

CHAPTER 24**FIRE PREVENTION AND FIREFIGHTING IN UPKEEP PERIODS****CONTENTS****Para**

- 2401. Introduction
- 2402. Division of Responsibility
- 2403. Problems Peculiar to Ships in Upkeep
- 2404. Area Fire Prevention Officer - Defence Fire Service (Navy)
- 2405. BR 8647 - Navy Department Regulations for Fire Safety Management
- 2406. Liaison with the Fire Rescue Service (FRS)
- 2407. Fire Prevention in Ships in Upkeep
- 2408. Fire Rounds
- 2409. Control Centre
- 2410. Welding Control and Welding Sentries
- 2411. Fire and Emergency Party Organisation
- 2412. Proximity of Duty Watch Accommodation
- 2413. Firefighting in a Ship in Upkeep - General Advice
- 2414. Escape Routes
- 2415. Brows

ANNEX

Annex 24A DD/FF Upkeep Period Duty Watch

CHAPTER 24

FIRE PREVENTION AND FIREFIGHTING IN UPKEEP PERIODS

2401. Introduction

The Scheduling Authority for an In-Service vessel switches from Fleet Commander & Deputy Chief of Naval Staff to the Defence Logistics Organisation (DLO) when it enters an upkeep period. There are two types of upkeep period for which the DLO take Scheduling Authority:

- a. **Repair Period.** Repair Periods (RP) are programmed at approximately 5 yearly intervals and are conducted, sometimes displaced from a ships Base Port, with a reduced ships company. Responsibility for care and protection of the vessel is invariably passed to the Upkeep Contractor for the period between Upkeep Period Start Date (UPSD) and Ship's Staff Move On Board (SSMOB) date.
- b. **Docking Period.** Docking Periods (DP) occur between RPs and are generally fully manned with the responsibility for care and protection remaining with the Commanding Officer (CO). However, they are increasingly being conducted in displaced locations, in which case, like a RP, care and protection may pass to the Upkeep Contractor and the number of uniformed personnel at the displaced location reduced in order to comply with harmony and separated service policy.

Ships operating under Contractor Logistic Support (CLS) arrangements undergo upkeep on a bespoke basis, for which specific guidance will be given as and when necessary.

2402. Division of Responsibility

In all cases, the division of responsibility between the CO and the Contractor with respect to care, protection and security will be clearly defined in the Upkeep Contract documentation. General guidance can be found in BR 8593(4) - Guidance on the Roles, Responsibilities and Activities of Ships Staff during Upkeep Periods. Details specific to a ship upkeep period will be laid down in Volume 0 of the Work Specification and the Project Safety Plan. In reduced manned periods there is scope to provide further clarification in a Memorandum of Understanding, which is signed by the Ship, the Contractor and the DLO.

2403. Problems Peculiar to Ships in Upkeep

Ships in Upkeep face a number of different problems associated with fire prevention and firefighting. Tasks involving the use of open flames (burning, cutting, welding and grinding) together with an increased amount of combustible material, flammable liquids and gases on board as part of work package activities increase the probability of fire. This increase in risk is further compounded by changes in the state of systems and structural integrity with pipework, valves, doors and hatches removed and holes cut in tanks and superstructure. The presence of dockyard workers and 'outside' contractors, who may be unfamiliar with the ship, adds to the risk. For these reasons, regulations require that in the event of a fire, no matter how small, the Local Area Fire Rescue Service (LAFRS) **MUST** be called. A number of criteria must be borne in mind in support of FRS operations, for which, Chapter 20 [Section 4](#) provides guidance.

2404. Area Fire Prevention Officer - Defence Fire Service (Navy)

All Royal Dockyards and Naval Bases in the UK have a member of the Defence Fire Service appointed as the Area Fire Prevention Officer (AFPO) who is responsible for providing advice on every aspect of fire prevention. They also act as the link between ships and the local fire authorities. The AFPO will normally make it his business to visit Upkeep ships within his area, which will include those units that are displaced to commercial ports. Ships staff and local DLO Project Managers are to ensure that AFPOs (and thus the FRS) are kept aware of all circumstances surrounding the ship that change the risk of fire or have a bearing on firefighting actions.

2405. BR 8647 - Navy Department Regulations for Fire Safety Management

BR 8647 is sponsored by the Command Fire Officer (Royal Navy) on the staff of the Chief Environment and Safety Officer (Royal Navy) (CESO(RN)). It deals with fire prevention in all MOD(N) establishments and bases and, for ships in upkeep, there is some overlap between it and BRd 2170(1). Should any issues arise, clarification should be first sought from the AFPO at the upkeep venue.

2406. Liaison with the Fire Rescue Service (FRS)

It is important that liaison with the FRS be established, through the AFPO, at the start of an Upkeep Period and that a good relationship is fostered throughout the period through regular visits and involvement in fire exercises, as appropriate. The AFPO will organise attendance of the FRS at exercises and will attend himself to assist with conduct and debriefing.

2407. Fire Prevention in Ships in Upkeep

The risk of fire during an upkeep period can be reduced by the application of common sense, the adoption of best practice and adherence to strict rounds routines, coupled with a disciplined approach to fire safety and the reduction of fire hazards on board. Ships staff is to report any shortcomings in fire prevention measures to the Superintendent Fleet Maintenance/ DLO Project Managers and the Upkeep Contractor without delay.

2408. Fire Rounds

When the responsibility for care and protection rests with the CO, regular rounds (not necessarily at fixed times) must be carried out by responsible officers and ratings, as follows:

- a. **During Working Hours.** All spaces where work is underway; to ensure that fire risks are minimised, that welding/burning/hot work is not being undertaken without proper authorisation, that hot work sentries are carrying out their duties correctly and that all firefighting equipment is distributed and stowed correctly.
- b. **At the End of the Working Day.** All spaces affected by work; to ensure that they have been left in a safe state and that flammable arisings (oily waste, paint containers, adhesives, aerosol sprays etc) have not been allowed to accumulate. The rounds must be *timed to occur at least one hour after the cessation of hot work for the day.*

2409. Control Centre

The position of HQ1 in a ship is chosen to meet the requirements of damage control in the Action State and to be the control point situated to best deal with peace time incidents in an intact condition. During an Upkeep Period there may be times when, due to the amount of work being undertaken, an alternative position may be more suitable. If this is the case, reliable communications are to be provided and, if feasible, alarms and warnings remoted to this position. A portacabin adjacent to the ship or on the flight deck has proven to be suitable. The Upkeep Contractor will put an access control and accounting system in place eg the 'T-card' system. Ships staff is to comply with the system in use at the upkeep venue.

2410. Welding Control and Welding Sentries

The control and provision of welding sentries is, these days, regularly included into the Upkeep Work Specification and is contracted out as part of the whole care and protection package, which incidentally, routinely includes the control of systems and equipment 'tag-out' Management of these tasks is normally co-located in the control centre as described above. Additionally, ships staff may be contracted to provide a number of welding sentries to the company for specific periods of the Upkeep. It is important not to drop below the contracted numbers without first seeking agreement from the local DLO Project Managers. When this function is not contracted out, the task of hot work control falls to ships staff. In this situation, COs are to ensure that they maintain a robust organisation capable of managing a significant hot workload. The welding sentry control organisation must ensure that a competent sentry is detailed for each hot work operation and that the guidelines laid down in BR 2000(20) are followed strictly.

2411. Fire and Emergency Party Organisation

The composition of and requirement for a Fire and Emergency Party is dependent on a number of factors:

a. **The Authority with Responsibility for Care and Protection.** When care and protection is passed to the Upkeep Contractor, the requirement for fire and emergency cover and access security is articulated in Volume 0 of the work specification. A dedicated First Aid Firefighting (FAFF) party normally undertakes this, with no input from ships staff. When care and protection rests with the CO, a Duty Watch is to be provided, the size and composition of which will vary with the type of ship. [Annex 24A](#) provides guidance for periods between UPSD and SSMOB (for guidance on MM/PPs carrying out upkeep in Portsmouth and Rosyth see [Annex 37J](#) and [Annex 37K](#)). Outside this period a ship is to provide a full Duty Watch in accordance with [Chapter 20](#). If, due to manning constraints, this is not achievable, approval to employ a Reduced Duty watch organisation is to be obtained via the Fleet Waterfront Staff (see BRd 3001 - Fleet Engineering Orders).

b. **The Current Phase of the Upkeep Period.** The amount of fire cover necessary to keep risks as low as reasonably practicable (ALARP) will vary through an Upkeep Period eg whilst a ship is docked down with systems and equipment removed and the ability to closedown and contain a fire restricted by services passing through doors and hatches etc. In this case the only effective way to fight a fire, beyond first aid appliances, is to evacuate the ship and attack the fire progressively from the gangway. In this situation, the advantage that a dedicated FAFF brings is diminished, particularly when each hot work operation on board has a fire sentry ready to deal with any immediate incident.

Any fire not extinguished by first aid appliances would probably escalate such that it would need more intensive action and FRS involvement. Therefore it is reasonable to accept that the FAFF could be stood down for this period. Obviously, the risk changes at Flood Up date when the probability of flooding has to be taken into account. Volume 0 of the work specification instructs that a contractor conducts a risk assessment for each phase of the Upkeep period to determine the level of fire and emergency cover required. It also charges contractors to consider all methods to mitigate the risk of fire.

c. **The State of Systems and Equipment.** Clearly as systems and equipment are brought back into service the level of fire and emergency cover should be increased proportionally. This includes the commissioning of fixed firefighting systems prior to operating machinery and equipment.

d. **The Accommodation State.** If personnel are living on board a full Duty Watch must be provided.

e. **The Upkeep Venue.** The reduction in fire and emergency cover is mitigated by the fact that FRSs can get to the dockside within 8 mins of receiving a call. If this cannot be achieved, the requirement for FAFF/Duty Watch should be reviewed and, if necessary, guidance sought from Fleet Waterfront Staff.

2412. Proximity of Duty Watch Accommodation

For ships in which the CO retains responsibility for care and protection, the Duty Watch must be accommodated as close as possible to the ship to allow quick access to the ship in an emergency. The Duty Watch accommodation should be situated alongside the vessel and located at a maximum distance of 300 m from the accommodation facility to the top of the brow. BR 8593(20) - Shore Support of Ship's Staff Standing-by Vessels in Upkeep provides full guidance.

2413. Firefighting in a Ship in Upkeep - General Advice

Whilst the hazards caused by fire are the same in a ship in upkeep, fighting fires presents different challenges for firefighters. This paragraph identifies some specifics to be considered when dealing with fire in an upkeep ship and is proffered as general guidance to ships staff. It does not detract from the requirement to conduct exercises and 'table-top tactics'.

a. **First Actions.** The general actions to be taken on discovering a fire are standard practice and are no different for ships in upkeep. The main emphasis is to safeguard life rather than to preserve systems and equipment. To this end, when a fire is discovered and the alarm raised, all personnel (uniformed, dockyard and civilian) who are not part of an Emergency Party are to evacuate the ship and muster in a safe position. The highest priority at this point is to determine if there are any missing personnel. A robust and infallible system must be in place for identifying missing personnel so that rescue action can be initiated promptly, in conjunction with the FRS.

b. **Smoke.** Smoke, one of the greatest hazards in ship firefighting, is particularly perilous in an upkeep ship as many doors/hatches will not be available to shut to contain the spread of smoke. Smoke curtains, too, are likely to have been removed.

The Control Centre must be aware of the doors and hatches that are out of action and the incident board marked accordingly. Incident boards should be audited regular for accuracy of information. For ships responsible for firefighting, it is essential that breathing apparatus is maintained correctly and charging arrangements provided. Alternative sources of safe breathing air may have to be considered.

c. **Ship Alongside or in Dry Dock.** In some circumstances an approach from the jetty or dockside may provide the best and quickest means to deal with a fire.

d. **Ventilation.** For the majority of Upkeep period ventilation will rarely be running in its normal state. The Control Centre must be aware of the ventilation that is running, any portable ventilation equipment in operation and the actual state of vent systems. In addition to crash stopping ventilation, different measures, in discussion with the FRS, may have to be taken to minimise airflow to a fire.

e. **HP Sea Water Main (HPSW).** It is essential that an adequate number of points from which major firefighting equipment can be operated be maintained throughout the ship. If, due to the nature/scope of the work being undertaken, the ships fitted system is unavailable a temporary main is to be established. The detail of this alternative arrangement is to be described in the Ships Safety Plan.

f. **Portable Equipment.** Portable firefighting equipment will inevitably be subjected to the rigours of upkeep. It is therefore essential that a robust plan be in place that checks more frequently than normal that this equipment remains ready for use. Hoses and nozzles are particularly susceptible to increased wear and tear during upkeep periods.

2414. Escape Routes

Escape routes for all positions within the ship must be clearly marked, ensuring that they are unambiguous to a workforce that may be unfamiliar with the ships layout. Escape routes must be regularly checked to ensure that work does not obstruct egress from the ship.

2415. Brows

Sufficient brows must be provided to ensure that evacuation from the ship is not impeded. As a minimum, brows should be provided forward and aft on each side of the ship whilst in dock, dependant on the size of ship. The ships safety plan will give full details of the requirement. To maintain security, there should be one main brow, with the remainder locked but capable of being opened from the inboard side without a key.