

NMSA- OSHA Alliance

Generic Person In Water (PIW) Recovery Guide



Background and Commitment:

In response to recent incidents where people have fallen into the water, the NMSA Technical Committee developed this guidance document. Terminal-specific PIW plans should be developed taking into consideration the unique conditions at each terminal, such as operations, equipment, dock structure, or water temperatures and currents. Terminals should have safe work procedures in place that minimize or prevent people from falling into the water. When individuals are working along an “unguarded edge” where there is a hazard of falling into the water (e.g. line handling) appropriate Personal Flotation Devices (PFDs) should be worn and properly fastened.

General Guidance:

Due to the differences in the resources and circumstances in different ports and terminals, individual terminals should tailor the elements in this guidance to that particular facility to enable the quickest and safest response to a PIW. Two specific scenarios should be evaluated:

- The person in the water is conscious and can assist in his or her own rescue; and
- The person is unconscious or cannot assist in his or her own rescue.

Facilities should evaluate dock side, near dock, and off-shore vessel scenarios. Any response should contemplate both daytime and nighttime situations.

The National Maritime Safety Association (NMSA) represents the marine cargo handling industry in the United States in safety and health matters arising under various statutes, including the Occupational Safety and Health Act.

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Immediate Steps:

1. Notification

When a person falls into the water immediate notifications must be made to:

- Supervisors
- Management
- Emergency responders
- Vessel personnel (as appropriate)
- Passing vessels (as appropriate)

Contact information for professional Emergency Response Services must be specific to the terminal, be clear, and close at hand. Persons should be designated and procedures should be developed in advance to ensure a rapid and efficient notification process is followed. Terminals should contact Emergency Response Services beforehand to determine the best contact procedures for a PIW. 911 is not always the best or only number to call.

Consider the following verbiage when developing the emergency call-in protocol. *“State the nature of the response, the facility name/berth, and physical address for land response. Include the latitude and longitude to enable a water response. Identify a specific gate address for ingress to the facility. The name and call back number for the **person in charge of the terminal response** should be provided to all Emergency Response Services.”*

2. Maintain visual contact

- At least one person should keep the PIW in sight at all times. This should be their only duty.
- Maintaining visual contact with the PIW may require a flashlight, or other lighting resources (Crane lighting, etc.). This is critical after dark or when there is a water current in the area.
- This will assist Emergency Response Services in locating the PIW for fastest extraction.

3. Keep the person afloat

- Throw all available flotation devices at hand to the PIW to provide flotation and allow the person to keep his or her head above water. Terminal and vessel equipment should be readily available.

- Lifelines or ring buoys with adequate line should be used to keep the PIW from drifting away and to help pull the PIW to safety.

4. Direct individual to a means of retrieval

- If the PIW is conscious, uninjured, and can swim, then direct the PIW to the flotation device and swim/pull the PIW to the emergency ladder (fixed or portable) for extraction/stabilization.
- If the PIW is injured and can not swim, then throw all available flotation devices to the PIW to assist with continued flotation and to help stabilize the PIW for Emergency Response Services extraction.

5. Support or retrieve the unconscious PIW

- Ideally, all water extractions should be made by Emergency Response Services. It is imperative to maintain spinal alignment when lifting an injured person to minimize the risk of paralysis or death. Emergency Responders have this training and the specialized equipment to stabilize and safely lift a person.
- If a person is unconscious, or otherwise cannot keep his or her head above water, an immediate decision must be made to attempt to stabilize the victim's airway or retrieve the victim before Emergency Response Services personnel arrive.
- Terminals should develop methods to reach and support or reach and retrieve the PIW with equipment immediately at hand. The victim's head should be supported above the water as a priority. Extraction of a person from the water can be very dangerous to not only the victim but others as well. It may be best to stabilize the victim in the water and wait for Emergency Response Services to arrive.
NOTE: It is never recommended that an untrained, non-Emergency Response Services person enter the water to retrieve an injured person. However, if a person does elect to go into or near the water to effect retrieval, they should be wearing a PFD and they should be attached to a tended retrieval lanyard.

- Rig terminal retrieval equipment and make it available to Emergency Response Services.

6. Control the area and direct the Emergency Response Services to the incident

- Ensure the terminal entrance access is unimpeded and/or open an alternate entrance. Ensure Emergency Response Services know where go. Flashing lights on gates or security vehicles may help guide Emergency Response Services to the proper location more quickly.
- Designate and position personnel at the entrance of the facility to meet and guide Emergency Response Services to the incident

site. Ensure personnel are assigned at the entrance to guide additional Emergency Response Services (secondary units) arriving at a later time.

- Keep the area adjacent to the extraction point clear so the Emergency Response Services can carry out the proper emergency response to extract the PIW from the water.
- Keep in contact with the Emergency Response Services to provide any required assistance of dockside equipment (e.g., crane, top pick, etc.).

Factors to be Considered Prior to a PIW Incident and in Developing a PIW Response Plan:

Operational safety considerations to prevent a PIW

- Adequacy of vessel rails and guards.
 - Peripheral rails.
 - Rails and gaps at lashing pedestals.
- Lashing operations.
 - Stuck cone procedures.
 - Control of lashing rods.
 - Log operations pulling lashing chain or wire.
- Mooring
 - Vessel mooring line access.
 - Vessel mooring procedures.
 - Working aloft safeguards.

Work site specific PPE and safety equipment

- PFDs.
- Terminal and Vessel Life Rings and Lines.
- Stokes Baskets (with flotation pontoons and lifting bridle).
- First Aid Kits.
- Pier Ladders (fixed or portable).
- Terminal Safety Maps (with equipment location).
- Means (e.g.; throw-able devices) to get a line to a victim.
- Vessel accommodation ladder availability for deployment.

Notification

- Direct dial local phone numbers for the Emergency Response Services. "911" may not be the best number to call.
- Identification of which Emergency Response Services agencies to call. Direct calls to both Fire Department and U.S. Coast Guard or other State water rescue agencies.. Local responders should be contacted to determine which direct notifications are best.
- Information to be given: notification that a person is in the water and the exact (latitude and longitude) location, pier or berth number.
- If the U.S. Coast Guard is notified, request a UMIB (Urgent Maritime Information Bulletin) for a PIW be issued. This summons immediate help from any mariner in the vicinity.
- Post notification procedures and ensure management, supervisors, and security personnel likely to make the call know the procedures.
- Pier/berth location should be clearly visible from the water side.
- Terminal and gate identification should be clearly visible on the land side.
- Flashing or rotating beacons at gate to facilitate identification of the facility by Emergency Response Services.

- Lighted beacon on pier or crane boom to facilitate identification of location by Emergency Response Services arriving from the water side.

Keeping the person afloat and in sight

- Arrange with the vessel to have ring buoys with lines ready at fore, mid, and aft positions of the main deck.
- Review location and availability of terminal ring buoys and line.
- Review availability and location of terminal throwable devices and floating stokes basket(s) with line attached to reach the victim.
- Review light sources for night time illumination.
- Assign duties to terminal personnel.

Controlling the area and directing the Emergency Response Services to the incident

- Directing Emergency Response Services to site.
 - Notify responders of the name and phone number of the terminal person in charge of the response.
 - Prominent and unblocked terminal address signage.
 - Terminal personnel to meet and escort primary and secondary units.
 - Light, radio, or other means to attract and ensure Emergency Responders know the correct entrance.
 - Procedures for emergency train movement.
 - Communicating with U.S. Coast Guard and marine units on the emergency marine band radio frequency - VHF Channel 16.
- Controlling area.
- Terminal personnel to keep pier area clear.
- Terminal personnel on pier to attract and direct waterborne units.

Supporting or retrieving a person from the water

- Rapid access to adequate ladders.
- Knowledge of water temperature, currents, local conditions e.g. treacherous eddys, likely down current retrieval points.
- Means to direct and assist a conscious person to a ladder or other extraction point.
- Extra lifejackets for assisting responders.

- Extra line/horse collar and Jacobs ladder or other means to assist in retrieval.
- Means to lift a conscious injured or unconscious person from the water to the dock without using a ladder.
- Means to establish/maintain the airway of an unconscious person in the water.
- Means to check availability of and attract other boats in the vicinity (e.g.; pilot boats, tugs, bunker barges, recreational boats).
- Communications with Emergency Response Services and responding marine craft.

Being ready for a response

- Routinely inspect terminal response equipment.
- Conduct drills and/or exercises with terminal personnel and Emergency Response Services to practice response procedures.

Equipment to consider in supporting or retrieving a PIW

- Semi Automatic Twist Lock (SATL) Locking Pole.
- Shepard's Hook.
- Devices lowered from pier or boats.
 - Jason's Cradle®.
 - Cargo net or accommodation ladder.
- Throwing Devices.
 - Life Safer® Retriever.
 - Life Ring and line.
 - Throw-able baton and line.
- Devices attached to cranes or lifting equipment.
 - Stokes basket with flotation.
 - Retrieval basket with flotation.
 - "Billy Pugh"® equipment.
 - Terminal built or adapted "Shark Cage", "Shoe Box", or "Lashing Cone Basket".
- Lifting Devices.
 - Crane Spreader.
 - Top Handler.
 - Reach Stacker.

OSHA regulations to consider in supporting or retrieving a PIW

- 1917.12 - Slippery Conditions.
- 1917.26 - First Aid and life saving facilities.
- 1917.30 - Emergency Action plans.

- 1917.45(j) - Protection for employees being hoisted.
- 1917.95(b) - Personal flotation devices (PFDs).
- 1917.111 - Maintenance and load limits.
- 1917.112 - Guarding of edges.
- 1917.119 - Portable ladders.
- 1917.126 - River banks.
- 1917.128 - Signs and marking.
- 1918.2 - Definitions – Fall hazard.
- 1918.22 - Gangways.
- 1918.23 - Jacob's ladders.
- 1918.24 - Fixed and portable ladders.
- 1918.26 - Access to barges and river towboats.
- 1918.36 - Weather deck rails.
- 1918.37 - Barges.
- 1918.66 (c) - Protection for employees being hoisted.
- 1918.88 - Log operations.
- 1918.91(b) - Slippery surfaces.
- 1918.97 - First aid and lifesaving facilities.
- 1918.100 - Emergency action plans.
- 1918.105(b) - Personal flotation devices (PFDs).
- Appendix V to part 1918 - Basic elements of a first aid training program (non-mandatory).

Hypothermia Table

The following chart provides a general idea of survival times in water of varying temperatures. Factors that may alter these estimates include clothing or protective gear, the individual's health condition, and water conditions.

Water Temperature	Exhaustion	Death
32.5 °F	Under 15 min.	15 min or less.
32.5-40 °F	15-30 min.	30-90 min.
40-50 °F	30-60 min.	1-3 hrs.
50-60 °F	1-2 hrs.	1-6 hrs.
60-70 °F	2-7 hrs.	2-40 hrs.
70-80 °F	3-12 hrs.	3hrs-in definite.

Source U.S. Coast Guard

Through the OSHA and NMSA Alliance, NMSA has developed this Generic PIW Recovery Guide for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. 06/2010.