

CHAPTER 5**DAMAGE CONTROL CONDITIONS, RISK AND CONTROL MARKINGS****CONTENTS****Para**

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CHAPTER 5

DAMAGE CONTROL CONDITIONS, RISK AND CONTROL MARKINGS

0501. Introduction

a. Resistance to flooding depends on watertight integrity; protection against CBRN contamination entering a ship depends on gastight integrity. Both, in turn, depend on:

(1) Continuous maintenance and routine checks, including air testing, to ensure the watertight and gastight efficiency of bulkheads, decks and the fittings that pierce them (see [Chapter 35](#)).

(2) Disciplinary control of all doors, hatches, ventilation valves and other openings.

b. Structural arrangements in ships are described in [Chapter 28](#). Watertight integrity, to a greater or lesser degree, is maintained at all times while a ship is water-borne. Gastight integrity is achieved by closing down the ship when CBRN attack seems probable or an alarm is given. The object of closing down is to prevent the ingress of CBRN contamination into the ship and thus protect personnel stationed, or taking cover, between decks and also to minimise internal contamination, so that normal living can be resumed and the ship can be a fully fighting and efficient unit as soon as possible after an attack.

c. When prepared for, or undergoing CBRN attack, many of the compartments and spaces closed down must be manned, and adequate oxygen and tolerable temperatures must be maintained. These requirements depend largely on the internal arrangements of the ship (eg efficiency of the air-conditioning system, number of CBRN filter units fitted, remote control of machinery) and the climate. When a ship is in the closed-down condition, all practicable means must be taken to avoid fouling of the air (see BRd 2170(2)). Bad odours must be suppressed as much as possible, the smoking of tobacco restricted and all sources of heat that are not essential to fighting or machinery installations must be eliminated or reduced to a minimum; examples are heaters, hot cupboards and main cooking arrangements in the galley. It is also necessary for free movement to be possible through the main body of the ship and, for this reason, a citadel is established to include as many compartments as possible.

0502. Discipline

Although it is vitally important to maintain the watertight structure and fittings in an efficient condition, experience has shown that progressive flooding has almost always been due to inadequate control of openings. All personnel must be fully conversant with the system of markings used to make this control effective, both for watertight and gastight integrity, and a record must be kept of the watertight and gastight condition of the ship at all times. The watertight condition is recorded on the Damage Control Door and Hatch Board and in the Watertight Integrity Log; the gastight condition is recorded on the CBRN Ventilation Board. The requirements of watertight and gastight integrity must inevitably conflict with habitability, routine and freedom of movement.

The condition of the ship is thus tied in some ways to the states of readiness dealt with in [Chapter 4](#). The system of markings described in this chapter is intended to meet these conflicting requirements as far as possible and to allow the necessary degree of flexibility.

SECTION 1 - RISK MARKINGS

0503. Watertight Risk

a. A ship sustaining major underwater damage will probably either sink very quickly (30 mins or so) or, if the first hour is survived and good damage control is exercised, be saved. Realistic estimates can be made of the maximum flooding, attributable to major damage, which would not sink the ship in a short time. This flooding can then be related to the increase in draught, heel and trim for such damage occurring at different places in the ship. These calculations give a zone (called the Red Risk Zone) that extends from the keel to somewhere above the deep waterline, rising higher at the ends and, in a broad ship, at the sides.

b. The Red Risk Zone is defined by the MOD at the design stage of a ship. It provides a guide for the flooding risk area of a ship, where there is a need to exercise strict control of openings.

0504. Red Risk Markings

Openings to all compartments within the Red Risk Zone are deemed to be, when open, of immediate risk to watertight integrity. These are known as Red Openings, and are marked as follows:

a. **Doors and Hatches.** By a red triangle across the upper corner furthest from the hinges.

b. **Valves and Scuttles.** By a red disc (with or without an arrow) on or near the fitting.

0505. Emergency Control of Red Openings

In an emergency (such as unexpected damage or imminent collision) these openings are to be rapidly identified and closed by broadcasting the order “**CLOSE ALL RED OPENINGS**”. The broadcast of this order indicates an emergency and that speed of response is vital. The order overrides any previous watertight order or concession, such as ‘May Be Left Open’ tallies or 2 clip markings. When the order is in force, no Red Opening may be opened without specific permission from Damage Control headquarters. The broadcast order may specify openings in one particular part of the ship or may apply to the whole ship. On hearing the broadcast “**CLOSE ALL RED OPENINGS**”, it is the duty of **all** personnel to shut **ALL** Red Openings in their vicinity. This includes all marked openings in adjacent compartments indicated in Contents Circles. The relationship between the broadcasts “**CLOSE ALL RED OPENINGS**”, and “**EMERGENCY STATIONS**” is explained in [Chapter 7](#).

SECTION 2 - CONTROL MARKINGS

0506. Watertight Control

The main watertight control markings are:

- a. **X (X-Ray)/Y (Yankee):** In black on doors, hatches, drain cocks, valves, some ventilation fans and ventilation openings (including slide valves) that affect watertight integrity. Required generally only in the Red Risk Zone.
- b. **Z (Zulu):** In black on similar openings to above. Required generally only outside the Red Risk Zone to give watertight integrity and protection against blast, flash and fire.

0507. May Be Left Open (MBLO) Tallies

a. Watertight control can also be exercised by the use of MBLO tallies, the purpose of which is indicated on the tally. These tallies and their fastenings must be made from a fire resistant material. The number of MBLO tallies allowed in a ship is to be detailed in the Ships CBRNDC Orders. In addition to the standard markings, tallies are to be permanently marked **FORWARD** or **AFT** (small ships) or with the section number in a large ship. There are three types of MBLO tallies:

- (1) **May Be Left Open.** To be used on certain openings which would normally be shut in a particular watertight condition but which may need to be open for periods without being attended, eg a door which provides passage in almost continuous use by day but which can be shut at night, or a hatch in frequent use during working hours but where it cannot be guaranteed that someone is always on hand to shut it instantly. Tallies should not be left on openings for long periods merely to gain entry to compartments with difficult access. The number of tallies issued must be kept to a minimum and they are not to remain on openings for indefinite periods. The tally should permanently bear the printed words **MAY BE LEFT OPEN**. The location marking of the opening and the condition(s) for which it is authorised are to be added, by marker pen, at the time of issue. It is to be hung over the normal control marking. In conditions other than that or those for which the tally is authorised, the tally must be withdrawn and the opening controlled by its normal marking. When a tally has been issued, responsibility for the opening rests with HQ1 (normally through its Damage Control patrols).
- (2) **May Be Left Open in Action.** Openings (generally only a few) that would normally be shut but may need to be open and possibly remain open for action purposes should have a tally hung or screwed on, not covering the control marking, and bearing the words **MAY BE OPEN IN ACTION**. At all times other than those authorised in the Ships CBRNDC Orders, the opening must be controlled by its normal marking.

(3) **May Be Left Open - Man Below.** Hatches (and some doors) that need to be open during the course of routine rounds (eg gland spaces and plumber block compartments) but which are marked with a watertight control marking X or Y, may remain open for the duration of the rounds inspection by the use of a tally bearing the words **MAY BE LEFT OPEN, MAN BELOW.** The tally is issued to the department concerned and is to be hung on the top hatch (or door) when rounds of the space commences and removed when rounds are complete and the hatch(es)/door(s) are shut.



Note. See BRd 2170(2) for details of the tally for use on ALFA doors between sub-citadels.

b. Keeping in mind the control markings of openings and the general routine which the ship works (or is to work), the MEO should examine the actual watertight state of the ship in each of the three watertight conditions (X, Y and Z) making allowance for any MBLO tallies that are authorised and for MBLO - MAN BELOW tallies that have been issued to departments for their rounds. Such an examination should place the ship in the most pessimistic state authorised for each condition. The MEO should then decide how many more openings he can allow to be open in each condition, giving consideration to the need to live and work in the ship.

c. If a routine is laid down for opening the various compartments that have to be visited regularly, the number open at any one time can be kept small. For example:

FORWARD

3C Canteen Store	0945-1015
3D Naval Store	1015-1045, 1400-1430
4E Naval Store	1115-1145, 1500-1530
4G Magazine	0800-0830
4H Magazine	0915-0945
3J Provision Room	0930-0900
4J Beer Store	1045-1115

AFT

4P Magazine	0830-0900
4P Naval Store	1015-1045
4Q Naval Store	0915-0945, 1430-1500
4R Provision Room	0800-0830

Such a routine allows all personnel concerned to know that they may receive permission to open their particular compartments at the times stated, but permission to open must still be obtained from HQ1. In addition to the regular openings as above, allowance must also be made for casual requirements to open compartments. The total number of openings permitted to be open at any one time should be worked out on the basis of at least two intact transverse bulkheads between each applied MBLO tally. Once decided, the allowances should be laid down in the Ships CBRNDC Orders, and a copy should be inserted in the Watertight Integrity Log or prominently displayed in HQ1/SCC.

0508. Watertight Control Qualifying Symbols

The only qualifying symbols used in conjunction with watertight control are:

- a. **2-Clips:** On doors and hatches where the normal volume of traffic makes full clipping impracticable; it may also be used on openings selected as routes to shelter positions. The openings to be so marked are decided by ships officers. All clips are to be put on in emergency. Rules for the use of the 2-clip marking are given in later paragraphs.
- b. **Vent 2-Clips/Vent No Clips:** Required in some ships on venting routes from magazines. The openings to be so marked are decided by the MOD at the design stage. In wartime the venting condition is ordered when action is imminent (Damage Control State 1). In peacetime it is ordered in ships which are in the proximity of a hostile shoreline, or boat, or where the threat from dissidents/saboteurs creates a potentially dangerous situation. All clips are to be put on in an emergency.

0509. Gastight Control

Gastight control is exercised by the assumption of condition A (ALFA), which is superimposed on the watertight condition (Z or Y) as required. Gastight control markings are letters A, M and R (painted orange) and the following qualifying symbols:

- a. **Citadel In/Citadel Out:** On airlock doors/hatches specified for citadel entry/exit in Condition ALFA. They are marked **CITADEL IN** on the outside and **CITADEL OUT** on the inside of the citadel. They may be used for access to and from the citadel prior to contamination, after which they are for exit only and access to the citadel is via the cleansing station only. The markings are painted in orange and the openings so marked are decided by the MOD.
- b. **Cleansing Station:** Entry into the citadel after the ship becomes contaminated must be made only through the cleansing station, the outer door of which (leading into the undressing area) is marked **CLEANSING STATION** (painted orange).
- c. **Shelter:** An arrow and the word **SHELTER**, both in orange, indicate routes, on and below the weather deck, to shelter positions. A door on the route is thus indicated by signs on the bulkhead on either side pointing to it; the door then has on it only the usual risk and control markings, and possibly the '2-CLIP symbol'. If a hatch on the route has no adjacent bulkhead, the symbol is placed on the hatch cover. The broadcast "**SHELTER SHELTER SHELTER**" is an emergency order allowing any route so marked to be used.
- d. **Sub-Citadel:**
 - (1) **Airlock Division.** Where passage between sub-citadels is via an airlock, the doors/hatches forming the airlock must bear the appropriate watertight risk and control markings and the words **SUB-CITADEL IN/OUT** on each side. In Condition ALFA the doors/hatches must be shut except for passage. If required to remain open, permission must be obtained from HQ1 and a sentry posted.

(2) **Single Door/Hatch Division.** Where passage between sub-citadels is via a single door/hatch, the door/hatch must bear the appropriate watertight risk and control markings, the gastight marking 'A' and the words **SUB-CITADEL** on each side. In the sub-citadel condition, the door/hatch will be controlled by the gastight marking 'A'. In the whole-citadel condition, the 'A' marking should be covered by a disc bearing the words **OPEN FOR PASSAGE ONLY** and the appropriate location marking of the door/hatch.

e. **Open In ALFA:** Fitted on the supply flaps to CBRN filter units, which are to be open in Condition ALFA.

0510. Citadel and Gas Free Spaces

With regard to gastight integrity, compartments can be placed in 4 categories:

a. **Citadel.** The citadel is defined as the main group, or groups, or interconnecting compartments that can be included together within unbroken gastight boundaries and in which air can be re-circulated. Movement must be possible throughout the citadel without the need to leave its confines. In some ships, large parts of the superstructure are included in the citadel. The citadel is shown in ships' drawings and in the appropriate Ships CBRNDC Class Book, outlined in orange.

b. **Citadel - Risk of Contamination.** Certain compartments included in the citadel can, in some circumstances, become contaminated as a result of failure of structure or equipment, or because temperature rise necessitates ventilating the space. These are chiefly main or auxiliary machinery spaces, and are shown in ships' drawings and in the appropriate Ships CBRNDC Class Book, as 'CITADEL, RISK OF CONTAMINATION' within the citadel but indicated by a brown wash.

c. **Gas-Free Compartments.** Isolated compartments from which gas can be excluded but which, owing to the layout of the ship or for some other reason, cannot be included in the citadel are called 'GAS-FREE COMPARTMENTS' or 'GAS-FREE SPACES'. They are shown in ships' drawings and in the appropriate Ships CBRNDC Class Book outlined in purple.

d. **Gas-Free, Contaminated if Used Compartments.** Certain compartments, eg fuel storage tanks, some magazines, workshops, can be kept gas-free if not used but will become contaminated if used or ventilated during an CBRN attack or in a contaminated atmosphere. They are shown in ships' drawings and in the appropriate Ships CBRNDC Class Book as '**GAS FREE, CONTAMINATED IF USED**', outlined with a broken line in alternating orange and purple.

0511. Rules for Watertight and Gastight Control Markings

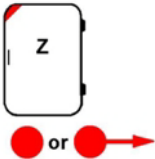
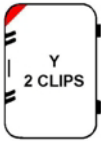
Observance of the rules for the control of watertight and gastight openings is the responsibility of all personnel, and they must be continually aware of which watertight and gastight condition is in force and also of the requirements of each condition. The maintenance of the set condition is policed by kept by Damage Control patrols or by frequent rounds by the Watch on Deck or Duty Watch according to the state of readiness, the type and size of ship (see [Chapter 4](#)). The rules for control markings are:

- a. **'X': SHUT IN ALL WATERTIGHT CONDITIONS.** To be opened only for transit and fully clipped on gaining access. If required to be kept open, a sentry must be posted or other arrangements made for the opening to be shut instantly on order, or a MBLO tally must be used.
- b. **'Y': SHUT IN CONDITIONS Y AND Z.** May be open in Condition X-Ray. When shut may normally be opened for passage or use but must be immediately shut again. If required to be kept open in Conditions Yankee or Zulu the rules as for X-Ray openings apply.
- c. **'Z': SHUT IN CONDITION Z.** May be open in Conditions X-Ray and Yankee. When shut, the rules as for Yankee openings apply.
- d. **'A': SHUT IN CONDITION A.** When Condition ALFA is in force, openings so marked are not to be opened without specific permission from HQ1.
- e. **'M':** In Condition ALFA only, openings so marked are under the control of the user department. User departments must ensure that the orders regarding their M openings are clear and fully understood by their personnel.
- f. **'R':** Fittings or equipment so marked must continue to run or remain open for recirculation.



Note. 'Shut' or 'Closed' means fully clipped, except for openings bearing 2-CLIP or venting symbols (in the venting condition). Such openings are to be fully clipped on assuming that watertight integrity condition but may be relaxed to 2-CLIPs by Command to allow access to high risk compartments (ie machinery compartments) or to facilitate transiting through the ship for specific reasons (action messing, embarkation of troops etc). Additionally, such openings are to be fully clipped in emergency or, on shelter routes, when the last person is through to shelter and when the threat warning is RED. Y 2-CLIP doors (except those on shelter routes) are to be fully clipped, at all times, in Condition Zulu.

Table 5-1. Risk and Control Markings

EXAMPLE AND COLOUR	SIZE	APPLICATION
RISK MARKINGS		Equal sides 250 mm painted 50 mm Transfer Red on both sides of door or hatch, upper corner opposite edge to hinges. On or near valve, ventilation closure, flap, fan, etc, scuttle.
CONTROL MARKINGS	Watertight X Y Z Gastight A M R Watertight X Y Z Gastight A M R CLEANSING STATION CITADEL IN/OUT SUB-CITADEL IN/OUT	Embossed Aluminium Tallies Door or Hatch; 75 mm Valve, Ventilation Closure, Flap, Fan, Scuttle; 40 mm As needed on or near fitting Over or beside outer door of undressing area on selected doors/hatches. At sub-citadel dividing boundaries
MBLO TALLY		150 mm Square OPEN - 40 mm Block Location - 15mm Remainder - 25 mm Three types: - Slotted screw hole for hanging over existing marking. - Screwed on hatch cover. - With loop for hanging on hatch. May be left OPEN May be left OPEN in Action May be left OPEN, MAN BELOW
QUALIFYING SYMBOLS	2 CLIPS 	40 mm Block Letters Two Parallel Black Lines 125 mm long, 6 mm wide and 15 mm apart - water slide transfer. Control markings. 'Vent 2 clips' and 'Vent no clips' are similar. On 2 clip doors and hatches the parallel lines to be adjacent to clips to be used and angled to show direction clips should be put on

SECTION 3 - PRINCIPLES OF APPLICATION

0512. Designation of Openings

a. Risk and control markings for all new construction ships are decided by MOD and are mandatory. After ship acceptance, the Administrative Authority, in conjunction with the MOD, achieves standardisation of watertight control markings. Watertight risk markings and gastight control markings cannot be changed, but if seagoing experience indicates that a change of certain watertight control markings is considered essential, COs are to submit their proposals to their Administrative Authority giving full reasons in support of the proposals. Subject to their agreement, the Administrative Authority will forward details of the proposals to MOD for approval before authorising implementation by ships.

b. Within the Red Risk Zone, openings that affect watertight integrity should generally be X-Ray or Yankee. Zulu is acceptable only where the need for free access at all times, other than in the highest state of readiness, is paramount. Above the Red Risk Zone, openings that need to be shut to prevent ingress or spread of blast, flash or fire should generally be marked Zulu. Doors normally kept locked (eg storerooms) should be marked Zulu since the responsible person can then open them without reference to HQ1. There may be, exceptionally, in some ships, a few doors and hatches high in the ship which are much used, do not immediately affect watertight or gastight integrity, and have little value in the restriction of blast, flash or fire; these may be left unmarked, and if required to be shut for any reason they can be shut by order.

0513. Citadel Boundaries

Principles of application of watertight and gastight markings for openings in the boundaries of citadels and gas-free spaces are:

a. **Doors and Hatches.** X-Ray, Yankee or Zulu markings with an orange ALFA (or M or gastight qualifying symbol) secured immediately below the watertight control marking.

b. **Ventilation.** This must be marked according to the needs of the compartment served. Some ventilation openings, valves and fans can bear the same risk and control markings as the access to the compartment concerned (eg some magazines and storerooms). Other systems must continue in operation in a high watertight condition and would then normally be controlled by a gastight control marking (A, M or R) but should bear in addition the appropriate watertight risk marking. To reduce the chances of spreading fire, flood or contamination through ventilation systems, it is important that non-essential ventilation is so marked as to reduce its use in the high Damage Control and CBRN conditions to a minimum.

c. **Scuppers, Drains and Soil Pipes**

(1) Any scupper, drain or soil pipe that has no opening into the citadel needs no marking other than the watertight risk marking (red) on the screw-down storm valve and its remote handwheel.

(2) In ships with citadels, all scuppers, drains and soil pipes opening into the citadel should be fitted with 150 mm water seals. No gastight marking is then needed but the storm valves and their handwheels should have the appropriate watertight risk marking.

d. **Discharge Overboard Valves**

(1) All discharge overboard valves are to be painted black and require a watertight risk and gastight control marking as necessary.

(2) If the valve is inside a compartment or hidden behind ships side linings then a notice stating **DISCHARGE O/B VV** (50 mm black lettering on the background paint scheme) must be clearly displayed on the door or adjacent structure to the door leading to the compartment, or on the lining panel leading to the valve. Risk and control markings are not required at this position.

0514. Scuttles and Windows

a. All scuttles (including those for emergency escape) and windows in the citadel boundaries are a risk to gastight integrity, and those within the Red Risk Zone are a risk to watertight integrity. Consequently all opening scuttles, windows and deadlights to fixed side scuttles in citadel boundaries should bear the appropriate gastight orange control marking (used to denote risk); it will then be mandatory for them to be shut on assuming Condition ALFA.

b. All opening scuttles on ships' sides or internal within the Red Risk Zone, including deadlights to fixed scuttles, should bear the watertight red risk marking in addition to any gastight control marking. They should not, however, be given a watertight control marking.

c. The opening and closing of scuttles should be under the direct control of the Command through the MEO/DCO. In an emergency, the order "**CLOSE ALL RED OPENINGS**" overrides any permission that may have been given to open scuttles so marked.

d. Light-excluding plates fitted to viewing ports in watertight doors and hatches for darken ship arrangements do not require watertight or gastight markings.

0515. Bolted Manhole Covers

These bear no risk or control markings. They are considered to be part of the structure in which they are situated. However, should they be removed for any purpose (eg maintenance, inspection, upkeep period, etc) the fact must be reported to and recorded in HQ1 with the times opened and re-secured and the Tag Out procedure must be followed.

0516. Escape Hatches and Scuttles

a. Escape hatches and scuttles do not, normally, bear risk or control markings. [Chapter 3](#) details the identification colours and markings to be used for all escape routes.

- b. Escape hatches are not to be covered by carpet or any fittings likely to interfere with their use. Carpets surrounding an escape hatch are to be correctly fitted and secured clear of the hatch cover.
- c. With the exception of emergencies, HQ1 is to be informed prior to an escape hatch being left open whilst unattended, and the area is to be cordoned off to prevent accidents.
- d. 'T' handles bars for external escape hatches are to be stowed within the nearest upper deck access or airlock and the whereabouts of the stowage to be clearly highlighted adjacent to the escape hatch.

0517. Examples of Typical Markings

The following are typical of the markings that might be found on various accesses, mainly in the red zone:

Table 5-2. Typical Markings

SPACE/AREA	MARKING
Magazines	X or Y (possible use of a MAY BE LEFT OPEN IN ACTION tally).
MEO's rounds spaces	X or Y (possible use of a MAY BE LEFT OPEN - MAN BELOW tally).
Bathroom in Red Risk Zone	Y door or Y hatch with Z manhole.
Gangway door, Red Risk Zone (see Note 1)	Y (2-clips if necessary).
Gangway door, above the Red Risk Zone	Z (2-clips if necessary).
Workshops, hatch access	Y if spring loaded or manhole fitted; Z if no manhole or not able to be opened from below.
Mess spaces and cabin flats with manhole (see Note 2)	Y hatch, Z manhole.
Mess spaces and cabin flats without manhole (see Note 2)	Z hatch.
Messdeck, small ship (see Note 2)	Z (generally).
Messdeck, door access (see Note 2)	Y or Z according to traffic.
Main Naval Store (see Note 2)	Y hatch, Z manhole. Z if no manhole.
Other stores, working spaces, cable passages, etc (see Note 2)	Y or Z.
Main Machinery Space (see Note 3)	Where two accesses, one Y, one Z.
Generator Room (see Note 3)	X or Y.
Pump Space (see Note 3)	X or Y.
Sonar Compartment, manned (see Note 3)	Y if can be opened from below; if not, X and MAY BE LEFT OPEN - MAN BELOW disc.
Hangar access door	Y or Z with A.

**Notes:**

1. *In some ships, gangway doors in the Red Risk Zone are in such continual use that even Y 2-clip markings are not acceptable. With careful consideration, such doors may be marked Z or, in extreme cases, where frequency and rapid passage is needed even in State 1, Z 2-clip might be more appropriate.*
2. *In war, it may be necessary to post orders at the entrance to ensure that if the space is in the Red Risk Zone, and occupied, the last person out closes the opening.*
3. *These openings may need an M in addition. Doors and hatches that give access between machinery spaces and citadels or gas-free spaces, must bear a gastight marking in addition to the watertight marking.*

0518. Watertight and Gastight Conditions

Watertight conditions are normally used as shown below, but this does not preclude the Command from ordering a higher condition when it is deemed to be necessary. Watertight conditions govern the watertight integrity of the ship and, since there is always a threat to watertight integrity, there is always a watertight condition in force. The condition ordered depends on the calculated risk of damage and, to facilitate ships routine and habitability, should always be the lowest condition consistent with the risk. Watertight conditions are normally used as follows:

a. In Peace:

Condition X-Ray	(X openings shut)	Harbour and normal cruising.
Condition Yankee	(X and Y shut)	Dangerous circumstances (eg navigational hazards, exercises).
Condition Zulu	(X, Y and Z shut)	As required for exercise.

b. In War:

Condition Yankee	(X and Y shut)	Harbour and normal cruising.
Condition Zulu	(X, Y and Z shut)	Action or relaxed action.

The gastight Condition ALFA is superimposed on watertight conditions Zulu and Yankee as required. Condition ALFA is the only gastight condition; it is the fully closed down condition that gives complete collective (citadel) protection against CBRN hazards.

0519. Relaxations to Condition ALFA

In certain circumstances relaxations to Condition ALFA may be permitted. Guidance is given in BRd 2170(2). To improve habitability when Condition ALFA is in force for lengthy periods, certain specific ALFA openings may be opened at the discretion of the Command when the ship is in either Damage Control State 1 or State 2. The openings selected must not form a set gastight condition but, if the operational situation permits, should satisfy only the immediate requirement, eg main galley ventilation to allow the cooking of a main meal, or the heads ventilation as and when possible. The openings that may be opened may vary depending on the tactical situation and/or the climate.

When it is considered that the CBRN threat allows certain relaxations to Condition ALFA, the Command should inform HQ1. HQ1 must then order the required openings to be open specifically by name/location marking, the order being given to the appropriate Fire and Repair Party Post or Section Base (large ship). This routine must be followed on each occasion of allowing relaxations to Condition ALFA. The openings selected must be capable of being shut immediately on order, by a sentry if necessary.



Note. When a ship is in Condition ALFA it is vitally important that the citadel pressure remains positive, even when relaxations to the condition are in force and one or more ALFA openings are open. Because firm guide lines cannot be laid down, it is recommended that ships officers take every opportunity to check citadel pressures with various combinations of ALFA openings open (those most likely to be used in a relaxation of Condition ALFA), supply and exhaust fans running, cleansing station in use, etc, and record the results.

0520. Relationships Between Damage Control States and Conditions

As explained in [Chapter 4](#), Damage Control states of readiness used in conjunction with watertight and gastight conditions are the means by which a ship can be prepared to meet all the varying circumstances of service in peace and war. It must be borne in mind that states and conditions are completely separate and must be ordered separately. The following gives practicable relationships between states and conditions and the circumstances under which they would generally apply. They are neither mandatory nor rigid, but are intended as guidance in producing the best working arrangements. The gastight Condition ALFA must never be used alone, but must be superimposed, when needed, on a watertight condition, usually Zulu or Yankee.

a. Damage Control State 1

- (1) *Action State.* The highest state of Damage Control preparedness, with all Damage Control positions fully manned and relaxations for meals, etc, ordered as necessary and when circumstances permit.
- (2) Assumed as far as practicable when “**EMERGENCY STATIONS**” is broadcast.
- (3) Normal for Awkward State 1.
- (4) Probable watertight condition: Zulu.
- (5) Gastight condition: None or ALFA.

b. Damage Control State 2

- (1) Normal war state at sea and in harbour.
- (2) Normally associated with the weapon state Defence Stations (two watches).
- (3) Normal for Awkward State 2.

- (4) Probable watertight condition: Yankee.
- (5) Gastight condition: None or ALFA.

c. **Damage Control State 3**

- (1) Normal peace state at sea and in harbour.
- (2) Gastight condition: None
- (3) Probable watertight condition:
 - (a) **Sea.** X-Ray (under circumstances of navigational hazard, eg fog, gale, narrow waters, RAS, entering and leaving harbour, etc, the watertight condition can be upgraded to Yankee with the addition of 'Special Sea Dutymen' who would include any special provision for the particular hazard, for example, HQ1 patrols when entering harbour in very poor visibility).
 - (b) **Harbour.** X-Ray (with latitude for maintenance, etc).

0521. Method of Control

In all ships in the higher states of CBRN/Damage Control readiness, overall control of the watertight and gastight conditions must be exercised from HQ1. In the lower states, control is exercised from HQ1 through its watchkeepers, from the SCC through its Damage Control watchkeepers, or the OOW/OOD (usually through the Quartermaster), depending on the size and type of ship. Damage Control states and conditions should be set by broadcast or, in harbour; they may be set by routine Daily Orders. Although the state alone, or the condition alone, can be changed at any time, it is better both should be mentioned, eg:

- a. **In State 3, Condition X-Ray:** Pipe: **"ASSUME Damage Control STATE 3 CONDITION YANKEE"**.
- b. **In State 3, Condition Yankee:** Pipe **"ASSUME Damage Control STATE 1 CONDITION YANKEE ALFA"**.
- c. **In State 2, Condition Yankee ALFA:** Pipe **"REVERT TO Damage Control STATE 2 CONDITION YANKEE"**.

0522. Control of Openings in the Lower Damage Control States

- a. The object of controlling watertight openings in the lower states of Damage Control readiness is to maintain as high a degree of watertight integrity as possible, consistent with the working of the ship, and so limit the extent of flooding in the event of sudden damage. Such control serves also to limit the number of openings that need to be shut to achieve Damage Control State 1 Condition Zulu. The Damage Control Door and Hatch Board should be used to show the openings that are opened.

b. The number of MBLO tallies provided corresponds to the number of openings allowed to be open at any one time. When a particular watertight condition is assumed, the watchkeeper in HQ1, or the Quartermaster, is issued with the appropriate number of MBLO tallies. Anyone seeking to open a X-Ray opening, or keep open a Yankee opening in Condition Yankee may be given permission by the watchkeeper, provided that a tally is available to be issued, and at least two intact transverse bulkheads exist between the intended opening and any other approved tallied, opening. The tally should be hung on the opening concerned as an indication to patrols that permission has been obtained for it to be open. The tally must be returned to the watchkeeper as soon as the opening is shut. The OOW/OOD need be approached only if it is thought essential to exceed the number of openings authorised to be open in that condition in that part of ship.