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DEPARTMENT OF THE NAVY
COMMANDER MILITARY SEALIFT COMMAND
WASHINGTON NAVY YARD BLDG 210
901 M STREET SE
WASHINGTON DC 20398-5540

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COMSC INSTRUCTION 9280.3E

Subj: DESIGNATION AND MARKING OF HULL STRUCTURE ON MSC SHIPS IN SERVICE (USNS)

Ref: (a) American Society for Testing and Materials (ASTM), F992, Standard Specification for Valve Label Plates

Encl: (1) Designation and Marking of Hull Structure

1. Purpose. To issue standards for designation and marking of hull structure in Military Sealift Command (MSC) ships.
2. Cancellation. COMSCINST 9280.3D.
3. Action. The designation and marking of MSC ships in service and in preparation of plans, bills, etc. shall comply with the requirements of enclosure (1). Existing markings conforming to preceding issues of this instruction shall not be changed.

Distribution:

COMSCINST 5000.19

List I (Case A, B, C)

SNDL 41B (MSC Area Commanders)

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DESIGNATION AND MARKING OF HULL STRUCTURE

1. Definitions

- a. Main Deck. Uppermost continuous deck.
- b. Forecastle Deck. Partial deck above the Main Deck at the bow, extending entirely athwartship, and not more than the forward half-length with the shell plating extending to the deck level.
- c. Poop Deck. Partial deck above the Main Deck at the stern, extending entirely athwartship, and not more than the aft half-length with the shell plating extending to the deck level.
- d. Upper Deck. Partial deck above the Main Deck, extending entirely athwartship, and from the bow or stern extending beyond amidships.
- e. Levels. Any deck above the Main Deck. The first deck above the Main Deck is the 01 Level, the second the 02 Level and so on in ascending order.
- f. Second, (Third, Fourth, etc.) Decks. The first continuous deck below the Main Deck is designated "Second Deck." Subsequent continuous decks below the Main Deck are designated, in descending order, Third Deck, Fourth Deck and so on.
- g. Platform. A partial deck below the lowest complete deck. If more than one platform is installed, it shall be termed first, second and so on, from the top.
- h. Strength Deck. Deck having continuous plating and longitudinal support members throughout the length of the ship, and designed as the principal uppermost strength member of the hull girder.
- i. Flats. Small partial lower decks.
- j. Bottom Structure. The structure and compartments of ship bottoms for ships with single inner bottom, starting with shell plating and proceeding upward. Designation shall be as follows: (a) shell plating, (b) bottom tank or void and (c) inner bottom plating.
- k. Transverse Bulkheads. Vertical bulkheads running in an athwartship direction across a portion or the whole breadth of a ship.
- l. Longitudinal Bulkheads. Vertical bulkheads running in a longitudinal direction along a portion or the whole length of a ship.
- m. Main Subdivision Bulkheads. Transverse and longitudinal watertight bulkheads installed to preserve stability and reserve buoyancy after damage to the hull.

20 June 1997

n. Main Vertical Zone Bulkheads (MVZB). Bulkheads installed to subdivide the hull and superstructure into main vertical zones to restrict the spread of fire from one zone to another.

o. Bulkhead Deck. Uppermost deck up to which the main transverse watertight bulkheads maintain integrity.

p. Main Vertical Zones (MVZ). Those areas, whose length does not exceed 40 m (131 ft), into which the hull, superstructure and deckhouses are divided by MVZBs.

q. Horizontal Zones. Those areas into which the ship must be divided by decks to retard the spreading of fire.

r. Zone Areas. Those areas into which the ship is divided for damage control purposes.

2. Nomenclature of Spaces and Stations

a. Standardization. To ensure standardization, the approved designation of spaces as listed in the following paragraphs shall be used. Abbreviations where allowed shall comply with paragraph 2.3.

b. Similarly Named Spaces. Where two or more similarly-named spaces occur in the ship, designation of the spaces shall be the space name followed by a number, as follows:

(1) Assign the numbers consecutively (such as Radar room No. 1, Radar room No. 2), starting with No. 1, by applying one or more of the following rules in the order given:

(a) from forward, aft;

(b) from top, down;

(c) from starboard to port.

(2) The forward bulkhead of the space shall be used for designating a space's longitudinal location within the ship. After numbers are assigned, modifications which add additional spaces which would fall within a number group already assigned shall be assigned the number of the space immediately preceding it, followed by the letter "A" (for example, an additional radar room occurring between Radar Room No. 2 and Radar Room No. 3 shall be designated Radar Room No. 2A). If a space number precedes the space numbered 1, it shall be assigned the number 1 preceded by the letter "A" (such as Radar Room No. A1). If possible, rooms shall be renumbered in logical sequence.

c. Space Names and Abbreviations. The following space names or abbreviation shall be used:

(1) Berthing, Messing and Lounging Spaces

CAPTAIN'S SEA CABIN
CHIEF ENGINEER'S OFFICE (CH ENGR OFC)
CHIEF ENGINEER'S STATEROOM (CH ENGR SR)
CHIEF STEWARD'S STATEROOM (CH STW SR)
COMMANDING OFFICER'S MILITARY DEPARTMENT CABIN (CO MIL DEPT CAB)
CHIEF PETTY OFFICER'S MESSROOM (CPO MESS RM)
CREW'S BERTHING (CR BERTH)
CREW'S DAY ROOM (CR DAY RM)
CREW'S LIBRARY (CR LBRY)
CREW'S LOUNGE
CREW'S MESSROOM (CR MESS RM)
CREW'S PANTRY (CR PAN)
1st ASST. ENGINEER'S STATEROOM (1st ASST ENGR SR)
1st OFFICER'S STATEROOM (1st OFF SR)
GYMNASIUM (GYM)
LIBRARY
LOUNGE
MASTER'S CABIN (MA CAB)
MASTER'S STATEROOM (MA SR)
OFFICERS' LOUNGE (OFF LOUNGE)
OFFICER'S MESSROOM (OFF MESS RM)
PETTY OFFICER'S MESSROOM (P O MESS RM)
SENIOR SCIENTIST'S STATEROOM (SR SCIENTIST SR)
SENIOR UNIT COMMANDER'S CABIN (SR UN CDR CAB)
SENIOR UNIT COMMANDER'S STATEROOM (SR UN CDR SR)
TECHNICIAN'S STATEROOM (TECH'S SR)
TRANSIENT OFFICERS' LOUNGE (TRANS OFF LOUNGE)
TRANSIENT OFFICERS' STATEROOM (TRANS OFF SR)
TROOP BERTHING (TROOP BERTH)

(2) Commissary Spaces

BAKERY (BAK)
CREW'S SCULLERY (CR SCLY)
DAIRY
FISH
FRUIT & VEGETABLE (FRT & VEG)
MAIN GALLEY (MN GALY)
MEAT
MILK
PANTRY (PAN)
PREP ROOM (PREP RM)
SCULLERY (SCLY)
THAW ROOM (THW RM)
VEGETABLE PREPARATION ROOM (VEG PREP RM)

20 June 1997

(3) Electronic Spaces

BATTERY ROOM (BAT RM)
CRYPTOGRAPHIC ROOM (CRYPTO RM)
INTERIOR COMMUNICATIONS ROOM (IC RM)
NIXIE ROOM
RADAR ROOM (RDR RM)
RADIO ROOM (RAD RM)
SITE TV ROOM (SITE TV RM)
TACAN ROOM (TACAN RM)
TELEPHONE CONTROL ROOM (TEL CONT RM)

(4) Machinery and Associated Spaces

ACCESS TUNNEL (ACS TNL)
AIR COMPRESSOR ROOM (AIR COMPR RM)
AIR CONDITIONING MACHINERY ROOM (A/C MCHRY RM)
ANCHOR WINDLASS ROOM (WINDLASS RM)
BATTERY CHARGING ROOM (BAT CHG RM)
BOILER ROOM (BLR RM)
BOW THRUSTER TRUNK (BOW THR TRK)
CAPSTAN MACHINERY ROOM (CPSN MCHRY RM)
CHLORINATION/BROMINATION EQUIPMENT ROOM (CHL/BRO EQPT RM)
CARBON DIOXIDE ROOM (CO₂ RM)
COMPACTOR ROOM (COMPACTOR RM)
COMPRESSOR ROOM (COMPR RM)
DEGAUSSING ROOM (DEGUSG RM)
DIESEL FIRE PUMP ROOM (DSL F PMP RM)
DIFFUSER ROOM (DIFFUS RM)
ELECTRICAL DISTRIBUTING ROOM (ELEC DISTR RM)
ELEVATOR SHAFT (ELEV SFT)
ELEVATOR MACHINERY ROOM (ELEV MCHRY RM)
EMERGENCY GENERATOR ROOM (EMERG GEN RM)
ENGINE ROOM (ENG RM)
ESCAPE TRUNK (ESC TRK)
EVAPORATOR FLAT (EVAP FLAT)
FAN ROOM (FAN RM)
FIRE PUMP ROOM (F PMP RM)
FUEL OIL FILLING STATION (FO FILL STA)
GENERATOR ROOM (GEN RM)
GYRO ROOM (GYRO RM)
INTERNAL COMMUNICATIONS MOTOR-GENERATOR ROOM (IC MG RM)
INCINERATOR ROOM (INCIN RM)
LIFEBOAT CONTROL ROOM (LB CONT RM)
MACHINE SHOP (MACH SHOP)
MOTOR ROOM (MTR RM)
PUMP ROOM (PMP RM)
REFRIGERATOR MACHINERY ROOM (REFR MCHRY RM)
REFRIGERATOR FLAT (REFR FL)
RESISTOR ROOM (RES RM)
SEWAGE TREATMENT DEVICE ROOM "OR" SPACE (SEW TRTMT DVC RM "OR" SP)
SHAFT ALLEY (SFT A)
STEERING GEAR ROOM (STRG GR RM)
WINCH CONTROLLER ROOM (WN CONT RM)

(5) Medical Spaces

BACTERIOLOGICAL LABORATORY (BACT LAB)
BATTLE DRESSING STATIONS (BD STA)
BOTTLE WASH AND STERILIZING ROOM (BTL WASH & STER RM)
DISPENSARY
DENTIST'S OFFICE (DENTIST'S OFC)
DENTAL CLINIC

DOCTOR'S OFFICE (DOCTOR'S OFC)
EXAMINING ROOM (EXAM RM)
GENERAL WARD (GENL WD)
ISOLATION WARD (ISLN WD)
MEDICAL RECORDS OFFICE (MED RCD OFC)
MEDICAL STORES (MED ST)
NURSE'S STATION (NURSE'S STA)
OFFICERS' WARD (OFF WD)
PHARMACY
STERILIZING ROOM (STER RM)
SURGICAL SCRUB ROOM (SURG SCRUB RM)
SURGICAL WARD (SURG WARD)
UTILITY ROOM (UTIL RM)
WARD
WOMEN'S WARD
X-RAY ROOM (X-RAY RM)
X-RAY DARK ROOM (X-RAY DK RM)

(6) Offices (Hospital Area Offices Excluded)

CHIEF STEWARD'S OFFICE (CH STW'S OFC)
COMMANDING OFFICER MILITARY DEPARTMENT OFFICE (CO MIL DEPT OFC)
DECK YEOMAN'S OFFICE (DK YEO OFC)
ENGINEERING YEOMAN'S OFFICE (ENGR YEO OFC)
MILITARY DEPARTMENT OFFICE (MIL DEPT OFC)
PURSER'S OFFICE (PURSER'S OFC)
SPECIAL SERVICES OFFICE (SPS OFC)
STEWARD YEOMAN'S OFFICE (STW YEO OFC)
TROOP OFFICE (TROOP OFC)

(7) Ship Control and Associated Spaces

CHART ROOM (CHART RM)
CONNING STATION (CON STA)
DAMAGE CONTROL CENTRAL (DC CTR)
ICE NAVIGATING STATION (ICE NAV STA)
ICE PILOT STATION (ICE PLT STA)
LOOKOUT STATION (LKT STA)
LEADSMAN'S PLATFORM (LD'S PLATF)
NAVIGATING BRIDGE (NAV BRDG)
PILOT HOUSE (PH)
SHIP INFORMATION CENTER (SIC)
STEERING STATION AFT (STRG STA AFT)
TOP OF WHEELHOUSE (TOP WH)
WHEELHOUSE (WH)

(8) Shops

BATTERY REPAIR SHOP (BAT RPR SHOP)
CARPENTER SHOP (CPNTR SHOP)
ELECTRICAL SHOP (ELEC SHOP)
ELECTRONICS SHOP (ELEX SHOP)
MACHINE SHOP (MACH SHOP)
PLUMBER SHOP (PLMB SHOP)

(9) Storerooms, Issue Rooms and Lockers

ACCESS HATCH (ACS H)
ACID LOCKER, LEAD-LINED (ACID LKR)
BAKERY STORES (BAK ST)
BOSUN'S LOCKER (BOSN LKR)

20 June 1997

BOSUN'S STORES (BOSN ST)
CARGO GEAR LOCKER (CAR GR LKR)
CHAIN LOCKER (CH LKR)
CHEMICAL, BIOLOGICAL AND RADIOLOGICAL GEAR LOCKER (CBR LKR)
CONDIMENT LOCKER OR ROOM (COND LKR) OR (COND RM)
DAMAGE CONTROL LOCKER (DC LKR)
DECK LOCKER (DK LKR)
DECK STORES (DK ST)
DECK YEOMAN'S LOCKER (DK YEOMAN'S LKR)
DENTAL STORES (DNTL ST)
DRY STORES (DRY ST)
ELECTRICAL STOREROOM (ELECT STRM)
ENGINEERS' STORES (ENGR ST)
FILM LOCKER (FILM LKR)
FIRST-AID LOCKER (FIRST-AID LKR)
FLAG LOCKER (FLAG LKR)
FOUL-WEATHER GEAR LOCKER (FOUL WEA GR LKR)
FRESH-WATER HOSE STOWAGE (FW HOSE STWG)
GASKET STOWAGE (GSKT STWG)
GEAR LOCKER (GR LKR)
GENERAL STORES (GEN ST)
INSTRUMENT LOCKER (INSTR LKR)
LIFEBOAT SPARES (LB SP)
LINEN LOCKER, CLEAN OR SOILED (LN LKR)
LINE THROWER BOX (LINE THWR BX)
MILITARY STORES (MIL ST)
PAINT ROOM OR PAINT LOCKER (PNT RM OR PNT LKR)
PAINT-MIXING ROOM (PNT MXG RM)
PLUMBER'S LOCKER (PLMB LKR)
PROVISION ISSUE ROOM (PROV ISS RM)
PYROTECHNIC LOCKER (PYRO LKR)
REFRIGERATED STORES (REFRD ST)
REPAIR LOCKER (RPR LKR)
ROPE LOCKER (ROPE LKR)
SHIP'S STORE
SMALL ARMS LOCKER (SA LKR)
SPECIAL SERVICE STORES (SPS ST)
STATIONARY LOCKER (STA LKR)
STEWARD DRY STORES (STW DRY ST)
STEWARD GENERAL STORES (STW GEN ST)
STEWARD LINEN STORES (STW LN ST)
SUPPLY STOREROOM (SPLY STRM)
TROOP BERTH STOWAGE LOCKER (TROOP BTH STWG LKR)

(10) Utility Spaces (Does Not Include Hospital)

BRIG
BARBER SHOP
CLEANING GEAR LOCKER (CG LKR)
CREW LAUNDRY (CR LAU)
DUMBWAITER (DW)
GARBAGE DISPOSAL ROOM (GBG DSPL RM)
INCINERATOR ROOM (INCIN RM)
LAUNDRY (LAU)
LAUNDRY ISSUE ROOM (LAU ISS RM)
LAUNDRY RECEIVING ROOM (LAU RCVG RM)
MOTION PICTURE PROJECTION ROOM (PROJTN RM)
OFFICER'S LAUNDRY (OFF LAU)
TRASH BURNER ROOM (TRASH BNR RM)

(11) Sanitary Spaces

BATHROOM
CREW'S SHOWER (CR SH)
CREW'S WASHROOM (CR WR)
DECONTAMINATION STATION (DECONTN STA)
ENGINEER'S SHOWER (ENGR SH)
ENGINEER'S WASHROOM (ENGR WR)
MEN'S BATH
MEN'S SHOWER (MEN'S SH)
MEN'S WASHROOM (MEN'S WR)
SHOWER (SH)
STEWARD'S SHOWER (STW SH)
STEWARD'S WASHROOM (STW WR)
TOILET (T)
TOILET AND SHOWER (T & S)
TRANSIENT OFFICERS' SHOWER (TRANSIENT OFF SH)
TRANSIENT OFFICERS' TOILET (TRANSIENT OFF T)
TRANSIENT OFFICERS' WASHROOM (TRANSIENT OFF WR)
TROOP SHOWER (TROOP SH)
TROOP TOILET (TROOP T)
WOMEN'S SHOWER (WOMEN'S SH)
WOMEN'S WASHROOM (WOMEN'S WR)

(12) Gunnery Spaces

AMMUNITION DUMBWAITER (AMMO DW)
AMMUNITION HOIST (AMMO HOIST)
AMMUNITION TRUNK (AMMO TRK)
MAGAZINE (MAG)
READY SERVICE LOCKER (RS LKR)
RIFLE AND PISTOL RACK

(13) Tanks and Voids

AFTER PEAK TANK (AP TK)
CHEMICAL HOLDING TANK (CHT TK)
COFFERDAM (COFF)
DEEP TANK (D TK)
DIESEL OIL TANK (DO TK)
DISTILLED WATER TANK (DW TK)
DOUBLE BOTTOM TANK (DB TK)
FORE PEAK TANK (FP TK)
FRESH WATER TANK (FW TK)
FUEL OIL TANK (FO TK)
JP-5 TANK (JP-5 TK)
LUBE OIL SETTLING TANK (LO SETLG TK)
LUBE OIL STORAGE TANK (LO STOR TK)
MAKE UP FEED WATER TANK (FD WTR TK)
OILY WATER TANK (OW TK)
POTABLE WATER TANK (POTW TK)
RESERVE FEED WATER TANK (RFW TK)
SETTLING TANK (SETLG TK)
SEWAGE HOLDING TANK (SEW HLDG TK)
SLOP TANK (SLOP TK)
SUMP TANK (SM TK)
VOID (VD)
WING TANK (WG TK)

20 June 1997

d. Special Project Spaces. The MSC fleet contains special project ships with spaces used for unusual purposes. It is not possible to specify how each space shall be named. If space names or abbreviations are not included in the above list, identify the spaces by their function using recognizable abbreviations to shorten the label's length to a reasonable size. Proposed abbreviations shall be submitted to the MSCREP for approval. Since ships' personnel need to quickly orient themselves to shipboard arrangements, compartments may be identified in general terms such as **BIOLOGY LAB** instead of **MARINE BIOLOGY LABORATORY** and **RADAR ROOM NO. 3** instead of **BALLOON TRACKING RADAR ROOM**.

3. Space Identification

a. Purpose. Compartments shall be numbered to facilitate their location and damage control operations. The compartment's number shall indicate its location by deck, frame, and relation to centerline.

b. Compartment Definition. Assign an independent compartment number to spaces enclosed by horizontal and vertical boundaries. Compartments which extend vertically through more than one horizontal division boundary such as machinery spaces, deep tanks and other similarly constructed spaces shall be numbered by the lowest horizontal boundary.

c. Subdivisions. Separate compartment numbers are not required for areas within large spaces, formed by arches or expanded metal or mesh bulkheads, if their function is identical to that of the major space.

d. Compartment Numbers. Compartment numbers shall consist of three parts separated by hyphens as follows: deck number - frame number - relation to ship's centerline.

(1) Deck Number. The Main Deck shall always be assigned number 1. The first horizontal division below the Main Deck shall be assigned number 2. The second horizontal division below the Main Deck shall be assigned number 3, etc. Where a compartment extends down to the tank tops or shell plating, the deck number assigned to the lowest horizontal division shall be used. The first horizontal division above the Main Deck shall be assigned number 01. The second horizontal division shall be assigned number 02, etc. The deck number becomes the first part of the compartment number.

(2) Frame Number. The frame number at the most forward bulkhead of a compartment shall be its frame location number. If the forward boundary is between frames, the most forward frame number within the compartment shall be used. Fractional numbers shall not be used unless the frame spacing exceeds 1.2 m (4 ft). The frame number is the second part of the compartment number.

20 June 1997

(3) Relation to Ship's Centerline. When the centerline of the ship passes through the compartment, assign the number 0 to the compartment. Compartments located completely to starboard of centerline shall be given odd numbers. Those located completely to port of centerline shall be given even numbers. Where two or more compartments have the same deck and frame numbers and are entirely starboard or entirely port of centerline, they shall have consecutively higher odd or even numbers, numbering from the centerline outboard. In this case, the first compartment outboard of the centerline to starboard shall be 1, the second compartment 3, etc. Similarly, the first compartment outboard of the centerline to port shall be 2, the second 4, etc. Cases may arise in which the centerline of the ship passes through more than one compartment, all of which have the same forward bulkhead number. In this case, the compartment with the forward bulkhead through which the ship's centerline passes shall carry the number 0, and the others shall carry the numbers 01, 02, 03, etc. These numbers indicating relation to the centerline shall become the third part of the compartment number.

(4) Example. The following example illustrates the above principles:

3-75-4

(a) The number 3 indicates a compartment on the third deck.

(b) The number 75 indicates that its forward boundary is on or immediately forward of Frame 75.

(c) The number 4 indicates the second compartment outboard of the centerline to port.

4. Labels, Notices, Warning Signs and other Identifying Markings

a. General

(1) Labels, notices, warning signs and other identifying markings shall be provided for items including but not limited to furniture, fans, motors, rooms, doors, hatches, manholes and warning lights. Identifying markings shall be:

(a) Plastic, or

(b) Engraved on metal.

(2) Plastic label plates and instruction plates shall be constructed of laminated phenolic having a black exterior and a white center. Engraving shall be a 90 degree maximum included angle of sufficient depth to expose the white center.

20 June 1997

(3) Label plates shall be attached with stainless steel screws or approved adhesives. Aluminum plates shall be insulated to prevent contact with dissimilar materials.

(4) Warning signs shall be constructed of laminated phenolic having a red exterior and a white center. Engraving shall be a 90 degree maximum included angle of sufficient depth to expose the white center. Warning signs shall be provided in spaces containing electrical equipment (such as radio rooms), delicate instruments (such as telephone switchboards or electronic spaces) or an explosive atmosphere (such as pyrotechnic lockers) and shall prohibit the use of paints, polishing waxes or cleaning agents, unless the equipment is effectively sealed or secured.

(5) Lettering shall be clear and concise with a minimum of abbreviations. Abbreviations shall comply with paragraph 2.

b. Stateroom Labels

(1) Stateroom labels shall be affixed on the door frame centered above the door or on the bulkhead on the exterior knob side of each stateroom door 1.6 m (5.25 ft) above the deck. They shall be 50 mm (2 in) high and 3.2 mm (0.125 in) maximum thickness. Do not attach stateroom labels to the door under any circumstances.

(2) Provide officer and crew staterooms with label plates according to paragraph 4.c.(1), designating room occupancy ratings on the first line and the compartment number on the second line.

c. Service and Other Space Labels

(1) Provide identification plates at least 25 mm (1 in) wide for spaces not required to be labeled elsewhere in this Instruction. In general, letters shall be 13 mm (0.5 in) high. If plates are brass, they shall be 1.3 mm (0.05 in) thick, the characters shall be engraved 0.5 mm (0.02 in) deep and filled with black engraver wax. If designating flammable material storage, the wax shall be red.

(2) The inscription on the identification plate shall give the compartment name on the first line and the compartment number on the second line. For example:

Deck Stores
4-14-2

(3) Center labels above the door.

d. Furniture and Fabric Markings. Portable furniture shall have small embossed metal or plastic plates secured in an inconspicuous place or adhesive bar-coded identification tags marked with deck and space in which it belongs.

e. Door, Hatch and Manhole Markings

(1) Special purpose doors, such as watertight doors, fire doors in main vertical zone bulkheads, stairway enclosure doors (except from individual rooms, such as staterooms, fan rooms, lockers) and weather doors required to be closed for chemical, biological and radiological (CBR) washdown purposes, shall be marked at the center on both sides by an etched label plate in characters 3 mm (0.5 in) high, designating the type of door and deck, frame and location number. If stencils are used, letters and figures shall be at least 25 mm (1 in) high. For example:

WTD 3-24-2

If the identification number cannot be seen with the door open, marking shall be on the frame or immediately adjacent to the door. Watertight door remote control stations shall be marked in the same manner, and the direction of operation of the level or wheel to open and close the door shall be conspicuously marked.

(2) If a hatch, scuttle or manhole cover hinges against a bulkhead, the label plates shall be installed on the bulkhead just above the hinged up position of the cover, so that the label can be read with the cover in the open or the closed position. If a hatch, scuttle or manhole cover does not hinge against a bulkhead (i.e., hinged 180° to open or close), the label plates shall be fitted on the top and the bottom of the cover, 150 mm (6 in) from the cover's edge, on the side opposite the hinges. Hatch, deck scuttle and manhole labels shall indicate the compartments served by the hatch, scuttle or manhole. For example:

Hatch 1-54-0
To Store Spaces
2-50-1
2-50-2

Manhole 5-95-1
To Fuel Oil Tank
6-90-0

(3) Scuttles in doors and hatches shall be assigned the same number as the door or hatch in which they are located. Both sides of the scuttle shall be labeled to name the compartment to which it provides passage.

(4) Portable hatch covers shall be marked to indicate the deck and hatch to which they belong and their position. Covers that are interchangeable are not required to have position markings.

(5) On the weather side of the door to decontamination stations labels shall be 75 mm (3 in) black letter stenciling "**DECONTAMINATION STATION ENTRANCE.**" The interior side of the same door shall be stenciled "**EXIT TO WEATHER.**" Interior doors to decontamination stations shall be painted to match surrounding area, with the stenciled captions "**DECONTAMINATION STATION ENTRANCE/EXIT TO INTERIOR.**"

20 June 1997

f. Access Openings

(1) Label plates for access openings serving a number of compartments shall indicate compartments served. The name and number of the first compartment shall be highest on the label, and the compartments entered from the first compartment shall be listed under the first compartment's label and indented.

(2) The topmost hatch and the highest point of trunk entry through a door shall be labeled with the names and numbers of the compartments for which access is provided. The hatch or closure labels for closures below these topmost closures shall indicate the closure number and the name and number of the compartment below.

(3) If there is more than one door or opening from a trunk on one level, the doors providing access to other compartments on that level or lower levels shall be labeled in 6 mm (0.25 in) letters, "**TO COMPT**" and list compartments entered via that door. The compartment shall be grouped by levels and shall be separated by double vertical spacing between groups of compartments on different levels.

(4) Stairwell landing labels shall show the deck level on the first line and list the compartments served below.

(5) Access panels and openings in joiner work and overheads for access to components including but not limited to piping cleanout connections, wiring, ducts, vents, piping, air conditioning controls, filters, heaters, valves, ducting access plates and other such items shall be clearly labeled to identify the concealed equipment.

g. Embarkation Direction Signs to Lifeboats

(1) Direction signs shall be installed in passageways, stairways, etc., throughout the ship in areas normally accessible by the crew, showing the shortest route to the lifeboats. Commercially available vinyl, reflective, self adhesive or metal reflective signs may be used. The letters on the sign shall be at least 25 mm (1 in) high with arrows and read:

TO BOATS

(2) Signs near embarkation deck exits shall be similar to the above, and shall indicate the boat stations nearest the exit. For example:

TO BOAT STATIONS
Nos. 1, 3, 5

(3) At each lifeboat station, a sign in 75 mm (3 in) letters shall be provided on the deck beams or suspended athwartship from the overhead at each lifeboat station reading, "**LIFEBOAT STATION NO. 1, 2, 3,**" etc. If there is insufficient head room or no overhead structure at a boat station, a sign shall be permanently installed where it shall be readily seen.

h. Transverse Frame Labels

(1) Frame number label plates shall be installed in compartments over 7 m (24 ft) in fore and aft length and every 7 m (24 ft) of length of weather decks and hangar deck.

(2) On weather decks, or decks where there are no overhead beams, frame number label plates shall be located on bulwarks, superstructure or other structure.

(3) For long stretches of deck without erections (except helicopter platforms), frame label plates (without the word "frame") with only frame numbers, 63 mm (2.5 in) high shall be provided.

i. Bulkhead Labels

(1) Bulkhead label plates shall be installed at the midwidth of the compartment indicating the type and frame location of the bulkhead. If a compartment or hold is more than one deck height, the plates shall be about 1.7 m (5.5 ft) above the deck. Bulkhead plate letters shall be 50 mm (2 in) high. Examples are: **WT BHD 123** or **MVZ BHD 54**.

(2) Each major transverse bulkhead shall be labeled on the centerline at each deck and on both sides to indicate its type and frame location.

(3) Watertight (WT) bulkheads shall be labeled for the full vertical extent of the bulkhead including those in the superstructure and where passageways intersect the bulkhead.

(4) Nonwatertight (NWT) bulkheads shall be labeled if they extend the full beam of the ship or if the NWT bulkhead label replaces a frame label.

(5) Bulkhead label plates shall not be required in tanks, voids or on nonstructural, wire mesh, expanded metal or similar bulkheads.

j. Heating, Ventilation and Air Conditioning Systems. Labeling shall comply with the following requirements:

(1) Heating, ventilation and air conditioning system labels shall identify their function and location. Major components shall be identified and labels shall indicate the compartment numbers of spaces served.

(2) The system number shall be the location number of the fan for mechanical systems and the location number of the weather opening for natural systems.

20 June 1997

(3) The function of each system shall be identified by prefixing the system number with the word **SUPPLY**, **EXHAUST** or **RECIRCULATING**. Natural exhaust or supply systems shall be identified as **NAT EXHAUST** or **NAT SUPPLY**. Air conditioned spaces do not require additional labeling, but the letters AC may prefix the system name. On small labels, the letters S or E may be used for **SUPPLY** or **EXHAUST**.

(4) Label plates shall be installed adjacent to or on the fan showing the system name and number, followed by the words "**SERVES COMPT**" and the compartment numbers. Next to this label or on the same label, the system major components shall be named and location given. These components are:

- (a) Coils such as preheater (PHR), reheater (RHR) or cooling coil (CC).
- (b) Closures serving a specific system.
- (c) Air conditioning control dampers (ACD) and ventilation fire dampers. Ventilation fire dampers shall be labeled with the words "**VENTILATION FIRE DAMPER**," the fire damper number and position. Words shall be 13 mm (0.5 in) red day-light-reflecting letters and numerals.
- (d) Filters, only when in system ducts.

(5) Components shall be labeled by a plate secured on or next to the component. Labels for components in system branches serving only a portion of the system compartments shall list the compartments served by the component and the component name, location and system name and number.

(6) Natural ventilation systems shall have the system label posted next to the weather opening. The label shall contain information similar to that required for mechanical systems.

(7) Weather openings serving fan rooms, plenum chambers or exhaust systems shall be labeled by function, such as **INTAKE** or **DISCHARGE** followed by location number. On the following lines, the compartment (i.e., fan room) and ventilation systems served shall be listed by name and number. Compartments served by the systems shall not be listed. Where adjacent openings serve the same fan room, only one label is required. Closures for weather openings shall be marked with the opening number only if necessary for identification.

(8) Each ventilation duct passing through a compartment, unless identified by other labels in that compartment, shall carry the same system number. Ducts that cannot be seen shall have label plates installed on access covers serving the ducts.

(9) Ventilation terminals in a space shall be marked by a label showing the system initial and number. Where several terminals of one system serve one space, only one label placed in a conspicuous location is needed.

(10) Equipment installed for heating and cooling which is not part of a ducted system, such as convectors, unit heaters, gravity type cooling coils, etc. shall be marked with a label naming and locating the equipment.

(11) The following are examples of heating, ventilation and air conditioning labeling:

(a) Weather opening label showing opening location, area served and ventilating systems served. The closure is installed at the opening and is not normally labeled. If needed, the label would read "**CLOSURE 02-77-1.**"

INTAKE	02-77-1
SERVES FAN ROOM	02-73-0
SUPPLY	02-76-1
SUPPLY	02-78-1

(b) Vent system and component list labeling:

VENT FAN SUPPLY 02-76-2 SERVES COMPT
01-76-0 01-81-1 01-84-2 01-91-2
01-76-1 01-84-2 01-84-4 01-94-2

CONTROLLER	02-74-2
REMOTE CONT. FC. RM.	02-53-0
PHR	01-90-2
CC	01-89-2
FIRE DAMPER	01-91-2
AC DAMPER	01-75-2

(c) Preheater coil label showing system in which it is installed and compartments served:

PHR	02-95-2
SERVES, SUPPLY	02-76-2

(d) Reheater coil label. Reheater is located in a branch supply system and shows the compartments served:

RHR	01-78-1
SUPPLY	02-76-2
SERVES	01-76-1, 01-76-2

(e) Ventilation fire damper label for supply system 02-76-2 showing compartment protected. Separate labels are required showing the open and closed positions. The words "**VENTILATION FIRE DAMPER,**" fire damper designation and the position indication words shall be 13 mm (0.5 in) red daylight-reflecting numerals:

VENT FIRE DAMPER	01-91-2
SUPPLY	02-76-2
SERVES	01-76-1, 01-76-2

20 June 1997

(f) Label identifying the remote control station and the controller serving ventilation system **SUPPLY 02-76-2**:

REMOTE CONTROL SUPPLY 02-76-2	CONTROLLER SUPPLY	02-74-2 02-76-2
--	------------------------------	----------------------------

k. Heating and Coolers. Equipment installed for heating or cooling not part of a ducted system such as convectors, unit heaters or gravity type air cooling coils shall be marked with a label naming and locating the equipment.

R) 1. General, Piping Systems

(1) All piping throughout the ship shall be lettered with stencils, using contrasting stencil paint to indicate the contents. Lettering shall be 32 mm (1.25 in) high, except on small pipe sizes (under 50 mm (2 in) diameter) on which lettering shall be reduced proportionally to present a good appearance. Flow direction shall be indicated by arrows.

(2) Overflows and vent terminals shall be marked with engraved brass plates indicating the tank or space served.

(3) Sounding tube label plates shall be installed in an easily readable position on an adjacent bulkhead for tubes terminating on the deck plates or attached to the self closing valve.

m. Fire Systems. Fire systems shall be marked as follows:

(1) The control cabinets or spaces containing valves or manifolds for the various fire extinguishing systems shall be distinctly marked in conspicuous red letters at least 50 mm (2 in) high - "**STEAM FIRE APPARATUS**," "**CARBON DIOXIDE FIRE APPARATUS**," "**FOAM FIRE APPARATUS**" or "**WATER SPRAY FIRE APPARATUS**," as appropriate.

(2) Firemain cut out valves shall be numbered by deck, frame and side on a metal plate, with 50 mm (2 in) high red letters. Plates shall be installed adjacent to valve where clearly visible from the deck.

**FMCOV
3-120-1**

(3) Shore connections for firemain system shall have a label plate with 50 mm (2 in) high letters:

FIREMAIN SHORE CON

(4) The branch line valves of fire extinguishing systems shall be plainly and permanently marked indicating the spaces served.

20 June 1997

(5) Firemains shall be painted to match surrounding compartment or deck colors, and stenciled in red to read "**FIREMAIN**" with an arrow indicating direction of flow. Firemains running through the bilge and painted red shall be stenciled to read "**FIREMAIN**" in a contrasting color with an arrow indicating direction of flow. All valve bodies and handles, fire cabinets and associated fittings shall be painted or trimmed with gloss red (FED STD 595B Color No. 11105).

(6) Carbon dioxide (CO₂) piping, nozzles, valves and control handles shall be painted gloss red (FED STD 595B Color No. 11105), with white stenciling "**CO₂**" and a white arrow indicating direction of flow. This includes nozzles, valves and control handles.

(7) Halon piping shall be painted to match surrounding compartment or deck colors and stenciled in Red to read "**HALON**" with an arrow indicating direction of flow. Nozzles, valves and handles shall be painted gloss red (FED STD 595B Color No. 11105).

n. Firehose Stations. Each fire hydrant shall be identified in red letters and figures at least 50 mm (2 in) high "**FIRE STATION**" followed by the station number. Example:

FIRE STATION NO. 3-24-2

The number identifies the deck, frame and location of the Fire Station. Hoses not stowed in the open or behind glass where they can be readily seen, shall be identified so that they can be readily seen from a distance.

o. Valves and Closing Appliances. Valves, closing appliances and other mechanisms required for damage control purposes, shall be conspicuously marked with letters at least 25 mm (1 in) high identifying the control and the direction of operation. Indication shall be provided to show whether the control is open or closed.

p. Propeller Signs. Two propeller warning signs shall be fastened port and starboard to the deck handrails or bulwark above the propeller or propellers. Signs shall be wood or plastic. Each sign shall read "**DANGER-PROPELLER-KEEP CLEAR**" in block letters. Signs shall have white background with black letters except that the word "**DANGER**" shall be red. The minimum area of each sign shall be 1 sq. m (1 sq. yard) with writing at least 150 mm (6 in) high.

q. Alarm Bells. Alarm bells and controls shall be marked as follows:

(1) General Alarm Bell Switch. The general alarm bell switch in the pilot house shall be clearly and permanently identified by lettering on a metal plate or with a sign in red letters on a suitable background: "**GENERAL ALARM.**"

(2) General Alarm Bells. All general alarm bells shall be identified by red lettering at least 13 mm (0.5 in) high: "**GENERAL ALARM - WHEN BELL RINGS GO TO YOUR STATION.**"

20 June 1997

(3) Carbon Dioxide Alarm. All carbon dioxide alarms shall be conspicuously identified: **"WHEN ALARM SOUND - VACATE AT ONCE. CARBON DIOXIDE BEING RELEASED."** Label plates shall have red lettering at least 26 mm (1 in) high.

(4) Manual Alarm Boxes. Manual alarm boxes shall be clearly and permanently marked **"IN CASE OF FIRE BREAK GLASS."** Existing boxes not marked with the same or equivalent wording, shall be labeled on the box or adjacent bulkhead in 13 mm (0.5 in) high letters **"IN CASE OF FIRE BREAK GLASS."** Manual alarm boxes shall have red numbers at least 13 mm (0.5 in) high labeled on the adjacent bulkhead indicating the zone number.

R) (5) Fire Detecting and Manual Alarm, Automatic Sprinkler and Smoke Detecting Alarm Bells. The fire detecting and manual alarm, automatic sprinkler and smoke detecting alarm bells in the engine room shall be labeled with at least 25 mm (1 in) red lettering indicating **"FIRE ALARM," "SPRINKLER ALARM"** or **"SMOKE DETECTING ALARM,"** as appropriate. Where alarms on the bridge or in the fire control station are part of an easily identifiable alarm cabinet, the bells shall be identified by at least 25 mm (1 in) red lettering.

(6) Ventilation Alarm Failure. Alarms indicating ventilation loss in spaces specially suited for vehicles, shall be marked with a conspicuous sign in at least 25 mm (1 in) high letters indicating **"VENTILATION FAILURE IN VEHICULAR SPACE."**

r. Safety and Damage Control Items. The following safety and damage control items shall be marked:

(1) Supervised patrol clocks or key stations shall be numbered with plates of 25 mm (1 in) high letters. For example: **"KEY STA 8, RTA."**

(2) Lockers or spaces containing equipment for the use of emergency personnel shall be marked in 50 mm (2 in) high red letters: **"DAMAGE CONTROL LOCKER #."**

(3) Lockers or spaces containing self-contained breathing apparatus or emergency escape breathing devices shall be marked in 50 mm (2 in) high red letters: **"SELF-CONTAINED BREATHING APPARATUS"** or **"EEBD"** unless the locker is also a damage control locker. Lockers or spaces containing CBRD equipment or CBRD gas masks shall be marked in 50 mm (2 in) high red letters: **"CBRD LOCKER."**

(4) Portable fire extinguishers shall be marked with the stowage location number at least 13 mm (0.5 in) high. Example: **"FE 3-24-2"** indicates the fire extinguisher is on the third deck, port side, at Frame 24. Photoluminescent markers indicating **"Fire Extinguisher"** shall be placed by each extinguisher.

(5) Emergency lights shall be marked with a letter **"E"** at least 13 mm (0.5 in) high, next to the light.

(6) Firehoses and axes shall be marked with the ship's name in 25 mm (1 in) high letters.

(7) Portable magazine chests shall be marked in contrasting colors in letters at least 75 mm (3 in) high: **"PORTABLE CHEST - FLAMMABLE - KEEP LIGHTS AND FIRE AWAY."**

(8) Magazine van and magazine chest labels shall be 75 mm (3 in) block type lettering. Letters shall be red or white, whichever provides the better contrast against the background. On small chests, the label size may be reduced to that consistent with the size of the chest so that the inscription may be placed entirely on the side or top.

(a) Access doors to magazine and magazine vans shall bear the inscription:

**MAGAZINE
KEEP OPEN LIGHTS AND FIRE AWAY
KEEP DOOR CLOSED**

**REMOVE MATCHES AND LIGHTERS
PRIOR TO ENTERING**

(b) Magazine chests shall be marked in a conspicuous location, preferably the top, with the inscription:

MAGAZINE CHEST KEEP OPEN LIGHTS AND FIRE AWAY

(c) Magazine chests used for blasting caps, detonators or boosters shall be marked in a conspicuous location with the appropriate inscription:

BLASTING CAP LOCKER

or

DETONATOR LOCKER

or

**BOOSTER LOCKER
KEEP OPEN LIGHTS AND FIRE AWAY**

(d) Magazine vans except portable magazine vans shall bear the additional statements on each side:

**MAGAZINE
WARNING
DO NOT LIFT WITH CONTENTS**

20 June 1997

(e) Control locations for magazine sprinkler systems shall bear the inscription:

MAGAZINE SPRINKLER CONTROL

(9) Access doors to chemical and scientific laboratories on Oceanographic Vessels shall be labeled "**CHEMICAL LABORATORY**" or "**SCIENTIFIC LABORATORY**," as applicable.

(10) Damage control markings not designated in this instruction shall be stenciled in 13 mm (0.5 in) minimum letters and numbers at eye level 1.7 m (5.5 ft) above the deck.

s. Special Systems, Fittings and Appliances. Special systems, fittings and appliances shall be marked identifying its function, location or other special requirement.

(1) An instruction plate with 13 mm (0.5 in) high red letters and figures for gasoline systems, foam fire extinguishing systems and elevators, with descriptions of valve, system and appliance function and operation shall be provided.

(2) Tank air escapes shall have a label plate identifying the tank by name and its number. For example:

**AIR ESCAPE 03-112-1
No. ___ F.O. TK. STBD
6-110-1**

This identifies a vent whose terminus is located at 03-112-1 serving tank number 6-110-1. This plate shall be installed on or next to the vent at each deck level through which it passes.

(3) A label plate shall be installed near breather plugs in refrigerated spaces where fitted. Label plates shall read in 6.3 mm (0.25 in) letters:

**KEEP PLUG OUT EXCEPT WHEN DEFROSTING,
WASHING DOWN OR AIR TESTING SHEATHING**

(4) If a fitting requiring a damage control classification is located within a normally closed compartment, a label plate shall be installed at the access to the closed compartment indicating that a fitting is located inside.

(5) Doors to air conditioned areas from weather, heat producing spaces and ventilated spaces, shall have a label plate on the upper halves of both sides of the door and read:

**WARNING
AIR CONDITIONED BOUNDARY
KEEP DOOR CLOSED**

(6) A label plate shall be installed on the main access to spaces containing escape scuttles that are required to be unlocked. The label plate shall read:

**ESCAPE SCUTTLE SERVING THIS SPACE IS TO BE UNLOCKED
AT ALL TIMES WHEN THE SPACE IS OCCUPIED.**

t. Rudder Orders. At steering stations a label plate shall be installed with 13 mm (0.5 in) high letters and suitable arrows on the wheel or device, or in other position to be in the helmsman's line of vision, indicating the direction the wheel or device must be turned for "right rudder" and for "left rudder."

u. Instructions for Changing Steering Gear. Instructions and system schematic drawings shall be posted in the steering room providing the steps to switch over steering gear power pumps, line up and operate emergency hand pumps, engage the trick wheel, rig block and tackle or perform any other normal or emergency mode of steering gear operation. Instructions shall have letters at least 13 mm (0.5 in) high and identify key valves, clutches and links required for changeover. Key valves shall be identified on schematics and identified by label plates on the steering gear equipment.

v. Life Preservers, Ring Life Buoys and Other Buoyant Apparatus. Life preservers, ring life buoys and other buoyant apparatus shall be marked with the vessel's name.

w. Decals. Decals, due to their poor durability and susceptibility to being painted over, shall not be used for permanent markings. However, since they are readily renewed, they may be used for photoluminescent signs and for general warning and instruction signs. Examples are:

NO SMOKING

or

WASH HANDS BEFORE LEAVING

x. Fuel Jettison Racks. Fuel jettison racks shall be labeled clearly identifying the releasing mechanism.

y. Cargo and Lifting Gear Safe Working Load. The Safe Working Load and date tested shall be marked on cargo gear, cranes and lifting apparatus.

z. Valves. Unless other valve labeling requirements are stated in this instruction, label valves according to reference (a).

aa. Machinery Space Lifting Gear, Fixtures and Securements. Machinery space lifting gear, fixtures and securements, including but not limited to permanently installed hoists, trolley systems, machinery lifting fixtures, padeyes, tie down rings, etc., shall have a CRES label plate attached stating the safe working load and the date the item was tested.

20 June 1997

bb. Bulkhead Mounted Repair Parts. Clearly mark the location of bulkhead mounted spares with a placard affixed adjacent to the location of the spare part. The placard shall identify the part's name, NSN, part number, manufacturer and the APL and equipment nomenclature.

cc Photoluminescent Exit Signs. Escape routes and exits shall be marked with photoluminescent exit signs as per COMSCINST 5100.17B.

dd. High Noise Hazard Signs. Equipment or spaces that exceed 84dB(A) continuous or intermittent noise level shall be marked as per COMSCINST 5100.17B.

ee. Eye Hazard Signs. Eye hazardous areas shall be marked as per COMSCINST 5100.17B.

ff. Berth Cards. Berth cards shall be provided for each member of the crew describing emergency duties and duty station. Cards shall be mounted in aluminum frames adjacent to berths.

5. Operating Instructions, Safety Precautions and Framed Notices

a. General. Install safety precautions, operating instructions and other notices for newly installed equipment and machinery as follows:

(1) Operating instructions shall list the steps for starting, operating and securing equipment, a component or a system. Operating instructions shall include as a minimum maintenance instructions, lubricating charts, piping and wiring diagrams and the location of important switches and controls not mounted on or near the equipment or the equipment's control point. Detailed preventive maintenance routines shall not be included.

(2) Safety precautions shall provide operation and handling guidance for equipment, components, systems or material which present a hazard to ship's security or personnel safety. Safety precautions shall be combined with operating instructions on a single placard. Some cases shall require individual danger, caution, directional or informational signs.

(3) Ship's certificates, officers' licenses, stability letters, station bills, other notices required to be displayed and miscellaneous interior mounted instructions shall be displayed in CRES or aluminum frames. Frames shall be glazed with a hinged front and lock, and be compatible with the surroundings. Glass or Plexiglas face shall be 3 mm (0.125 in) thick and shall be used to display instructions. If one frame displays more than one document, the frame's construction shall permit the individual document replacement without affecting the display of others in the same frame.

b. Fabrication. Safety precautions, operating instructions and other notices shall be fabricated on poster, plastic or metal material and shall be printed and sized as follows:

(1) The print shall be clear and simple with proportionally larger print for titles and paragraph headings. Lettering shall be black, except safety precautions and warning signs which shall have red headings.

(2) Operating instructions and safety precautions shall be 200 mm (8 in) x 260mm (10.5 in). Smaller or larger sizes, preferably 200 mm (8 in) x 130 mm (5.25 in) or 400 mm (16 in) x 260 mm (10.5 in) may be used when suitable for proper display.

(3) Operating instructions and safety precautions shall be combined on one placard where possible.

c. Mounting. Safety precautions, operating instructions and other notices shall be mounted conspicuously on or near the component's control point using the following methods, listed in order of preference:

(1) Direct mounting to bulkheads or other surfaces with stainless steel screws or adhesives. Aluminum plates shall be insulated to prevent contact with dissimilar materials.

(2) Standard card holders 200 mm (8 in) x 270 mm (10.5 in) or 200 mm (8 in) x 130 mm (5.25 in) or 400 mm (16 in) x 270 mm (10.5 in).

(3) Multiple hinged leaf card holders where it would be impractical to make separate displays.

(4) Glass faced metal frames for ship's certificates and licenses (see paragraph 5.a(3)).

6. Painted Markings

a. Introduction. Hull markings (such as bow lettering, Plimsoll marks, draft mark, etc.) are covered by COMSCINST 4750.2C. Colors and paint formulas referenced in the following paragraphs shall be as specified in COMSCINST 4750.2C.

b. Personnel Hazards. Personnel hazards, such as low beams, high hatch coamings and other "strike against, stumbling, tripping and equipment hazards," shall be painted with alternate bands of Black (FED STD 595B Color No. 27038), and Brilliant Yellow (FED STD 595B Color No. 13538). Band stripes shall be from 38 mm to 100 mm (1.5 in to 4 in) wide, depending upon size of the area to be painted (small areas shall have narrow stripe widths).

20 June 1997

On interior stairways, Brilliant Yellow shall be applied on top and bottom risers. Cargo hold ladder handrails shall be painted solid yellow from the deck up 1.8 m (6 ft) minimum and from the top down 0.3 m (1 ft) minimum. Top and bottom ladder rungs shall be painted solid yellow. Self adhesive vinyl film backed safety tape may be used.

c. Lifeboats, Liferrafts, Davits and Associated Equipment. Lifeboats, lifeboat davits, lifeboat oars, lifeboat mechanical disengaging apparatus levers, lifeboat thwarts, lifeboat sea painter locations, liferafts, liferaft oars and buoyant apparatus shall be marked and painted as follows.

(1) The name of the vessel shall be plainly marked or painted on each side of the bow of each lifeboat in letters not less than 75mm (3 in) high.

(2) The number of each lifeboat shall be plainly marked or painted on each side of the bow of each lifeboat in figures not less than 75mm (3 in) high. The lifeboats on each side of the vessel shall be numbered from forward aft, with odd numbers on the starboard side.

(3) All oars shall be conspicuously marked with the vessel's name.

(4) Where mechanical disengaging apparatus is used, the control affecting the release of the lifeboat shall be painted bright red (FED STD 595B Color No. 11105) with the words: **"DANGER - LEVER DROPS BOAT"** or **"DANGER - LEVER RELEASES HOOKS."**

(5) Each inflatable liferaft and container shall have permanently attached a substantial nameplate embossed or imprinted with the name of the manufacturer, approval numbers, manufacturer's model and serial number, number of persons for which the liferaft is approved and the lot number. Marking shall be clearly and legibly applied in a color contrasting to its background, using permanent materials as follows: Instructions for inflating; directions for righting if the raft inflates in an inverted position; directions for boarding and warning against tampering.

(6) All lifesaving ring buoys shall be painted international orange, using 3 coats of plastic compound. The ship's name and number shall be stenciled in black letter 50mm (2 in) high.

(7) Life preservers shall be marked with the vessel's name.

d. Work Boats and Utility Boats. Work boats, rescue boats and utility boats shall be marked according to the following standards:

(1) The ship name shall be plainly marked or painted on each side of the bow in letters at least 75 mm (3 in) high.

(2) The boats shall be numbered from forward to aft with odd numbers assigned to boats on the starboard side and even numbers assigned to boats on the port side.

e. Damage Control Lockers and Equipment. Distinctive markings of damage control lockers and the equipment stowed therein is necessary to identify and avoid misplacement or misuse of equipment. In order that the identifying paint markings for all damage control lockers and equipment in MSC ships shall be standardized, the following markings are prescribed:

(1) The inner and outer sides of damage control locker doors shall be painted international orange (FED STD 595B Color No. 12197). The outer side of Damage Control Lockers No. 1, 2 and 3 shall have one, two or three black stripes, respectively, 25 mm (1 in) wide painted under the door label, the same length as the label.

(2) Handles or other parts of tools and other equipment stowed in damage control lockers shall be painted international orange (FED STD 595B Color No. 12197) and marked with one, two or three black stripes to indicate whether the tools or equipment belong to Damage Control Locker 1, 2 and 3 respectively. Ships having only one repair locker shall omit the black stripe on door and equipment.

f. CBR Defense. If permanent washdown systems are not installed in MSC ships, washdown systems brackets for chemical, biological and radiological (CBR) defense shall be painted international orange (FED STD 595B Color No. 12197).

g. Highline Transfer Equipment. For ready identification, exterior nonworking surfaces of padeyes, links, pelican hooks, blocks and the bridle shall be painted with white enamel.

h. Cargo Hold Padeyes. U-bolts, padeyes and other fittings installed in cargo holds to facilitate shifting of heavy cargo shall be painted with red enamel (FED STD 595B Color No. 11105) or equal. A sign reading "**Attach Block Here**" shall be stenciled adjacent to fittings.

i. Official Number and Net Tonnage. The ship's official number and net tonnage shall be marked permanently on the ship's main beam according to U.S. Customs Regulations.

7. Electrical Equipment Identification

a. Electrical equipment shall be labeled as required in the following paragraphs. In addition, special precautions or maintenance and operating instructions shall be on a separate plate attached to the equipment in a visible location. Equipment connected to more than one electrical power source such as connection boxes, switches, motor controllers and similar electric enclosures or units shall be identified with a visible red warning plate.

b. Switchboard and distribution panel buses shall be marked in a readily visible location with their polarity or phase identification. Color coding of installed conductors shall be consistent. Black, white and red are reserved for phases A, B and C respectively and for conductors 1, 2 and 3 of multiconductor cables. Synthetic tubing marked with the conductor

20 June 1997

identification shall be used at conductor ends where colors are not indicated. Terminal blocks and strips in the ship's interior communications, exterior communications and ship's navigating aid systems shall be numbered to comply with the cable color code indicated in IEEE Standard No. 45. Designations and labels shall match designations on drawings. Wire markers shall match the elementary wiring diagrams, wiring tables or other MSCREP approved wire numbering scheme.

c. Electrical System Designation and Markings. Electrical circuits, switchboards and distribution and control equipment shall be marked as follows:

(1) Switchboards. Switchboard identification and notices shall be fastened to a part which would not likely be replaced during its service life. Plates with the following information shall be provided at or near the top of the front enclosure of each switchgear section or for each unit if acquired individually:

- (a) Name or functional designation of item
- (b) Manufacturer's name
- (c) Manufacturer's drawing number
- (d) NAVSEA drawing number, if assigned
- (e) Stock number, if assigned
- (f) NAVSEA technical manual number, if assigned
- (g) Year manufactured

(2) Circuit Designations. Circuits (except for Navy ship transfers, see paragraph 7(c)(2)(g)) shall be identified as follows:

(a) Motor Controllers - System designation, per circuit number.

(b) Power Panels, Lighting Panels, Group Control Centers and Other Distribution Equipment - These shall have phenolic labels identifying the circuit designation, port or starboard location, and the deck and frame location (such as Group Control Center P450 (4-80-2)). Phenolic branch circuit labels shall be identified from left to right, top to bottom in ascending circuit number sequence. The branch circuit labels shall identify the circuit, equipment served, load and protective element sizes in three lines, such as:

1P450
SHAFT TURNING GEAR
5amp LD, 15 amp EL

(c) Generator and Bus Tie Circuits - (P-0400 to P-0450): Cables connecting generators to the switchboard and bus tie cables shall have a zero before the numeral

20 June 1997

designating the voltage followed by one numeral/system, suffixed with alpha-numeric for the associated controls. Emergency systems shall be prefixed "EP" instead of "P". For example: P-0402 indicates cable No. 2 connecting 480 volt ship service generator to the switchboard, EP-415 indicates feeder cable No. 15 for 480 volt emergency power service.

(d) Branch circuit cables emanating from distribution panels or boxes shall have the panel or box feeder cable designation prefixed by the circuit breaker or fuse number servicing the branch. Circuit breakers or fuses shall be numbered "1" for the upper left, "2" for the next right and so on. For example: P-404 indicates feeder cable No. 4 for 480 volt power service, L-105 indicates feeder cable No. 5 for 120 volt lighting service panel.

(e) Branches - Assign a numerical prefix to the feeders associated with the branches. For example, 2L-103 indicates a branch circuit cable from circuit breaker No. 2 of a panel fed from the No. 3 feeder cable for 120 volt lighting service.

(f) Control cabling shall be prefixed with the letter "K," followed by two or three letters that identify the system suffixed with numerals starting with "1." For example, K-1DG10 indicates a control circuit (K), diesel generator control circuit (DG), the tenth cable in the circuit (10).

(g) For ships transferred to MSC that used Navy standards for electrical equipment identifications, new and modified circuits identification shall follow existing designations.

(3) Cable Designations. Install stamped aluminum strip cable tags on Contractor installed, modified and relocated cables in the following locations:

- (a) On each side of watertight deck and bulkhead penetrations.
- (b) Every 15 m (50 ft).
- (c) At each termination point.

(4) Each panel, junction or distribution box supplying isolated receptacle circuits shall be inscribed as follows:

CAUTION
DO NOT CONNECT ADDITIONAL FIXTURES
OR RECEPTACLES TO THIS CIRCUIT