

## SAFETY STANDARD FOR WORK OVER OR NEAR WATER 26000ESS-306

### 1.0. PURPOSE

Establish safety standard for work or activities carried out over or near water where the danger of drowning exists.

### 2.0. BACKGROUND

In the Panama Canal Authority (ACP) daily operations are carried out over or near water. Reference standard does not exist therefore some units have developed safety procedures for this type of work.

### 3.0. SCOPE

This Standard applies to all Panama Canal Authority personnel, contractors, third parties or visitors carrying out work or activities in ACP's area of responsibility.

### 4.0. LEGAL FOUNDATION

This Standard is established pursuant to Agreement No. 12 of the Board of Directors of the Panama Canal Authority (ACP), Safety and Health Regulations, Chapter I, Article 3, numeral 3.

### 5.0. DEFINITIONS

For the purpose of this Standard, the following definitions apply:

**5.1** PFD: Personal Flotation Device or life preservers. Shall be the type specified by the Marine Safety Branch of the Safety Division.

**5.2** ESSM: Marine Safety Branch of the Safety Division.

**5.3** SOLAS: International Convention for the Safety Human Life at Sea. Adopted in 1974, entry into force in 1980.

**5.4** Inflatable device: device used for floating, stored deflated until its usage, does not requires rigid chambers and gas lines.

**5.5** IMO: International Maritime Organization.

**5.6** MSC: Maritime Safety Committee, safety matters technical body.

**5.7** FEDERAL STANDARD 595B: 5 digits color comparison chart used in all activities by the United States Federal Government.

**5.8** Work over or near water: Work or activity (including inspections) that is,

**5.8.1** Carried out at 3 feet or less from the edge of the locks wall, deck, dock, floating equipment, floating platform, pontoon or facility near water, where rail offers insufficient or no protection and is inadequate to prevent falling into the water.

**5.8.2** Carried out in scaffolds, elevated platforms or similar where danger of falling into the water exists.

**5.9** Work over water: Work or activity carried out suspended over water.

SAFETY STANDARD FOR WORK OVER OR NEAR WATER  
26000ESS-306

**5.10** Fording: Crossing by foot a river or water current by its ford or any other part.

**5.11** Ford: Shallow and flat portion of a river where crossing by walking, riding or in a vehicle is possible.

**6.0 GENERAL**

**6.1** Unless otherwise instructed or considered appropriate by ESSM, mandatory use of PFD is required for work or activity carried out at 3 feet or less from the locks walls, on main deck of vessels, dock, and floating equipment, floating platform, pontoon or structure near water, where rail protection is inappropriate or insufficient.

**6.2** Avoid walking, fording or swimming in waters where dangerous animals might exist. Work performed in fords shall have enough protection to prevent against dangerous animal attacks.

**6.3** Life saving equipment of the present norm shall comply with the following:

**6.3.1** Shall be manufactured with material that will be rot-resistance, corrosion resistant, and will not affect by sea water, hydrocarbon nor mildew. Parts exposed to sunlight shall not deteriorate.

**6.3.2** Shall be of a very visible color on all its parts that could contribute to its detection as the International Orange FS 12197 of FEDERAL STANDARD 595B. The Indian Orange and the Scarlet Munsell Red are acceptable as well, with the exception of PFD type V inflatable for use as type II which are yellow. Use and fitting of retro-reflective material on PFD which contributes to its detection shall be performed according to OMI Resolution A. 658(16) recommendations.

**6.3.3** ESSM shall determine acceptability period for life saving devices which deteriorates over time. As far as possible, preferred method to determine acceptability period shall be according to colors PANTONE. PFD shall be kept in good operating condition and ready to be used at all times.

**6.3.4** PFD prescribed in this Standard shall be approved by ESSM. ESSM shall ensure compliance with PFD test recommendations from OMI, Resolution A. 689(17) or latest, as well as MSC. 81(70) or latest and/or from a list of approved equipment.

**6.3.5** Every time that the present Standard specified for any application a determined type of PFD could be used any other type instead once be evaluated an accepted by Marine Safety Branch (ESSM).

**6.4** Control measures shall be implemented to prevent employees falling into the water while working over or near it. If after taking such measures unsafe conditions persist, exposed personnel shall be provided PFD as indicated in Appendix No. 2

**6.5** The use of PFD with defects that could alter their resistance, safety and floatability is prohibited.

**6.6** PFD shall be worn comfortably, properly and secured to the person's body. PFD shall allow a person to swim a short distance and climb a ship or a ladder.

**6.6.1** Floating equipment transporting children shall carry on board PFD in sufficient number for their use and clearly marked as for children.

SAFETY STANDARD FOR WORK OVER OR NEAR WATER  
26000ESS-306

**6.7 Inspección**

**6.7.1** PFD on board ACP's floating equipment are subject to annual inspection by ESSM Floating Equipment Inspectors.

**6.7.2** At least once a month, managers shall ensure PFD are inspected for integrity and availability.

**6.7.3** PFD shall be immediately replaced and disposed if defective, torned, faded or incomplete.

**6.7.4** Before every use of an inflatable type III and V cylinder the automatic mechanism shall be inspected. Automatic activating mechanisms shall be replaced annually or according to manufacturer recommendations. Empty, deteriorated or every three years the cylinders shall be replaced, whichever occurs first.

**6.8 Storage**

**6.8.1** PFD on board floating equipment shall be stored in sufficient number according to passengers and crew members specified on marine floating equipment inspection certificate (form 2531 (ESS)).

**6.8.2** PFD on board floating equipment shall be stored for ready access and by means its integrity and appearance is not affected.

**6.8.3** PFD shall not be stowed in such a way that breaking wooden shelves or tear sealed plastic bags is needed. Shall be readily accessible.

**6.8.4** PFD stowage location shall be clearly marked, protected from humidity, direct sunlight and damage of any kind.

**6.8.5** PFD of different types shall no be stored in the same place (for example, Type I with Type V, for children with adults, etc.)

**6.9 Usage**

**6.9.1** Appendix No. 1 describes different types of PFD.

**6.9.2** Appendix No. 2 lists PFD's according to user type and conditions.

**6.10 Life ring bouys**

**6.10.1** For work areas over or near water, docks, pools, bucket chain or pond, onboard vessels or other floating equipment life ring bouys for emergency rescue shall be installed.

**6.10.2** Distance between life ring bouys shall not exceed 200 feet (61 meters).

**6.10.3** Life ring bouys for vessels over 23 feet (7 meters) and up to 65 feet long (20 meters) shall have an outside diameter of at least 24 inches (600mm), and for vessels over 65 feet long (20 meters) shall have an outside diameter of 30 inches (800m m).

**6.10.4** Life ring bouys shall be fitted with retro-reflective tape of 2 inches (50 mm) minimum wide in compliance with SOLAS and a buoyant lifeline with a diameter of not less than 8

## SAFETY STANDARD FOR WORK OVER OR NEAR WATER 26000ESS-306

mm and 65 feet (20 m) long attached for vessels over 23 feet (7 meters) and up to 65 feet long (20 meters), and a lifeline of 100 feet (30 m) for vessels over 65 feet (20 m) and up to 165 feet (50 m).

**6.10.5** Life ring buoys with light shall be fitted with a rope of at least 8 mm in diameter and of 3 to 6 feet (1 a 2 m) in length, which shall connect the light with the life ring buoy. Life ring buoys with light do not required lifeline specified in 6.10.4

**6.10.6** Life ring buoys shall be accessible at all times, kept in good operating condition, and protected from the environment.

### **6.11 Life boats**

**6.11.1** At least, a small boat (row boat panga) or a life boat shall be available in areas where the danger of drowning exists.

### **6.12 Emergency ladders**

**6.12.1** A portable or fixed ladder shall be kept where work or activities are carried out over or near water.

**6.12.2** Shall have sufficient length to assist an employee in case of falling into the water.

### **6.13 Embarking, disembarking and work on board floating equipment**

**6.13.1** Proper PFD shall be used when embarking or disembarking at open sea anchorages.

**6.13.2** PFD Types I or II shall be used when embarking or disembarking from vessels which rail offers insufficient or inadequate protection (not compliant with maritime standards) to prevent falling into the water.

**6.13.3** PFD shall be used when working over or near water and the height of the rail of the floating equipment offers inadequate or insufficient protection to prevent falling into the water.

### **6.14 Purchase**

**6.14.1** ESSM shall determine types and models of PFD authorized for usage.

## **7.0 RESPONSIBILITIES**

**7.1** All units in the ACP, contractors, and third parties carrying out activities in ACP's areas of responsibility, shall inform themselves of PDF's approved and authorized by this Standard.

**7.2** Responsibilities to ensure compliance with this Standard are described in the Safety and Health Manual of the ACP, Section 1, Numeral 1.5.

**7.3** Personnel working over or near water shall comply and prove with the swimming test required by the ACP for this purpose, through the Occupational Health Division.

**7.4** Employees are responsible for care, inspection, maintenance, integrity, and proper use of assigned PFD, and shall follow instructions prescribed by his supervisor and the manufacturer.

SAFETY STANDARD FOR WORK OVER OR NEAR WATER  
26000ESS-306

**7.5** ACP units and contractors shall evaluate activities, workplaces and risks involved, and take the necessary actions to control risks due to drowning for immersion. If necessary, shall provide and request their employees to use PFD in accordance to this Standard.

**7.6** Whenever ACP guest and visitors are exposed to the risk of drowning from immersion, the host shall ensure they are provided with the same protection as to the personnel assigned to the area visited.

## **8.0 INQUIRIES**

Any information or clarification of the content or application of this Standard must be requested in writing to the Safety Division.

Some works require different PFD. The supervisor shall consult ESSM for the proper type selection. For the purpose of selection, the supervisor shall consider the activities, workplace and risks.

## **9.0 EXCEPTIONS**

Any requests for changes or temporary exceptions to this Standard must be made in writing to the Safety Division.

## **10.0 TERM**

This Standard shall remain in force until amended or revised.

## **11.0 REFERENCES**

**11.1** SOLAS. International Convention for the Safety of Life at Sea.

SAFETY STANDARD FOR WORK OVER OR NEAR WATER  
26000ESS-306

**APPENDIX NO. 1**

Types of Personal Flotation Devices (PFD)

**Type I:** Life jacket for use in open waters.

- Stamped as Type I, design for long lasting buoyancy and shall be capable to turn an unconscious person in the water, from face down to vertical and lightly inclined towards the back. Improves survival by avoiding water entering into the respiratory system.
- Designed to provide a buoyant force between 22 and 25 pounds and shall be fitted with retro-reflective tape in conformance with SOLAS in its inner and outer face to reflect light and therefore, help locate victim's in the water specially at night.
- US Coast Guard approved.

**Type II:** Life jacket for use close to shore and calm waters.

- Design to provide a buoyant strength of 15.5 pounds and fitted with retro-reflective tape in conformance with SOLAS in its inner and outer face to reflect the light and therefore, help locate victim's in the water specially at night.
- Stamped as Type II, designed to provide buoyancy not as prolonged where high probability of being rescued exists and capable to turn in the water an unconscious victim from face down to a vertical position and lightly inclined backwards.
- US Coast Guard approved.

**Type III:** Life jacket (*WELDER VEST ONLY*).

- Designed for welders only whom will be immediately rescued, not capable to turn an unconscious person in the water.
- Designed with special material to avoid damage from welding sparks.
- Designed to provide buoyant strength of 15.5 pounds and fitted with retro-reflective tape in conformance with SOLAS in its inner and outer face to reflect the light and therefore, help locate victim's in the water specially at night.
- US Coast Guard approved.

**Type IV:** Throwing flotation device.

- These life ring buoys are designed to throw at people in distress. Not suitable for long hours in rough waters, nor for people unable to swim or unconscious.
- Shall be fitted with retro-reflective tape in conformance with SOLAS in four opposite sites on its inner and outer faces to reflect light and therefore, help locate victims in the water specially at night.

**Type V:** Life jacket (*WORK VEST ONLY*)

SAFETY STANDARD FOR WORK OVER OR NEAR WATER  
26000ESS-306

- Life jacket that could be use by personnel requiring freedom of movement while working on board floating equipment, over or near water and work on a vessel's hull or over a floating platform.
- Designed to provide buoyancy for a short time, not capable of turning an unconscious person face down, designed to provide a buoyant strength of 16.5 pounds and are fitted with retro-reflective tape at the front and back in conformance with SOLAS.
- Manufacturer's instructions require user knows how to swim.
- US Coast Guard approved.

**Type V Inflatable for use as Type II: Personal flotation device INFLATABLE**

- Could be used in maritime operations, embarking, disembarking and on vessel's deck.
- With automatic inflatable mechanism and mouth, once immersed in water the flotation mechanism shall activate, fitted with retro-reflective tape in conformance with SOLAS, whistle, manual activation and a self-igniting light, providing a buoyant strength of 22 pounds.
- US Coast Guard approved. Before use inflatable life preservers type V as type II, cylinder and automatic mechanism shall be inspected.
- These life preservers use a small CO2 cylinder as primary means for inflating, nevertheless, can be inflated by mouth blowing through a tube or activate pulling a tongue for this purpose. After each inspection and before wearing this type of life preserver is important to make sure the tongue is left available and at hand to be activated manually. No deben utilizarse con ropas restrictivas que puedan agravarse cuando se activa el mecanismo de inflado automático.
- To maintain these life preservers in working conditions, automatic activating mechanisms shall be replaced annually or according to manufacturer. Empty or deteriorated CO2 cylinders shall be immediately replaced, or every three (3) years, whichever occurs first.
- Proper training in the use of this type of life saver is required.

SAFETY STANDARD FOR WORK OVER OR NEAR WATER  
26000ESS-306

**APENDIX NO. 2**

**Personal Flotation Device (PFD) according to unit, user and work activity.**

TYPE	USER	ACTIVITY
I	MRRT	EMERGENCY
	MRRL	
	IPDO	
	IPDL	
	ESM	
	ESC	
	SII	
	MRL	
CONTRACTOR		
II	MRRT	EMERGENCY, WORK ON DECK.
	MRRL	
	IPDO	
	IPDL	
	ESM	
	ESC	
	SII	
	CONTRACTOR	
III (alter Vest Only)	MRRM	WELDERS
	IPDO	
	SII	
	CONTRACTOR	
IV	MRR	MANDATORY USE ON VESSELS OVER 23 FEET (7 M) LONG
	IPD	
	SII	
	ESC	
	ESM	
	MRL	
	CONTRACTOR	
V (Work Vest Only)	MRRT	ON BOARD OPERATIONS, WORK OVER OR NEAR WATER
	MRRL	
	ESMV	
	MROM	
	ESMW	
	SII	
	IPDO	
	IPDL	
	MRLA	
	MRLP	
	MRRM	
	ESC	
CONTRACTOR		
V (inflatable for use as type II)	ESSM	EMBARKING AND DISEMBARKING OPERATIONS
	ESCC	
	ESCA	
	MRTD	
	M RTP	
	MRTC	
	CONTRACTOR	
	MRTA	
IMTR		