Operational, no alarm or failure message is displayed, loops are online (not taken out except those for controlled maintenance work). Visual & audible signal on the bridge/in control stations, audible alarm throughout accomod. & E/R.

03. **Alarm – Manual Call Points**
Operational, regularly tested and appropriately marked (with testing pin readily available).

04. **Alarm – Detectors**
No detector is physically blocked, covered or bypassed.

05. **Alarm – Testing Detectors**
A suitable trigger system (gas, simulator) is available and is used for testing (do not use open flames/cigarette smoke).

06. **Alarm – Spares**
Sufficient spares available (manual call points and smoke/flame/heat detectors) to enable an immediate replacement.

07. **Alarm – Positions and F&S Plan**
Number, type and positions of detectors and manual call points correspond to the approved F&S plan.

08. **Cargo Hold Smoke Detection System**
System operational and no alarm/failure message displayed, no fault alarm due to dust or moisture. All existing sampling extraction fans are functional and can be switched over.

09. **General & Fire Alarm System**
General alarm system & public address system (including fire alarm, general alarm, abandon ship alarm) operational and regularly tested and activated via the various controls.

10. **Escape Routes & Emergency Exits**
Safe and unobstructed, appropriately marked/labelled and illuminated. Doors & hatches lead in escape directions & are functional under all SSP/Security conditions (not blocked).

11. **Emergency Lighting**
Operational and marked as associated devices that must be supplied by the emergency switchboard.

12. **Fire & Safety Plan (fire control plan)**
Plans are updated & approved. The plan, which is displayed near the access to vessel, is updated with a current crew list.

13. **EEBD & Training EEBD**
Available according to F&S Plan. Pressure and expiry/service date are within operating range. Instructions for use are legible. Stowage position marked (e.g. IMO label).

14. **Fire Prevention - Waste**
Controlled storage of hazardous substances and waste, especially oily rags, paints, thinners and other chemicals. Waste receptacles are constructed of non-combustible material with no openings in the sides or bottom.



15. **Fire Prevention – Electric Radiators**
Fixed in position and so constructed as to reduce fire risks to a minimum (not exposed to e.g. clothing, curtains, PPE, etc.).

16. **FE – Firemen´s Outfit General**
Complete & readily available at designated safety stores with unrestricted access under all operating and ISPS conditions.

17. **FE – HPS & Safety Line**
Heat protection suits complete, ready for use, free of damage, crew familiar with limitations (e.g. wearing time, use in enclosed spaces). A snap-hook is attached to all safety lines.

18. **FE – Compressed Air Breathing App.**
CABAs / SCBAs: ready for emergency use/service with an appropriately pressurised cylinder connected. Safe, clean and regularly maintained & serviced considering manufacturer's instruction (records & certificates available). All cylinders: regularly tested (e.g. steel: hydrostatically tested by service company) and not expired (service records & labels/engraving available).

19. **FE – DG & Chemical Protection Suit**
Dangerous goods equipment incl. CPS & PPE complete, clean, safe and ready for emergency service.

20. **International Shore Connection**
Positioned according to F&S plan, complete (gasket/screws/washers. Spanner recommended), stowage location marked.

21. **Fire Main**
Piping system & valves in good condition, without leaks, maintained and properly marked. Isolations/section valves, hydrants and nozzles are moveable.

22. **Fire Main – Hoses & Boxes**
Hoses, nozzles, coupling spanner & caps complete, in good condition and in place. Hoses: pressure tested & not leaking, positioned as per F&S plan (e.g. 15m E/R, 20m deck). All equipment readily available and accessible. Fire hose boxes not locked, e.g. with temporary wire or cable ties.

23. **Fire Main – Emergency pump**
Operational without leaks, with functional pressure indicators and sufficient pressure at the two most distant hydrant points. All remote controls are functional. Pumps and controls are labelled. Emergency pump regularly tested.

24. **Drenching Systems**
Drenching & spraying systems and their isolations (valves) are ready for operation. Valves are moveable. Nozzles are not corroded or blocked by residues or salt (e.g. paint store).

25. **Foam Extinguisher (fixed, portable)**
Ready for operation & complete, foam has not expired, valid analysis sample of foam concentrate available as required, operating instructions and appropriate labelling available.

26. **Closing Appliances & Damper**
Marked, fully operational and intact with appropriate seals. Bolts/wing nuts complete and moveable. Dampers: Remote control handles/wires are operational and labelled. Crew familiar with locations (e.g. behind ceiling hatches in galley) and (remote) operations.

27. **Fire Doors**
Fully operational, completely intact (e.g. no drilling holes/damages) with appropriate seals and labelling. Self-closing doors are not blocked or secured by hooks, ropes or wood. Only the doors are fitted with functional back holders, which are also identified for this purpose in the F&S plan. All fire door control panel indicators are operational.

28. **Cable Penetrations**
All penetrations, incl. those subsequently modified by repairs/retro-fit: effectively sealed by approved material (no painted construction foam or other self-made solutions).

29. **Portable Fire Extinguishers**
Available according to F&S Plan, in appropriate condition, maintained & serviced (e.g. shore based, records available). Sufficient spare charges available (not expired, e.g. powder, pressure cylinder, complete extinguisher). Recommended: for working tasks (hot work, bunkering) only use equipment with no designated position on the F&S plan.

30. **Galley – Extinguishers**
Local fixed extinguishing systems (e.g. CO₂, deep fat fryer) are labelled and operating instructions posted. Controlled maintenance by shore-based service, records available. Galley crew familiar with & able to demonstrate how to raise alarm, stop exhaust fan and various extinguishing methods.

31. **Galley – Fire Prevention**
Exhaust air duct including the fan and its motor, the oven and deep fryer and other machineries are regularly inspected, cleaned and freed from oily residues, and are protected against short circuits and electrical fires. Available dampers in exhaust ducts are moveable. Crew is familiar with controls.

32. **Local CO₂ Systems**
Local extinguishing & suppression systems (e.g. M/E, Em/G) are operational, maintained and serviced. Appropriately labelled incl. operating instructions, respective crew familiar.

33. **CO₂ Main System**
Main extinguishing & suppression systems (e.g. E/R, C/H) are operational, appropriately labelled, operating instructions are displayed at the CO₂ room & remote controls. Systems are serviced and maintained, cylinders hydrostatically tested as required. Corresponding records are available. Assigned crew is familiar with and able to explain the function & change over process from SDS to emergency charge (C/H), remote control incl. delay unit for E/R and manual activation for C/H & emergency activation E/R. Appropriate tools for manual activation are available at the CO₂ room. CO₂ alarm is working and regularly tested and known by the crew.

34. **CO₂ Room**
Controlled access only. Warnings & notice "ventilate before entering" available in the access area. Ventilation functional. Room appropriately insulated against cold, no impact by moisture or salty residues, no damaged paint surface, communication system and lighting functional.

35. **Quick Closing Devices**
Appropriately labelled, tested and operational. Records available.



Information to prepare for inspections

FIRE PROTECTION & FFE

Fire Protection & Alarm System FFE Fire Fighting Equipment

Objectives

Generally, the inspection pursues two main objectives:

- 1) The ship was safely navigated into the port(s),
- 2) the ship can be safely navigated to the next port(s).

**The inspection thus aims at both
the past and the future.**

Therefore, inspectors examine existing records such as logs of planned maintenance systems, shore based service records, labels placed at the equipment. Together with the general impression and results of direct interviews, which also give an indication on the familiarization and understanding of the company procedures of the crew members, a picture emerges.

Beside this, all fire-fighting and prevention equipment as well as alarm systems must be in an operational condition.

Since fire events represent a primary risk for coastal states and their environment as well as for the crew, special attention is paid to the operational readiness of fire protection equipment and the ability of the crew to use such equipment. Furthermore, the ability of the company and crew to maintain an appropriate standard to prevent a fire from breaking out is considered a key aspect.

Technical failure and reporting

It is normal for technical systems to fail from time to time. For these cases, the reporting and documentation as per SOLAS and company's ISM/SMS system is a routine and essential standard. The crew should not try to hide or disregard a deficiency – instead the team should discuss deficiencies/deviations and use the available ISM tools of the company.

Use the available ISM tools of the company.

Need advice?

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Check on board: Notes on selected references

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|-------------------------------|--|
| 01. Maintenance | SOLAS II-2/14, ISM 10, *), **) |
| 02. Alarm / Detection | SOLAS II-2/7, II-2/14, II-2/20, FSS 9 |
| 03. Call points | SOLAS II-2/7, II-2/20, FSS 9, *) |
| 04. Detectors | SOLAS II-2/7, II-2/20, FSS 9 |
| 05. Testing Detect. | SOLAS II-2/7, II-2/20, FSS 9 |
| 06. Spare | FSS 9 |
| 07. Position F&S Pl. | SOLAS II-2/7, II-2/20 |
| 08. C/H SDS | SOLAS II-2/7, II-2/19, II-2/20, FSS 10 |
| 09. General Alarm | SOLAS II-2/12, II-2/14, III/6, III/20, FSS 9, *) |
| 10. Escape/Exits | SOLAS II-2/13, II-2/14, FSS 13 |
| 11. Emerg. Lights | SOLAS II-1/41, II-1/43, II-2/13, III/19 |
| 12. F&S Plan | SOLAS II-2/15.2 |
| 13. EEBD | SOLAS II-2/13.3, 13.4, II-2/14, II-2/15.2, FSS 3, *) |
| 14. Fire Prevention | SOLAS II-2/4.4 |
| 15. Fire Prevention | SOLAS II-2/4.1 |
| 16. FE / Outfit: | SOLAS II-2/10, FSS 3 |
| 17. HPS / Safety line | SOLAS II-2/10, FSS 3 |
| 18. CABA/SCBA | SOLAS II-2/10, II-2/19.3, FSS 3, *) |
| 19. FE DG/CPS | SOLAS II-2/19.3, MSC.1/Circ.1588/Rev.1 |
| 20. Shore Connect. | SOLAS II-2/10.2, II-2/14, FSS 2, *) |
| 21. Fire Main | SOLAS II-2/10, II-2/14, II-2/19, *) |
| 22. Hoses / Boxes | SOLAS II-2/10.2, II-2/19, *) |
| 23. Main / Em. P/P | SOLAS II-1/43, II-2/10, II-2/14, II-2/19, FSS 12, *) |
| 24. Drenching Sys. | SOLAS II-2/10, II-2/19, FSS 7, 8, *) |
| 25. Foam | SOLAS II-2/10, II-2/14, MSC.1/Circ.1312, FSS 4, 6, *) |
| 26. Closing Appl./ Dampers | SOLAS II-2/5.2, II-2/9.7, II-2/10.4, II-2/14, *) |
| 27. Fire Doors | SOLAS II-2/9.4, II-2/14, *) |
| 28. Cable Penetrat. | SOLAS II-2/9.2, 9.3, II-2/14 |
| 29. Portable Exting. | SOLAS II-2 10.3, II-2/14, II-2/19, FSS 4, Res.A.951(23), MSC.1/Circ.1275 |
| 30. Galley Exting. | SOLAS II-2/9.7, II-2/10.6.4, FSS 5, *), **) |
| 31. Galley Prevent. | SOLAS II-1/45, II-2/9.7, *) |
| 32. Local CO ₂ Sys | II-2/9.7, FSS 5, **) |
| 33. CO ₂ Main | SOLAS II-2/10.4, 10.7, 10.9, II-2/20.6, FSS 5, **) |
| 34. CO ₂ Room | SOLAS II-2/10.4, FSS 5, **) |
| 35. Quick Closing | SOLAS II-2/4.2 |

*) MSC.1/Circ.1432

**) MSC.1/Circ.1318/Rev.1

**Common deficiencies noted****FE / Firemen's outfit**

- Safety line not available, snap-hook not connected / Axe handle not insulated / Two-way portable radios missing
- Heat protection suit damaged / not ready for use
- Breathing apparatus defect / low cylinder pressure / hydrostatic test not executed

Fire Alarm & Detection System

- General alarm cannot be sounded from all controls
- Fire detectors isolated, covered, obstructed, damaged / no adequate means of testing / no spare parts
- Alarm panel / SDS panel: failure message
- Call point not operational / no sufficient spares

Fire main

- Main or emergency fire pump can not be started from all controls / pump leaking, inadequate pressure at two most distant points
- Corrosion / leakage on fire main piping / hydrants
- Fire hoses, spanners or nozzles missing / hoses or nozzles leaking / hydrants and nozzles not moveable / length of hoses inadequate (machinery spaces >15m, deck only 15m) / no pressure tests conducted
- Main isolation valves not moveable
- International shore connection not available

Closing appliances (flaps) & dampers

- Inadequate condition / excessive corrosion / dampers not moveable / means of closing missing or inoperable / not closing / damaged or missing seal / position of damper (open, close) not identified

Others

- IMO symbols missing
- Water spray systems / drenching systems not operational, blocked, nozzles clogged, section valves inoperable
- Quick closing devices not tested
- Engine room: fuel oil leaks, oil-soaked insulation, poor maintenance, multiple drip trays & containments
- Fire doors inoperable, blocked / missing
- Ventilation housings damaged
- Water spray / sprinkler system not operational
- Portable extinguisher incomplete, not serviced
- Galley crew not familiar with local fire fighting capabilities

Common grounds for PSC detention

- Alarm & detection system inoperative, crew not aware of the location of fire alarm indicators
- Fire hazard engine room with a poor standard of cleanliness with multiple FO leaks / FO related issues
- Inoperative fire-fighting system
- Relevant officers & crew not familiar with location & use of fixed fire-fighting systems, e.g. release of fixed fire-fighting system, starting fire/emergency fire pump
- Insufficient drills indicating that crew may not be able, throughout the forthcoming voyage, to fight fires effectively in any part of the ship if necessary
- No FE-DG on board whilst carrying DG DOC
- Quick closing devices not operational

Further information that may be of interest**Procedures for Port State Control, 2021****Extracts of IMO Res. A. 1155(32)****Various**

The PSCO assesses whether the ship and/or crew, throughout its forthcoming voyage, is able to fight fires effectively in any part of the ship if necessary.

The poor condition of fire main lines and hydrants and the absence of fire hoses and extinguishers may lead to a close inspection of all fire safety equipment.

The PSCO looks for evidence of a higher fire risk than normal. A poor standard of cleanliness in the machinery space, which together with significant deficiencies of fixed or portable fire-extinguishing equipment could lead to a judgement of the ship being substandard.

The PSCO may inspect fire doors giving particular attention to those retained in the open position. Spot checks might be made on dampers and smoke flaps to ascertain the standard of operability.

The PSCO may prove that ventilation fans can be stopped from the master controls and that means are available for closing main inlets and outlets of ventilation systems.

Attention is given to the effectiveness of escape routes by ensuring that vital doors are not kept locked and that alleyways and stairways are not obstructed.

The PSCO may verify that relevant officers and crew are familiar with the locations of the starting positions or the starting operation of the fire-fighting equipment such as the emergency fire pump or the release system for the fixed fire-fighting system including gas fire-fighting system.

A PSCO may verify awareness of the location, operation and coverage area of ventilation stops in the cargo hold, accommodation, engine-room and other protected areas.

Firemen's outfit is subject of being checked for completeness, condition and readiness for emergency service.