COMDTPUB P16700.4
NVIC 2-92
4 Feb 1992

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 2-92
Electronic Version for Distribution Via the World Wide Web

Subj: Survival Equipment for Lifeboats and Liferafts

Ref: (a) 1983 Amendments to the 1974 Safety of Life at Sea Convention (SOLAS)
(b) NVIC 3-87, "Implementation of the 1983 SOLAS Amendments on Lifesaving Appliances and Arrangements"
(c) 1988 Amendments to' the 1974 Safety of Life at Sea Convention (SOLAS)
(d) NVIC 9-91, "Emergency Position Indicating Radiobeacons (EPIRBs) and Other Radio Lifesaving Equipment for Inspected Vessels"
(e) NVIC 1-87, "Installation of Retroreflective Material on Lifesaving Equipment"

1. PURPOSE. This Circular provides guidance on survival equipment for lifeboats, liferafts, and rescue boats, including the quantity and type of equipment required, and information on inspection. This Circular is intended to clarify survival equipment requirements during and after transition to the 1983 SOLAS Amendments.

2. BACKGROUND

a. The 1983 SOLAS Amendments (reference (a)) entered into force on July 1, 1986, and affect ships on international voyages required to meet the SOLAS Convention ("SOLAS ships"). These amendments establish new lifesaving requirements for SOLAS ships built on or after July 1, 1986. Existing SOLAS ships are also subject to additional lifesaving requirements after July 1, 1991. These requirements are explained in reference (b).

b. The 1988 SOLAS Amendments (reference (c)) enter into force on February 1, 1992. These amendments establish the Global Maritime Distress and Safety System (GMDSS), which will be phased in during the 1990's. These amendments also affect radio equipment used for lifesaving purposes on SOLAS ships. Reference (d) describes these changing requirements.

c. Vessels which are not SOLAS ships may use approved lifeboats and inflatable liferafts built and equipped to SOLAS standards. These lifeboats and liferafts are equivalent or superior to lifeboats and liferafts approved to the older standards in 46 CFR 160.035 and 160.051.

3. DISCUSSION

a. SOLAS ships built on or after July 1, 1986, must carry survival equipment meeting the 1983 SOLAS Amendments. A Notice of Proposed Rulemaking published on April 21, 1989, proposed a complete revision of the lifesaving regulations for large inspected vessels. The notice contained a revised list of survival equipment based on the 1983 SOLAS Amendments. This list would replace the survival equipment lists now contained in various vessel subparts.

b. SOLAS ships built before July 1, 1986, may continue to carry the type and amount of lifeboat survival equipment originally required for them. When these ships replace lifeboat survival equipment, the equipment should comply with the requirements of the 1983 SOLAS Amendments (reference (a), Regulation 111/1.4.3). The quantity of equipment required does not change to the 1983 SOLAS Amendment number, unless the lifeboat is completelyreequipped to meet the 1983 SOLAS Amendments.

c. This NVIC is intended to clarify current survival equipment requirements by:

(1) Describing the equipment requirements for new inflatable liferafts in general terms, and providing information on the labeling and installation of these liferafts.

(2) Listing lifeboat, rescue boat, and rigid liferaft equipment requirements for U.S. ships equipped to meet the 1983 SOLAS Amendments (enclosure (1)). Lifeboats not required to meet the 1983 SOLAS Amendments may be voluntarily equipped in accordance with enclosure (1). Enclosure (1) contains information on how this can be accomplished.

(3) Listing lifeboat equipment requirements for ships not required to meet the 1983 SOLAS Amendments (enclosure (2)). This list is provided for lifeboats which are "grandfathered" after the survival equipment lists for these boats are removed from Title 46 of the Code of Federal Regulations.

(4) Describing the required survival equipment, along with recommendations and inspection standards (enclosure (3)).

4. IMPLEMENTATION -- INFLATABLE LIFERAFTS

a. New inflatable liferafts installed on SOLAS ships on or after July 1, 1986, must meet the 1983 SOLAS Amendments. On Coast Guard approved liferafts, this is indicated by an approval number in the 160.151/. . . series. Such liferafts will also carry an approval number in the 160.051/. . . series until a new approval regulation (46 CFR 160.151) is published. The containers of these liferafts also indicate either "SOLAS A Pack" or "SOLAS B Pack." SOLAS A Pack liferafts are equivalent to the old "Ocean Service" equipment designation. SOLAS B pack liferafts are equivalent to the old "Limited Service" designation.

(1) Liferafts on SOLAS ships must be SOLAS A Pack, except for short international voyage passenger ships which may be equipped with either SOLAS A Pack or SOLAS B Packliferafts. Ships built before July 1, 1986, may continue to use

their "Ocean Service" or "Limited Service" liferafts as long as they are in good and serviceable condition.

(2) Vessels not required to comply with the SOLAS Convention may substitute SOLAS A Pack liferafts for "Ocean Service" liferafts and SOLAS B Pack liferafts for "Limited Service" liferafts.

(3) SOLAS A Pack and SOLAS B Pack liferafts have a maximum stowage height indicated on their containers. This is the maximum height above the lightest seagoing waterline at which the liferaft may be stowed. The standard height is 18 m (about 60 ft).

(4) The Coast Guard approves "Coastal" service liferafts for use on certain uninspected vessels. "Coastal" service liferafts may not be used to meet any liferaft requirement on an inspected vessel.

b. One of the requirements for SOLAS A Pack and B Pack liferafts is "an efficient radar reflector." In the opinion of the Coast Guard and other SOLAS maritime safety administrations, no radar reflectors are presently available which are suitable for use in inflatable liferafts. Therefore, the Coast Guard has approved liferafts without radar reflectors. These liferafts carry an indication on their container that they do not include a radar reflector. Such liferafts are fully acceptable.

c. Another requirement for SOLAS A Pack and B Pack liferafts is "thermal protective aids . . . sufficient for 10% of the number of persons the liferaft is permitted to accommodate or two, whichever is greater." When SOLAS A Pack and B Pack liferafts were first approved, there were no approved thermal protective aids available. The liferafts were either packed without thermal protective aids or with unapproved devices. Coast Guard approved thermal protective aids are now available under the 160.174 approval series. If they do not already have them, SOLAS A Pack and SOLAS B Pack liferafts must be equipped with approved thermal protective aids at the liferafts' next annual servicing.

d. All lifesaving equipment on SOLAS ships is to "be fitted with retroreflective material where it will assist in detection." SOLAS A Pack and SOLAS B Pack inflatable liferafts are provided with retroreflective material when they are manufactured, but the requirement applies to <u>all</u> SOLAS ships as of July 1, 1991. Therefore, any "Ocean Service" or "Limited Service" liferaft which does not already have retroreflective material must be equipped with approved retroreflective material at the next annual servicing, if the liferaft is carried on a SOLAS ship. Servicing facilities have instructions from liferaft manufacturer on the proper application of retroreflective material.

5. <u>IMPLEMENTATION -- LIFEBOATS AND RESCUE BOAT</u>S

a. New lifeboats and rescue boats installed on SOLAS ships on or after July 1, 1986, must generally meet the 1983 SOLAS Amendments. However, ships built before July 1, 1986, may replace existing lifeboats with lifeboats of the same type, provided both the davit and winch are not also replaced. Lifeboats and rescue boats meeting the 1983 SOLAS Amendments must have survival equipment which also meets the 1983 SOLAS Amendments. A list of this equipment is provided in enclosure (1). Enclosure (1) also

includes the list of equipment for rigid liferafts, however, there are no approved rigid liferafts being built at this time.

b. Lifeboats which do not meet the 1983 SOLAS Amendments must, in general, continue to carry the same equipment required on lifeboats before the 1983 SOLAS Amendments came into force. A table listing that equipment is provided in enclosure (2). However, as of July 1, 1991, all lifeboats on SOLAS ships must be equipped with retroreflective material. NVIC 1-87 (reference (e)) describes acceptable retroreflective material marking patterns for lifeboats and other lifesaving equipment.

c. As an alternative to the list of equipment in enclosure (2), lifeboats not required to meet the 1983 SOLAS Amendments may be voluntarily equipped in accordance with enclosure (1). Enclosure (1) contains information on how this can be accomplished. Lifeboats must be equipped to either the list in enclosure (1) or enclosure (2). It is not permissible to take advantage of reduced requirements for a particular type of equipment in the list in enclosure (1) without carrying the additional equipment also required in that list.

d. Enclosure (3) describes the various items of lifeboat, rescue boat, and rigid liferaft equipment listed in enclosures (1) and (2), along with recommendations and inspection standards.

e. Enclosure (4) describes the contents of the lifeboat and liferaft survival manuals required under the 1983 SOLAS Amendments.

A. E. HENN
Rear Admiral, U.S. Coast Guard
Chief, Office of Marine Safety,
Security and Environmental Protection

End: (1) Lifeboat, Rescue Boat, and Rigid Liferaft Equipment for Ships Equipped to Meet 1983 SOLAS Amendments
(2) Lifeboat Equipment for U.S. Registered Vessels Equipped to Requirements in Effect Prior to the 1983 SOLAS Amendments
(3) Lifeboat, Rescue Boat, and Rigid Liferaft Equipment; Description, Recommendations, and Inspection Guidelines
(4) IMO Resolution A.657(16)

Non-Standard Distribution:

C:e New Orleans (90); Hampton Roads (50); Baltimore (45); San Francisco (40); Philadelphia, Port Arthur, Honolulu, Puget Sound (35); Miami, Houston, Mobile, Morgan City, Los Angeles/Long Beach, (25); Jacksonville, Portland OR (20); Boston, Portland ME, Charleston, Galveston, Anchorage (15); Cleveland (12); Louisville, Memphis, Paducah, Pittsburgh, St. Louis, San Juan, Savannah, Tampa, Chicago, Buffalo, Detroit, Duluth, Milwaukee, San Diego, Juneau, Valdez (10); Providence, Huntington, Wilmington, Corpus Christi, Toledo, Guam (5).

C:m New York (70); St Ignace (5); Sturgeon Bay (4).

D:d Except Baltimore, Monterey, Moriches.

D:l CG Liaison Officer MILSEALIFTOCOND (Code N-7CG), CG Liaison Officer RSPA (DHM-22), CG Liaison Officer MARAD (MAR-720.2), CG Liaison Officer JUSMAGPHIL (1).

NOAA Fleet Inspection Officer (1).

LIFEBOAT, RESCUE BOAT, AND RIGID LIFERAFT EQUIPMENT FOR SHIPS EQUIPPED TO MEET 1983 SOLAS AMENDMENTS

ITEM	LIFEBOAT	RESCUE BOAT [1]	RIGID LIFERAFT [2]
Bailer	1	1	1 or 2 [19]
Bilge pump	1 [3]	1 [3]	None
Boathook	2	1	None
Bucket	2	1 [15]	None
Can opener	3 [4]	None	3 [4,8]
Compass	1	1	None
Cover, protecting	None [5]	None	None
Dipper	1	None	None
Ditty bag	None [6]	None	None
Drinking cup	1	None	1 [9]
EPIRB (FCC Class S)	2 per ship [7]	None	2 per ship [7]
Emergency provisions	10,000 kJ_8 per person	None	10,000 kJ_8 per person
Fire extinguisher	1 [9]	None	1 [9]
First-aid kit	1	1	1
Fishing kit	1 [8]	None	1 [8]
Flare - Hand red flare	12 [11] or 6 [10]	None	12 [11] or 6 [10]
Flare - Rocket parachute flare	12 [11] or 4 [10]	None	4 [10]
Flashlight	1	1	1
Hatchet	2	None	None
Heaving line	2	2	1
Instruction card	None	None	1
Jackknife	1	None	None
Knife	None	1 [16]	1 or 2 [19]

ITEM	LIFEBOAT	RESCUE BOAT [1]	RIGID LIFERAFT [2]
Ladder	1	None	1
Lighting system/Lantern	1	None	1
Mast and sail	None [6]	None	None
Mirror	2 or 1 [11]	None	2 or 1 [11]
Oars/oarlocks	1 unit [12]	1 unit	None
Paddle	None	None	2
Painter	2	1	1
Position-Indicating Light	1	1 [17]	1
Pump	None	1 [18]	None
Radar reflector	1	1	1
Rainwater collection equipment	1 [5,13]	None	None
Repair kit	None	1 [18]	None
Rudder and tiller	None [14]	None [14]	None
Sea anchor	1	1	2
Searchlight	1	1	None
Seasickness kit	1 per person	None	1 per person
Skates and fenders	1 set	None	None
Smoke signal	2	None	2 [10]
Sponge	None	2 [18]	2
Survival manual	1	None	1
Table of lifesaving signals	1	None	1
Thermal protective aid	10% x number of persons; 2 minimum	10% x number of persons; 2 minimum	10% x number of persons; 2 minimum
Tool kit	1 [6]	None	None
Towline	None	1	None

ITEM	LIFEBOAT	RESCUE BOAT [1]	RIGID LIFERAFT [2]
Two-way radiotelephone	3 per ship [7]	3 per ship [7]	3 per ship [7]
Water	3 liters per person	None	1.5 liters[8] per person
Whistle	1	1	1

[1] A rescue boat which is also one of the ship's lifeboats must carry the equipment listed in both the lifeboat and rescue boat columns. Where the quantities are different, the largest number in either column is the minimum quantity required. A lifeboat which is also approved as a rescue boat does not have to carry rescue boat equipment if it is not the ship's designated rescue boat.

[2] At time of publication, there were no rigid liferafts meeting the 1983 SOLAS Amendments, which had been approved by the Coast Guard. Liferafts equipped with all indicated equipment in the column are marked "SOLAS A PACK." Those with the indicated reductions for short international voyages are marked "SOLAS B PACK."

[3] Bilge pump not required for boats of self-bailing design. Each lifeboat with a capacity of 100 persons or more, must carry an additional bilge pump, or be equipped with a powered bilge pump.

[4] Can openers may be omitted if they are not required to open any of the containers carried as survival equipment.

[5] Approved partially enclosed lifeboats include a foldable canopy which must be maintained in serviceable condition. An open lifeboat voluntarily equipped to the 1983 SOLAS standards must also carry an approved protecting cover. The foldable canopy and protecting cover for these boats are required to include a means for collecting rainwater. No additional rainwater collection equipment is required.

[6] An open oar-propelled lifeboat voluntarily equipped to the 1983 SOLAS standards must also carry mast and sail, and a ditty bag. A tool kit is not required on an oar-propelled or hand-propelled lifeboat.

[7] See NVIC 9-91 for details and alternatives.

[8] Not required on ships in short international voyage service.

[9] Extinguisher Type B:C Size II. Alternatively 2 Type B:C Size I extinguishers may be carried.

[10] One-half of this quantity required on ships in short international voyage service.

[11] Larger number is current U.S. requirement which applies to U.S. vessels. Lower number is current SOLAS requirement. Coast Guard will accept Class S EPIRB carried or installed on board the lifeboat or liferaft as equivalent to the signalling devices required in excess of the SOLAS requirements. Lifeboats or liferafts equipped with Class S EPIRBs may carry the smaller number of other signalling devices.

[12] Oars not required in free-fall lifeboats.

[13] SOLAS requirement for this equipment on totally enclosed lifeboats is vague. SOLAS regulation III/41.7.5 requires that means shall be provided for the storage of collected rainwater, but means for collecting rainwater is explicitly required only for partially enclosed lifeboats. Coast Guard interpretation is that rainwater collection equipment is required on totally enclosed boats and is implied by the requirement to provide for the storage of collected rainwater. As an alternative to rainwater collection equipment, Coast Guard will accept an approved hand-operated reverse osmosis desalinator.

[14] An open lifeboat voluntarily equipped to the 1983 SOLAS standards must also carry a rudder and tiller. Totally enclosed and partially enclosed lifeboats are equipped with permanently installed steering systems. Rescue boats also have permanently installed steering systems, or else are powered by outboard motors which incorporate rudder and tiller functions.

[15] Required only in a rigid rescue boat.

[16] A hatchet may be carried instead of a knife in a rigid rescue boat.

[17] Instead of a position-indicating light, a rescue boat which is not also a lifeboat, should be equipped with navigation lights in accordance with the 1972 COLREGS.

[18] Required only in an inflated or rigid/inflated rescue boat.

[19] Larger number required for liferafts with a capacity of 13 persons or more.

LIFEBOAT EQUIPMENT FOR U.S. REGISTERED VESSELS EQUIPPED TO REQUIREMENTS IN EFFECT PRIOR TO THE 1983 SOLAS AMENDMENTS

ITEM	Ocean and Coastwise			Great Lakes		Lakes, bays, sounds, and rivers
	All except MODUs and seagoing barges	Mobile Offshore Drilling Units	Seagoing barges	Passenger vessels and vessels carrying cargo	Other vessels	
Bailer	1	1	None	1	None	None
Bilge pump	1 [1]	1 [1]	None	None	None	None
Boathook	2	2	2	1	1	1
Bucket	2	2	1	1	1	1
Compass	1	1	None	None	None	None
Cover, protecting	1 [2]	None	None	None	None	None
Ditty bag	1	None	None	None	None	None
Drinking cup	1	1	1	None	None	None
EPIRB (FCC Class S)	2 per ship [3]	None	None	None	None	None
Fire extinguisher	2 [4]	2 [4]	2 [4]	2 [4]	2 [4]	2 [4]
First-aid kit	1	1	None	None	None	None
Fishing kit	1	1	None	None	None	None
Flare - Hand red flare	12	12	None	6	None	None
Flare - Rocket parachute flare	12 [5]	12	None	6	None	None
Flashlight	1	1	None	1	None	None
Hard bread	2 lb per person [6]	2 lb per person [6,7]	None	None	None	None
Hatchet	2	2	None	2	1	1
Heaving line	2	2	None	None	None	None

ITEM	Ocean and Coastwise			Great Lakes		Lakes, bays, sounds, and rivers
	All except MODUs and seagoing barges	Mobile Offshore Drilling Units	Seagoing barges	Passenger vessels and vessels carrying cargo	Other vessels	
Jackknife	1	1	1	None	None	None
Ladder	1	1	None	None	None	None
Lifejacket	2	2	2	2	2	2
Lifeline	1	1	1	1	1	1
Lighting system/Lantern	1	1	1	1	1	1
Locker	1	1	None	1	None	None
Mast and sail	1 [8]	None	None	None	None	None
Milk	1 lb per person	1 lb per person [7]	None	None	None	None
Mirror	2	2	None	None	None	None
Oars/oarlocks	1 unit	1 unit [7]	1 unit	1 unit	1 unit	1 unit
Painter	2	2	1	2	1	1
Plug	1	1	1	1	1	1
Rudder and tiller	1	1	1	1	1	None
Sea anchor	1	1	None	1	None	None
Searchlight	None [9]	None	None	None	None	None
Smoke signal	2	2	None	None	None	None
Storm oil	1 gal	1 gal [7]	None	1 gal	None	None
Table of lifesaving signals	1	1	None	None	None	None
Tool kit	1 [4]	1 [4]	1 [4]	1 [4]	1 [4]	1 [4]

ITEM	Ocean and Coastwise			Great Lakes		Lakes, bays, sounds, and rivers
	All except MODUs and seagoing barges	Mobile Offshore Drilling Units	Seagoing barges	Passenger vessels and vessels carrying cargo	Other vessels	
Two-way radiotelephone	3 per ship[3]	None	None	None	None	None
Water	3 quarts per person	3 quarts per person	1 quart per person	None	None	None
Whistle	1	1	None	None	None	None

[1] Each lifeboat with a capacity of 100 persons or more, must carry an additional bilge pump, or be equipped with a powered bilge pump.

[2] Not required for totally enclosed lifeboats.

[3] Applies only to SOLAS Convention ships. See NVIC 9-91 for details and alternatives.

[4] Required for motor lifeboats only. Fire extinguishers may be of any approved size.

[5] Vessels in coastwise service need only carry 12 flares for each 5 lifeboats or fraction thereof.

[6] One unit of lifeboat provisions consists of 3600 Calories (equivalent of 2 lb of hard bread).

[7] Required only on MODUs in international service.

[8] Oar-propelled lifeboats only.

[9] One searchlight required only on passenger ship emergency lifeboats.

LIFEBOAT, RESCUE BOAT, AND RIGID LIFERAFT EQUIPMENT; DESCRIPTION, RECOMMENDATIONS, AND INSPECTION GUIDELINES

Because equipment quantities and stowage arrangements may vary slightly bout to boat, the Coast Guard recommends: that a chart posted in a prominent location inside the bout which lists the equipment and the quantity of each required in the boot. A diagram of the stowage location of each item should be included

---

Bailer. The bailer must be buoyant, except for a bailer with a lanyard used in the lifeboat or rescue boat before July 1, 1986 and continued in use thereafter.

Bilge pump The bilge pump must be approved under the 160.044/. . . approval series. Bilge pumps in lifeboats approved under the 1983 SOLAS Amendments must be installed in the lifeboat in a ready to use condition. Ready-to-use installation is recommended, but not required, in other lifeboats.

1. A size 3 bilge pump may be used in any lifeboat.

2. Size 2 bilge pumps are intended for lifeboats of less than 70 persons capacity.

3. No approved size 1 bilge pumps have been made since 1967. Any still in good and serviceable condition may be used in lifeboats of less than 330 cubic foot capacity.

INSPECTION: The bilge pump should be visually inspected to confirm parts are in good condition, especially rubber parts and mounting arrangements. The pump should be operated to show that it pumps water efficiently.

Boathook Each boathook should be kept free and ready for use at all times. The recommended style is a single hook and ball point, however, a different style may be used on an inflated rescue boat if intended to minimize the possibility of damage to an inflatable hull. The handle should be at least 2.4 m (8 ft) long, except that for boats 9 m (30 ft) long or longer, the handle should be at least 3.6 m (12 ft) long. Handles need to be at least 38 mm (1½ in) diameter in order to be properly gripped.

Bucket Buckets should be of corrosion resistant material and have a nominal capacity of at least 7.5 liters (2 gallons). A lanyard at least 2 m (6 ft) long and 4 mm (5/32 in) in diameter, should be attached to the bail of each bucket.

Can opener Each can opener must be suitable for opening the cans carried in the lifeboat or liferaft. The can opener in an approved jackknife counts toward this requirement. If the boat carries no cans which require the use of can openers, the can openers need not be carried.

Compass The compass and its mounting arrangement are Coast Guard approved under approval series 160.014/. . . The compass must either be in an illuminated binnacle or have a luminous dial. The compass in totally enclosed lifeboats must be permanently mounted at the steering station. Permanent mounting at the steering station is also recommended for partially enclosed lifeboats, but a removable compass may be used. The mounting base for a removable compass must be installed in a location where the compass will be in sight of the helmsman.

INSPECTION: The compass bowl should be filled with fluid and the card free to rotate. Markings should be legible. If the boat is operated in the course of an inspection, the compass reading should be compared with a few known bearings. If large errors are evident, the compensating mechanism should be used to reduce the errors, or a compass deviation card should be prepared and mounted on or near the compass.

Cover, Protecting. Protecting covers for open lifeboats are approved under approval series 160.065/. . . The protecting cover for a partially enclosed lifeboat is approved as a component of the lifeboat. Protecting covers on SOLAS ship lifeboats must be equipped with retroreflective material. NVIC 1-87 (reference (e)) describes acceptable retroreflective material marking patterns.

NOTE: These protecting covers provide shelter for persons in lifeboats. Any cover used on the lifeboat while it is stowed in the davits is used at the option of the operator, and is not regulated by the Coast Guard. Any such cover must be able to be quickly removed in order to make the boat ready for launching in an emergency.

INSPECTION: The cover should be free of unrepaired rips and holes. All framework for erecting the cover should be complete and suitable for its intended purpose. The rainwater collection device in a protecting cover should be in good condition and have a length of tubing sufficient to reach the water storage tanks.

Dipper. Each dipper must be of corrosion resistant material. A lanyard approximately 1 m (3 ft) long or longer should be attached to the dipper. The dipper must be suitable for dipping collected water from the lifeboat's water storage tanks.

Ditty bag. The ditty bag should be canvas or equivalent material, and must contain a sailmaker's palm, needles for repairing a sail, sail twine, marline, and marline spike.

Drinking cup. The drinking cup must be of corrosion resistant material and graduated with volume markings in milliliters or ounces, or both. A lanyard approximately 1 m (3 ft) long or longer should be attached to the drinking cup.

EPIRB. An EPIRB carried as boat equipment must be either a Class S EPIRB, or a Category 2 Satellite EPIRB. The EPIRB may be carried in an equipment locker, but the preferred stowage arrangement is mounting in a position where it is ready to be used. See NVIC 9-91 for complete details on radio lifesaving equipment.

1. The Class S EPIRB must be a type which meets the regulations of the Federal Communications Commission at 47 CFR 80.1059.

2. The Category 2 Satellite EPIRB must be a type which meets the regulations of the Federal Communications Commission at 47 CFR 80.1061.

INSPECTION: Each EPIRB must be tested monthly using the integrated test circuit and output indicator to determine that it is operative, and by checking the battery expiration date. EPIRB batteries must be replaced when their expiration date has passed.

Emergency Provisions. One lifeboat ration is required for each person the boat is equipped to accommodate. One ration consists of 10,000 kJ (2400 Calories) of approved emergency provisions. Emergency provisions are Coast Guard approved under approval series 160.046/. . . (Some older

emergency provisions may have approval numbers in the 160.026/. series, which may also be used if not out of date.) Some emergency provisions will be packed in sizes other than 10,000 kJ, so total kJ counts rather than package counts, should be used to determine the quantity of emergency provisions required.

INSPECTION: Canned emergency provisions can be checked only by visual examination of the condition of the container. Emergency provisions in vacuum packed flexible pouches should have packaging material tightly compressed against the contents. Loose contents indicate a loss of the vacuum seal, and such pouches should be replaced. Non-vacuum packed pouches should be squeezed to check for air leakage. Approved emergency provisions are marked with a packing date, and some may have an expiration date. All packages past their expiration date should be replaced during the annual stripping and cleaning of the lifeboat or rigid liferaft. Packages without an expiration date should be replaced if they are more than five years old.

Fire extinguisher. Each fire extinguisher must be listed by an independent laboratory and be marked with a Coast Guard approval number in the 162.028/. . . approval series.

INSPECTION: Fire extinguishers must be inspected periodically as a condition of their independent laboratory listing. Inspection instructions are on the extinguisher label.

First-aid kit The first-aid kit in a lifeboat and in a rescue boat must be approved under the 160.041/. . . approval series. The first-aid kit in a rigid liferaft must be approved under the 160.054/. . . approval series.

INSPECTION: The required contents of an approved first aid kit are listed in the instructions provided with the kit. These contents may vary depending upon the age of the kit and the manufacturer. Various substitutions have been approved since the Coast Guard approval regulations were first published. Each unit carton must be in an intact waterproof package. If it is not, it must be replaced with a waterproof unit from a supplier of approved first aid kits. Standard cellophane-wrapped unit cartons are not waterproof. Any dated medications in the kit must be replaced during the annual stripping and cleaning of the lifeboat or rigid liferaft if their expiration date has passed.

Fishing kit The fishing kit must be approved under the 160.061/. . . approval series.

INSPECTION: The fishing kit should not be opened for inspection. If the sealed package is intact, and the package markings legible, the fishing kit is acceptable for continued use.

Flare - Hand red flare Hand red flares to SOLAS standards are Coast Guard approved under the 160.121/. . . approval series. (These flares may also carry approval numbers in the 160.021/. . . series.) All boats and liferafts on SOLAS ships, regardless of the age of the vessel, must carry flares approved under the 160.121/. . . series. Boats and liferafts on other vessels may continue to carry hand flares approved only under the 160.021/. . . approval series.

INSPECTION: Approved flares are marked with an expiration date. All flares past their expiration date must be replaced during the annual stripping and cleaning of the lifeboat or rigid liferaft.

Flare - Rocket parachute flare Rocket parachute flares to SOLAS standards are Coast Guard approved under the 160.136/. approval series. (These flares may also carry approval numbers in the 160.036/. . . series.) All boats and liferafts on SOLAS ships, regardless of the age of the vessel, must carry flares

approved under the 160.136/. series. Boats and liferafts on other vessels may continue to carry rocket parachute flares approved only under the 160.036/. . . approval series.

INSPECTION: Approved flares are marked with an expiration date. All flares past their expiration date must be replaced during the annual stripping and cleaning of the lifeboat or rigid liferaft.

Flashlight. The flashlight must be a Type I or Type III constructed and marked in accordance with ASTM F1014. Three spare batteries and two spare bulbs, stored in a watertight container, must be provided for each flashlight. Three cell size flashlights bearing Coast Guard approval numbers in the 160.018/. . . series may continue to be used as long as they are in good and serviceable condition.

INSPECTION: Flashlight batteries must be replaced at each annual stripping and cleaning of the lifeboat or rigid liferaft, unless they are marked with an expiration date. Batteries with an expiration date must be replaced if their expiration date has passed.

Hard bread. Hard bread provisions have evolved into modern approved emergency provisions (see above). Lifeboats required to carry two pounds of hard bread per person should carry the equivalent in approved emergency provisions, instead. The equivalent of two pounds of hard bread is 15,000 kJ (3600 Calories) in approved emergency rations. Note that this is 50% more that the requirements under the 1983 SOLAS Amendments. If emergency provisions are also substituted for milk, there will be more than twice the quantity of emergency provisions carried as compared to the 1983 SOLAS Amendment requirements. Substitutions should not be made for the lesser quantity, unless the lifeboat is completely equipped to the 1983 SOLAS standard.

Hatchet. Hatchets are Coast Guard approved under approval series 160.013/. . . Hatchets should be stowed in brackets near the release hooks. On boats with only one release hook, the second hatchet should be stowed near the towing point. Each hatchet should be secured to the lifeboat by a 4 mm (5/32 in) minimum diameter lanyard long enough to allow a hatchet to reach the falls and painter.

INSPECTION: Hatchets should be reasonably free of rust. The edge should be sufficiently sharp to cut wood cleanly from a board when the hatchet strikes the board in a direction nearly parallel to the grain.

Heaving line. Each heaving line must be buoyant and have a buoyant rescue quoit attached to one end. The heaving line must be at least 8 mm (5/16 in) in diameter, and at least 30 m (100 ft) long.

Instruction card. The instruction card must be printed on plastic or other stiff waterproof material, and must be suspended from the inside canopy. The instruction card must contain information on the immediate steps to be taken by survivors upon entering the liferaft.

Jackknife. The jackknife is approved under the 160.043/. approval series, and must be secured to the boat by a lanyard.

INSPECTION: Jackknives should be free of rust. The edge of the blade should be sufficiently sharp to shave wood cleanly from a hardwood board.

Knife. The knife must be of the non-folding type with a buoyant handle. The knife in an inflated or rigid/inflated rescue boat must be a type designed to minimize the possibility of damage to the fabric portions of the hull.

1. The knife for a rigid liferaft must be secured to the liferaft by a lanyard and stowed in a pocket on the exterior of the canopy near the point where the painter is attached to the liferaft. The lanyard must be long enough to permit the knife to be used to cut the painter.

2. An approved jackknife secured by a lanyard may be substituted for the knife required in a rescue boat or for the second knife required on a liferaft equipped for 13 or more persons.

Ladder. The boarding ladder for a lifeboat must be capable of being used on either side of the boat to enable persons in the water to board the boat. A boarding ladder for a rigid liferaft is used at any entrance without a boarding ramp. The ladder must be a permanently installed rigid type or a flexible ladder kept rigged ready for use. The flexible ladder may be kept rigged over the side, so that it is immediately ready for use. The lowest step of the ladder must be at least 0.4 m (15-3/4 in) below the light waterline of the lifeboat or liferaft.

The recommended ladder is a short pilot ladder or rope embarkation ladder approved under one of the following approval series:

160.017/. . .; 160.117/. . .; or 163.003/. .

Another acceptable configuration for a flexible ladder is as follows:

1. The ladder should have flat steps with handhold openings in them.

2. Each step should have a bare wood surface, or a nonskid surface.

3. The steps of the ladder should be spaced approximately 0.3 m (12 in) apart.

4. Each suspension member should be at least 15 mm (5/8 in) diameter manila rope, or another material provided it is at least 15 mm in diameter and has a breaking strength of at least 17.6 kN (3,960 lb). Synthetic rope should not be used unless it is ultraviolet light resistant, or is pigmented in a dark color.

INSPECTION. Boarding ladders should be carefully inspected for condition, especially those which are assembled with tarred marline which can loosen as it dries out. Steps should be securely attached to side ropes, and there should be no broken or cracked steps.

Lifejacket. Each lifejacket must be approved under approval series 160.002/. . ., 160.005/. . ., or 160.055/. . . After July 1, 1986, each new lifejacket on a SOLAS ship, including those stowed in the lifeboats, must meet the 1983 SOLAS Amendment requirements, as indicated by an approval number in the 160.155/. . . series.

Lifeline. Each lifeboat must have a lifeline secured near the gunwale. The lifeline must be of a material and secured in a manner similar to that which was approved as the lifeboat's original equipment.

Lighting system/Lantern. Each totally enclosed and partially enclosed lifeboat, and each rigid liferaft must have an operating interior lighting system that is approved as a component of the lifeboat or liferaft.

Open lifeboats must carry a lantern containing sufficient oil to burn for at least 9 hours. The lantern must be kept ready for use. Each lifeboat equipped with a lantern must also carry:

1. At least 100 wooden friction matches with striking surface, in a watertight container.

2. A quantity of at least 0.94 liter (1 quart) of illuminating oil in a durable container in addition to the oil provided in the lantern.

Locker. The locker must be suitable for the storage and preservation of the small items of equipment.

Mast and sail. The mast and sail unit must be substantially equivalent to that originally specified by the lifeboat manufacturer and approved by the Coast Guard. The mast and sail unit normally consists of:

1. One standing lug sail of good quality canvas or equivalent material, international orange in color.

2. Spars.

3. Rigging at least 4.75 mm (3/16 in) in diameter of either galvanized or stainless steel wire rope.

4. Cover or storage container.

Milk. The milk required is condensed milk in cans. The Coast Guard recommends operators substitute additional emergency rations for the required milk. Substitution should be on the basis of 5800 kJ of emergency rations per lb of milk required (1400 Calories/lb).

INSPECTION. Unless otherwise indicated on its container, canned condensed milk is not intended for long term storage, and should be replaced each year during the annual stripping and cleaning of the lifeboat.

Mirror. The signalling mirror must be approved under the 160.020/. . . approval series.

INSPECTION: The signalling mirror package should not be opened for inspection. If the sealed package is intact, and the package markings legible, the mirror is acceptable for continued use.

Oars/oarlocks. Each unit of oars must consist of sufficient buoyant oars or paddles to make headway in calm seas.

1. The number and type of oars required for a motor lifeboat is determined during the manufacturer's approval testing. If not specified on an equipment chart in the boat, the number should be specified in the operation or maintenance manual provided by the manufacturer with the boat. If not specified by the manufacturer, the complement of oars for motor lifeboats and hand propelled lifeboats is four rowing oars and one steering oar of the length specified in the following table.

The following table specifies the number of oars for oar propelled lifeboats:

Length of lifeboat in m (ft)		Number of oars for oar-propelled boats		Length of oars in m (ft)	
Over	Not over	Rowing	Steering	Rowing	Steering
	4.5 (15)	4	1	2.4 (8)	2.7 (9)
4.5 (15)	5.8 (19)	6	1	3.0 (10)	3.3 (11)
5.8 (19)	6.4 (21)	6	1	3.3 (11)	3.6 (12)
6.4 (21)	7.0 (23)	6	1	3.6 (12)	4.0 (13)
7.0 (23)	7.6 (25)	8	1	4.0 (13)	4.3 (14)
7.6 (25)	8.2 (27)	8	1	4.3 (14)	4.5 (15)
8.2 (27)		8	1	4.5 (15)	4.8 (16)

2. On small motor lifeboats, the manufacturer may be able to meet the requirement with buoyant paddles, rather than conventional oars.

3. An oarlock or equivalent device, either permanently installed or attached to the boat by a lanyard or chain, must be provided for each oar. Removable oarlocks must be attached to the boat by lanyards or chains. SOLAS describes these as "hole pins, crutches, or equivalent arrangements." In some cases, this requirement might be met by oar ports in the canopy of the boat. If paddles are provided instead of oars, no oarlocks are needed.

4. A rescue boat accepted under 46 CFR Subpart 160.056 is not required to carry oars if the boat is equipped with a motor and carries two paddles.

Paddle. Each paddle must be buoyant.

Painter. If the painter is of synthetic material, it must be of a dark color or of a type certified to be resistant to deterioration from ultraviolet light.

1. Lifeboat painters. Painters must be of a length equal to not less than twice the distance from the stowage position of the lifeboat to the waterline in the lightest seagoing condition, or 15 m (50 ft), whichever is the greater. One painter must be attached to a painter release device capable of quickly releasing the painter when the painter is being used to tow the boat. This painter shall be placed at the forward end of the lifeboat. The other painter shall be firmly secured at or near the bow of the lifeboat ready for use. The painter should have a strength of at least 34kN (7,700lb).

2. Rescue boat (SOLAS) painters. The painter must be of a sufficient length to properly launch and recover the rescue boat. The painter must be attached to the boat's painter release device and shall be placed at the forward end of the rescue boat. The painter should have a strength of at least 34kN (7,700lb).

3. Rescue boat (Subpart 160.056) painters. Each painter for a rescue boat meeting 46 CFR Subpart 160.056 must be firmly secured at or near the bow ready for use. The painter

must be at least 9 m (30 ft.) long, at least 9.5 mm (3, in) diameter, and have a breaking strength of at least 9.5 kN (1,220 lb).

4. Liferaft painters. The painter for a rigid liferaft must be of a length equal to not less than two times the distance from the stowage position of the liferaft to the waterline in the lightest seagoing condition or 15 m (50 ft), whichever is the greater. The painter must have a breaking strength of not less than 10.2 kN (2,250 lb) for liferafts approved for nine persons or more, and not less than 7.5 kN (1,687 lb) for any other liferaft. A float free link meeting 46 CFR Subpart 160.073 must be secured to the end of the painter that is attached to the vessel. The breaking strength of the float free link must be between 1800 N (400 and 2400 N (536 lb).

Position-Indicating Light. The position indicating light provided with a Coast Guard approved lifeboat or rigid liferaft meets SOLAS requirements and may be used as long as it is maintained in good and serviceable condition, regardless of whether or not Coast Guard approval marking is evident. Any position-indicating light added to a lifeboat or rigid liferaft must be approved under the 161.101/. . approval series.

Plug. The automatic drain required in the lifeboat must be provided with a cap or plug attached to the lifeboat with a suitable chain.

Pump. The pump or bellows must be manually operated and arranged to be capable of inflating any part of the inflatable structure of the rescue boat.

Radar reflector. As a minimum, the radar reflector must be certified by its manufacturer to have a detection range of at least 4 mm in calm sea conditions. Commandant (G-MVI-3) can provide a list of manufacturers who have made this certification (see NVIC page 1 heading for address and telephone). The radar reflector must also have mounting provisions to install it on the boat in its proper orientation.

Higher performing radar reflectors are recommended but not presently required. Such radar reflectors should have an apparent cross sectional area of at least $10 m^2$ ($107 ft^2$) over 65% of the horizontal plane, using a radar system operating in the 9300-9500 MHz band.

Rainwater collection equipment. SOLAS requires that "means shall be provided for the stowage of collected rainwater." Each lifeboat has at least one watertight compartment arranged to hold collected water. In order to meet the SOLAS requirement, the boat must also have a means to collect the rainwater and drain it to the watertight compartment. This may be incorporated into the design of the canopy, or may be a separate device to be mounted outside the lifeboat, with a drain tube leading to the compartment. In any case, the device should have a projected horizontal area of at least a $1 m^2$ ($10.7 ft^2$) collection area, and be designed to function unattended. Alternatively, a reverse osmosis desalinator approved by the Coast Guard under approval series 160.058/. . . may be substituted for the rainwater collection device as an acceptable equivalent. Note that other types of approved desalinators are not acceptable alternatives to rainwater collection equipment. This same device may be counted as a substitution for some of the emergency drinking water (see "Water").

Repair kit. The repair kit for inflated and rigid/inflated rescue boats must contain at least -

1. Six sealing clamps;

2. Five 50 mm (2 in) diameter tube patches;

3. Roughing tool; and

4. Cement compatible with the tube fabric. The cement must have an expiration date on its container that is not more than 24 months after the date of manufacture of the cement.

INSPECTION. The cement must be replaced during the annual stripping and cleaning of an inflatable or rigid/inflatable rescue boat, if the expiration date of the cement has passed.

Rudder and tiller. Lifeboats with a removable rudder and tiller must have the rudder and tiller stowed in the lifeboat ready to be set in place once the boat is launched. The rudder and tiller must be as specified by the manufacturer for the approved lifeboat.

Sea anchor.

1. Lifeboat sea anchor. The sea anchor is Coast Guard approved under approval series 160.019/. . . It is a type designed to accept a storm oil distribution can, but storm oil is not required on lifeboats equipped to the 1983 SOLAS Amendments. The sea anchor must be on a shock-resistant hawser (normally nylon) and must be equipped with a tripping line which provides a firm hand grip when wet. The hawser should be at least 10 m (33 ft) long.

2. Liferaft sea anchors. On each rigid liferaft, one sea anchor must be permanently attached to the liferaft in such a way that when the liferaft is waterborne, the sea anchor will cause the liferaft to lie oriented to the wind in the most stable manner. The second sea anchor must be stowed in the rigid liferaft as a spare. Each sea anchor on a rigid liferaft must be fitted with a swivel at each end of the line and must be of a type that is unlikely to turn inside-out between its shroud lines. The sea anchors must be as specified by the liferaft manufacturer and accepted by the Coast Guard when the liferaft is approved.

3. Rescue boat sea anchor. If the rescue boat is also one of the ship's lifeboats, the sea anchor must be as described under "lifeboat sea anchor." A rescue boat which is not a lifeboat may carry a Coast Guard approved sea anchor under approval series 160.019/. ., or a sea anchor as specified by the boat manufacturer and accepted by the Coast Guard when the rescue boat is approved. The sea anchor must be on a shock-resistant hawser (normally nylon) and must be equipped with a tripping line which provides a firm hand grip when wet. The hawser should be at least 10 m (33 ft) long.

Searchlight. Each lifeboat built to the 1983 SOLAS Amendments (approval series 160.135/. . .) includes a searchlight which the lifeboat manufacturer has determined to be in compliance with the SOLAS requirements. If the searchlight must be replaced, it should be replaced with the same make and model, or else with a searchlight certified by its manufacturer to meet ASTM F1003. For lifeboats built before July 1, 1986, a searchlight formerly approved under the 161.006/. approval series is also acceptable.

1. The searchlight must be permanently mounted on the canopy, or must have a stanchion type or collapsible type portable mounting on the canopy. The mounting must be located to enable operation of the searchlight by the boat operator.

2. The searchlight's power source must be capable of operating the light without charging or recharging, for not less than 3 hours continuous operation, or 6 hours total "on" time in cycles consisting of 15 minutes on and 5 minutes off.
3. If the power source is an engine starting battery, there must be sufficient battery capacity to start the engine at the end of either operating period specified in the preceding paragraph.

4. The power source must be connected to the searchlight using watertight electrical fittings meeting 46 CFR Subpart 111.75.

5. The lifeboat must carry two spare bulbs.

Seasickness kit Each seasickness kit must be in a waterproof package and must include one waterproof seasickness bag, six doses of anti-seasickness medication, and instructions for using the medication. In totally enclosed and partially enclosed lifeboats, each seasickness kit should be stowed within reach of the seat it is intended for. Any medication considered safe and effective for motion sickness by the U.S. Food and Drug Administration is acceptable, but the following are recommended:

1. A combination of 25 mg of promethazine hydrochloride and 25 mg of ephedrine sulfate comprising a single dose, to be taken at six-hour intervals.

2. A transdermal patch containing scopolamine suitable for at least 2 days use. One patch is considered to comprise six doses for the purposes of this requirement.

INSPECTION: If their expiration date has passed, dated medications in the kit must be replaced during the annual stripping and cleaning of the lifeboat or rigid liferaft.

Skates and fenders Any skates and fenders must be as specified by the lifeboat manufacturer to facilitate launching and prevent damage to a lifeboat intended for launching down the side of a vessel.

Smoke signal Smoke signals to SOLAS standards are Coast Guard approved under the 160.122/. . . approval series. (These signals may also carry approval numbers in the 160.022/. series.) All boats and liferafts on SOLAS ships, regardless of the age of the vessel, must carry smoke signals approved under the 160.122/. . . series. Boats and liferafts on other vessels may continue to carry smoke signals approved only under the 160.022/. • approval series.

INSPECTION: Approved smoke signals are marked with an expiration date. All signals past their expiration date must be replaced during the annual stripping and cleaning of the lifeboat or rigid liferaft.

Sponge Each sponge should have a volume of at least 1000 cm^3 (62 in^3) when fully expanded.

Storm oil At least 3.75. liters (1 U.S. gallon) of storm oil must be carried, consisting of vegetable, fish, or animal oil. The storm oil must be in a container suitable for attachment to the sea anchor and designed to distribute a controlled amount of oil on the water.

Survival manual The manual is normally provided by the boat or liferaft manufacturer, printed on waterproof paper or plastic. The manual must be in English, but additional languages may be included. Manuals should be substantially in compliance with IMO Resolution A.657(16) (Enclosure (4) to this NVIC).

Table of lifesaving signals The table of lifesaving signals must be those in the current version of Regulation V/16 of the SOLAS Convention, printed on a waterproof card.

Thermal protective aid Each thermal protective aid must be approved under the 160.174/. . . approval series.

Tool kit The tool kit must contain sufficient tools for minor adjustments to the engine and its accessories. As a minimum, the tool kit must include:

1. A container large enough to hold all the items in the kit.

2. One 340 g (12 oz) ball peen hammer.

3. One screwdriver with a 150 mm (6 in) flat blade.

4. One pair of 200 mm (8 in) slip-joint pliers.

5. One 200 mm (8 in) adjustable wrench.

Towline The towline for a rescue boat meeting 46 CFR 160.056 must be at least the same size and length as its painter. The towline for each other rescue boat and lifeboat must be buoyant, not less than 50 m (164 ft) in length, and must have a breaking strength of not less than 13 kN (3,000 lb).

Two-way radiotelephone apparatus Three or more two-way radiotelephone apparatus for survival craft are required on the ship, but these do not necessarily have to be carried in the lifeboats or rescue boats. See NVIC 9-91 for more details.

Water. Emergency drinking water is Coast Guard approved under approval series 160.026/. . . Up to one-third of the required water may be replaced by desalting apparatus capable of producing an equal amount of fresh water in 2 days. Desalting apparatus is Coast Guard approved under approval series 160.058/.

> INSPECTION: Canned water should be checked for vacuum by the "slap test." Any clicking sound is evidence of an acceptable vacuum. Doubtful cans can be checked by opening some of them. If a hiss is heard consistently as these cans are opened, the rest of the doubtful cans may be accepted, and only the open cans replaced. Water in flexible pouches should be checked by squeezing the pouch. Any leaking water or air is cause for rejection. All approved water containers are marked with a packing date, and some may have an expiration date. All containers past their expiration date should be replaced during the annual stripping and cleaning of the lifeboat or rigid liferaft. Containers without an expiration date should be replaced if they are more than five years old.

Whistle. The whistle must be a ball-type or multi-tone whistle of corrosion-resistant construction, attached to a lanyard at least 0.9 m (3 ft) long. An equivalent sound signal, such as a horn, may be provided instead.

RESOLUTION A.657(16)

Adapted an 19 October 1989
Agenda item 10

INSTRUCTIONS FOR ACTION IN SURVIVAL CRAFT

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety.

NOTING regulations 111/38.5.1.22 and .111/38.5.1.23 of the International Convention for the Safety of Life at Sea, 1974, as amended, concerning instructions on how to survive and instructions for immediate action in liferafts, regulation 111/41.8.4 concerning carriage of a survival manual in lifeboats and regulation 111151.15 concerning the requirement to explain, in the training manual, the best use of survival craft facilities in order to survive,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-seventh session.

1. ADOPTS the Liferaft Survival Instructions set out in Annex. 1 to the present resolution;

2. ADOPTS ALSO the list of contents for the lifeboat survival instructions or manual set out in Annex 2 to the present resolution;

3. INVITES Contracting Governments to the International Convention for the Safety of Life at Sea, 1974, as amended, to include in the normal equipment of every liferaft and in the training manual the Liferaft Survival Instructions set Out in Annex 1 to the present resolution, and to include in every lifeboat and in the training manual, lifeboat survival instructions based on the list of contents set out in Annex 2 to the present resolution;

4. REVOKES resolutions A.181 (VI) and A.216(VII).

ANNEX 1

LIFERAFT SURVIVAL INSTRUCTIONS

Part A

INSTRUCTIONS FOR IMMEDIATE ACTION IN A LIFERAFT

The instructions concerning immediate action upon entering the liferaft should be written in easily legible type on waterproof material, and displayed so as to be easily seen by a person entering the liferaft. The instructions should be written in one of the official languages of the Organization. in addition to the official language of the country.

1 Cut painter and get clear of ship.
2 Look for and pick up other survivors.
3 Ensure sea-anchor streamed when clear of ship.
4 Close up entrances.
5 Read survival instructions.

Part B

INSTRUCTIONS ON HOW TO SURVIVE IN A LIFERAFT

1 Identify person in charge of liferaft.

2 Post a look-out.

3 Open equipment pack.

4 Issue anti-seasickness medicine and seasickness bags.

5 Dry liferaft floor and inflate. if appropriate.

6 Administer first aid. if appropriate.

7 Manoeuvre towards other liferafts. secure liferafts together and distribute survivors and equipment between survival craft.

8 Arrange watches and duties.

9 Check liferaft for correct operation and any damage and repair as appropriate (ventilate if CO_2 leaking into liferaft).

10 Check functioning of canopy light and if possible conserve power during daylight.

11 Adjust canopy openings to give protection from weather or ventilate the liferaft as appropriate.

12 Prepare and use detection equipment including radio equipment.

13 Gather up any useful floating objects.

14 Protect against heat, cold and wet conditions.

15 Decide on food and water rations.

16 Take measures to maintain morale.

17 Make sanitary arrangements to keep liferaft habitable.

18 Maintain liferaft including topping up of buoyancy tubes and canopy supports.

19 Make proper use of available survival equipment.

20 Prepare action for:

.1 arrival of rescue units;

.2 being taken in tow;

.3 rescue by helicopter; and

.4 landing and beaching.

Notes: 1 The order in which the above instructions are followed will depend on the particular circumstances.

2 The above instructions can stand alone or can be amplified as appropriate to the satisfaction of the Administration.

ANNEX 2

LIST OF CONTENTS FOR THE
LIFEBOAT SURVIVAL INSTRUCTIONS OR MANUAL

Contents

1 The person in charge of the lifeboat shall immediately. after clearing the ship. organize the following:

.1 look for and pick up other survivors from the water;

.2 marshal liferafts;

.3 secure survival craft together, distribute survivors and equipment between survival craft;

.4 stream sea-anchor; and

.5 if appropriate. rig exposure cover or foldable canopy.

2 Post a look-out.

3 Issue anti-seasickness medicine and seasickness bags.

4 Administer first aid, if appropriate.

5 Arrange watches and duties.

6 Prepare and use detection equipment including radio equipment.

7 Gather up any useful floating objects.

8 Protect against heat, cold and wet conditions.

9 Decide on food and water rations.

10 Take measures to maintain morale.

11 Make sanitary arrangements to keep lifeboat habitable.

12 Prepare for onset of adverse weather.

13 Make proper use of survival equipment.

14 Prepare action for:

.1 arrival of rescue units;

.2 being taken in tow;

.3 rescue by helicopter; and

.4 landing and beaching.

Note: The above list of contents should be used to compile a lifeboat survival manual to the satisfaction of the Administration.