

SAFETY MANAGEMENT MANUAL



7.8.3 PERSONAL PROTECTIVE EQUIPMENT

Originator:	Approved By:
Ian Leik/Andrew McKee	Mike Kelly

1. Purpose

The purpose of this procedure is to establish guidelines for the use of personal protective equipment (PPE) aboard all ISM regulated MBARI vessels. To this end, all appropriate safety precautions relevant to the work at hand must be observed.

2. Reference:

MBARI Safety manual (dated July 2019)

https://mww.mbari.org/safety/SafetyManual/safetymanual_14.pdf

MBARI Environment Health and Safety Webpage:

<https://mww.mbari.org/safety/>

MBARI Bloodborne Pathogen ,OPIM and Raw Sewage Exposure Control Plan
(May 2017)

http://mww.mbari.org/safety/BloodbornePathogen/ECP_2016.pdf

3. Responsibility

Each individual aboard MBARI vessels is responsible for the use of proper protective equipment. The primary responsibility for enforcing this procedure resides with the Master, Chief Engineer and Chief Scientist. They are responsible to ensure that work aboard the ship is carried out safely.

4. Procedure

A. The Master shall make additional requirements as necessary to ensure workplace safety as conditions change. Recommended PPE standards may be waived in an emergency requiring prompt action to save life, property or to protect the environment.

B. MBARI's Safety Manual, dated July 2019 establishes general policy guidelines concerning the use of protective equipment.

C. While at sea, approved personal floatation devices (PFDs) must be worn by all personnel when:

1. working over the side
2. working on the well deck
3. docking and undocking
4. required by the Master

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- D. All personnel in the vicinity of vessel crane operations, including shore cranes, must wear approved hard hats and safety shoes. It is the individual's responsibility to obtain and wear approved safety shoes. In accordance with the policy, MBARI will reimburse individuals for safety shoes when required.
- E. All personnel going aloft, working over the side or working on weather decks during inclement weather must wear safety harnesses and use them properly.
- F. All personnel in machinery spaces must wear hearing protection while generators are in service.
1. Hearing protection shall provide a minimum NRR of 25dB.
 2. Crew members are encouraged to wear hearing protection in machinery spaces even when generators are not running to protect from ambient noise generated from blowers, pumps, etc.
 3. Crew members are warned that, for example, hearing protection with a NRR of 28 dB is only adequate for working in the 3512 space with the generator running for up to 30 min/day. After 30 min. double hearing protection is required and only adequate for up to 60 min exposure per day. Beyond 60 min the generator must be shut down to continue working in that space.
 4. Crew members are highly encouraged to avoid working near operating machinery for extended periods of time. Coordinate repairs and maintenance with the bridge and Chief Engineer to shut down equipment and switch generators as needed to reduce noise exposure.
- G. Personnel working in the engine room must wear long pants.
- H. Safety Glasses shall be worn at all times when working around high pressure systems and equipment. Eye and face protection shall also be worn when other hazards such as particles objects, radiation, or liquids are present. Examples are when performing grinding and sanding, painting, welding, or chipping.
- I. Respirator use: Personnel are required to protect themselves when exposed to any potentially dangerous dust, fumes, mist, vapor or gas. This usually will require a respirator. **A RESPIRATOR MUST BE WORN WHEN PAINTING.**

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1. Respirators must be fitted to the individual and have proper cartridges in good condition. When In doubt change cartridges. If you can smell the fumes either your respirator isn't fitting correctly or you need to cartridges.
 2. Dust masks are only appropriate with certain kinds of heavy particulates. Sanding or cutting wood, sanding paint would be appropriate times to use a dust mask.
 3. Reference MBARI safety manual, Section 7 page 103 for more detail
- J. Proper closed footwear is required at all times aboard the Western Flyer. Off duty personnel may wear open toed shoes or sandals only on the 01-accommodation deck or when going on or off the ship during port liberty time.
- K. Personnel utilizing the vessel's rescue boat must wear approved personal flotation devices appropriate to the prevailing conditions, hard-hats, closed footwear and warm waterproof clothing sufficient for the expected duration of the operation.
- L. While responding to vessel emergencies and drills, all personnel must report to their muster area with their required survival gear, hat and closed footwear.
- M. When handling live ROV umbilical with a steel outer jacket it is recommended that electrical safety gloves be used for handling the cable unless it becomes impractical for handling floatation. These gloves are provided by MBARI and are located in the moon pool area.

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DAILY VISUAL INSPECTION

In order to maintain the highest level of insulating protection and ensure long life, it is essential that gloves (and sleeves) are properly cared for and stored.

Before each use, gloves and sleeves should be inspected for holes, rips or tears, ozone cutting (the cutting action produced by ozone on rubber under mechanical stress cracks), UV checking, and signs of chemical deterioration.

Gloves and sleeves should also be examined to determine if they show any damage as a result of chemical contamination, particularly from petroleum products. The first sign of exposure is swelling in the area of contamination. Should any rubber equipment be exposed to chemical contaminants or be suspect of any other physical damage, it should be turned in for inspection, cleaning and electrical testing.

EXTERNAL TESTING AND INSPECTION

Every 6 months the rubber gloves insert (not leather outer) will be sent out for comprehensive testing at a shore-based safety laboratory. The Chief Mate will be responsible for organizing and coordination of this activity.

N. All personnel have the potential for exposure to raw sewage and bloodborne pathogens and should refer to the MBARI safety department policy document "**Bloodborne Pathogen, OPIM, and Raw Sewage Exposure Control Plan**". This plan outlines and provides guidance for appropriate PPE. All ship's crew has the option of vaccination against Hep A and Hep B. Those that who do not wish to be vaccinated must sign a waiver of release or provide proof of vaccination. This document is located on the MBARI internal web site – <https://mww.mbari.org/safety/>.