



DIGEST issue 3, Oct. 2022

SAFETY LESSONS from HELMEPA's Maritime Community



Sharing lessons learned

VIRP Digest is a quarterly e-bulletin, sharing 'lessons learned' from maritime accidents, incidents, and near-misses uploaded by HELMEPA member-vessels to the Voluntary Incident Reporting Platform (VIRP).

Collective impact

1,000+ REPORTS REACHED!
To date, more than 1,000 reports have been uploaded to VIRP by 40 member managing companies that are logged on. Recent upgrade of the VIRP provides users with a wide range of new capabilities and statistical research, enabling smoother user interface and better detection of emerging trends.

Being part of safety cause

All managing companies-members of HELMEPA are provided, upon request, with an exclusive access code to upload their vessels' incidents and near misses and view all the database reports and emerging trends through a wide variety of filters.

Fostering proactiveness and sustainability

Sharing 'lessons learned' from the analysis of previous incidents helps avoid the human errors that lead to the repetition of similar incidents and accidents in the future. Active participation of a company in the VIRP reinforces a strong maritime safety culture at all company levels.



Non or improper use of PPE — Personal Protective Equipment

A critical safety issue recurring in all incident reporting schemes

Article by **Mr Alexandros Toutountzis**
LR Marine Management Systems Senior Specialist

This article underlines the importance of PPE for maintaining health and safety of all personnel engaged on marine operations. To this end, it looks into various types of PPE, as well as its application, importance of appropriate inspection and maintenance procedures, and it presents representative incidents.

Although PPE is extremely important, there are still incidents / accidents reported, such as the following cases (source: HELMEPA's VIRP):

- Crew members involved in mooring operations, were not wearing helmets, risking a head injury.
- Crew member handling liquid caustic soda bunkering (for EGCS use) had drops sprayed on his face. A minor eye injury occurred, due to lack of wearing an adequate face protection mask.

- Crew member performing maintenance on deck light supports, cut his hand in a sharp corner of a cable band. A minor injury occurred, due to lack of proper gloves.












Not all hazards can be adequately controlled through the implementation of safe working procedures across all work sites, so some hazardous activities require the use of PPE as an extra layer of protection.

Typical examples of the types of PPE worn by seafarers and sea-going personnel include the following: Head protection, Face / Eye protection, Hearing protection, Body protection, Hand / Foot protection, Fall protection, Respiratory protection, Protection against drawing & Protection against hypothermia.

Besides protection, PPE should also provide comfort. The latter is an important factor to PPE selection, and it is a good practice for end-users to be involved in the selection of different brands and manufactures. PPE should also be selected keeping in mind aspects of inspection / maintenance regimes, disposal concept as well as an assessment of hazards on typical work, locations, and tasks. Additional PPE requirements for specialist tasks and environments will be identified and evaluated in task specific risk assessments. The risks should be assessed by evaluating how severe the potential injury might be, how likely it is to occur and if there is a need for PPE.

See example below.

X = AT ALL TIMES O = AS REQUIRED

Guide to PPE requirements when working	Safety Helmet	Safety Shoes	Rubber / Leather boots	Work coverall / boiler suits	Gloves	Life Jacket	Safety Harness	Safety Goggles	Ear Defender	Chem. / Rubber Aprons	Welder's Visor
											
Working On Deck	X	X		X	O			X	O		
Working Machinery Spaces	X	X		X	O			X	X		
Mooring Operations	X	X		X	X			X	O		
Working over the Ship's side	X	X		X	X	X	X	X			
Working aloft	X	X		X	X		X	X			
Anchoring Operations	X	X		X	X			X	O		
Cargo and Bunkering Operations	X	X		X	X			X	O		
Moving on deck during Cargo operations	X	X		X	X						
Crane Operations	X	X		X	X			X			
Lifeboats incl. FF lifeboats (when launching)	X	X		X	X	X		X			
Lifeboats on Davits (External)	X	X		X	X	X	X	X			
Chipping, Scrapping, Descaling	X	X		X	X			X	X		
Painting	X	X		X	X			X			
Handling Chemicals & Acids	X		X	X				O		X	
Welding	X	X		X	X					X	X
Flame Cutting	X		X	X	X					X	O
Working in Electrical systems	X			X	O			X			
Entry into Enclosed Space	X	X		X	X		X	X	O		
Washing Galley, pantries & mess		X	X		O			O		X	
Helicopter Operations	X	X		X					X		

Even though procedures may be in place, why isn't PPE properly used?

Typical reasons are that personnel do not fully appreciate the risks involved, PPE is uncomfortable, irritating or affecting the speed at which the job gets done, PPE instructions are not understood, there is often no PPE application training, PPE rules

are frequently broken by others such as managers and PPE is damaged, unavailable, or dirty. Another interesting case refers to a crew member who while he was operating the water blasting machine, the high-pressure hose fitting exploded. This case was reported as a near miss as no accident occurred mainly because the crew member was equipped with adequate PPE. Therefore, despite the mechanical failure of the water blasting machine, no injury was caused.

Apart from what type of PPE is required to be used & when, the following aspects need to also be considered:

1. **What should be the technical specification of the various PPE provided?**
2. **What are the applicable training requirements?**
3. **What are the appropriate maintenance procedures?**
4. **Are there appropriate PPE sizes on board for all seafarers?**

The vessel's management Company has overall responsibility to establish a safety management system, occupational health, and safety policies and to ensure compliance with mandatory regulations and beyond e.g. follow up with best practices. The PPE specification as Risk Control tool, should be directly linked with the Risk assessment / register of Company's SMS.

As shown in the procedures for LR personnel on *Figure 1*, different Risks require different PPE and specifications.

Figure 1
LR Guidance
for HSES
Standard #17

Head protection	Hard hat with chinstrap conforming to EN 397:2012, ANSI/SEA Z89.1-2014 or equivalent. If the individual is working at height, a Mountaineering/climbers helmet is required. This must comply with EN12492
Eye protection	Safety glasses conforming with EN 166, ANSI Z87.1 or equivalent Safety goggles conforming to EN 166 1-B 3.4.5.9
Hearing protection	Ear defenders or ear plugs conforming to EN350-1, EN350-2, EN350-3, ANSI S3.19 or equivalent
Body protection	Coveralls conforming with EN531, US Standard NFPA 2112 or equivalent Anti-static and fire retardant coveralls must comply with EN 531 A1, B1 or C1, and EN 1150-5 High visibility vest conforming with EN471, ANSI/SEA 107 or equivalent
Hand protection	Gloves conforming to EN388, EN 420, ANSI/SEA 105-2011 or equivalent. Fire retardant gloves conforming to EN 407 and chemical resistant gloves conforming to EN 374
Foot protection	Safety boots conforming with EN345 S3, ANSI Z41-1991 or equivalent Safety shoes conforming with EN345 S2, ANSI Z41-1991 or equivalent
Fall protection	2-Point full body harness complying with EN 361. EN 362, ANSI 2359 or equivalent 4-Point full body harness complying with EN 358, EN 361, ANSI 2359 or equivalent Fall arrest y-lanyard complying with EN 354, EN 35 5and EN 362 Work positioning lanyard complying with EN 358 or equivalent
Respiratory protection	Disposable mask complying with EN 150 FFP1. FFP3 or equivalent Reusable respirator complying with EN 140 or equivalent Reusable filters complying with EN 141 (ABEK 1), EN 150 FFP3 or equivalent
Life preserver	Life preserver (inflatable) complying with EN ISO 12402-2:2006 or equivalent Life preserver (inherently buoyant foam) complying with EN ISO 12402-2:2006 or equivalent
Multi-gas alarm	BW technologies GasAlert MicroClip XL by Honeywell 4-Gas alarm (O2, CO, H2S & LEL) Required standards: ATEX Approval

Company's SMS occupational health and safety policies should also identify **respective training needs**. All seafarers required to use protective equipment must be properly instructed and trained in its use. Such a training should also include briefing on PPE limitations and the reasons for their use. A training record should be kept indicating who has been through such a training. LR provides periodical training (theory and practice) with regards to entering enclosed spaces, working at heights, and working over water. In addition, there is a library with tools such as videos and power point presentations explaining the correct maintenance, linked with manufacturer's instructions.

PPE should be stored appropriately and be used in accordance with manufacturer’s instructions as well as applicable Company’s SMS procedures. Relevant instructions and maintenance records should be maintained on board. In LR, surveyors are expected to inspect their PPE for wear and defects before each use and PPE shall be removed from use immediately if damaged or defective. Certain PPE may also be subjected to mandatory maintenance and inspection such as gas detection equipment and inflatable life jackets. Typical maintenance instructions in LR, are indicated on *Figure 2*.

PPE **appropriate sizes for all seafarers** should be provided on board. Lifejackets and immersion suits come into various sizes which are approved for use as per the specific min height and max weight of the person wearing them. MLC new amendments are also expected to come into force (end 2024), requiring for appropriately sized personal protective equipment, in particular **to suit the increasing number of women seafarers**.

Keep in mind! **PPE is the last line of defense in hierarchy of controls**. The reason for this is that they do not reduce the hazard and can only protect the person wearing it. Thus, the use of adequate Personal Protective Equipment (PPE) is paramount for the safety & health not only of all seafarers but also of all personnel engaged on shipboard operations.

Head protection	Should be checked for defects and cleanliness before use. Should be replaced immediately following contact from an object or if the expiry date has passed. The expiry date is on the inside of the helmet. If helmet has deep scratches it should be replaced.
Eye protection	Should be checked for scratches, other damage and cleanliness before use. Should be cleaned regularly. Should be compatible with other PPE such as head and respiratory protection.
Hearing protection	Check for defects and damage before use. Ensure the type of hearing protection is effective for the environment and levels of noise. <u>Clean regularly if not disposable.</u>
Hand protection	Should be checked for holes and frayed material Should be cleaned regularly especially if used for exposures to hazardous substances Should be checked to ensure it is the right type of hand protection. Is it being used for the right tasks e.g. Kevlar used for sharp materials only?
Foot protection	Clean on a regular basis. Check for damage to the sole and the top of the shoes. Maintain a good level of hygiene. Ensure the right footwear for the task.
Fall protection	Visually inspect for damage and defects before use. Ensure it is the right type of fall protection equipment. Check harness, lanyard, carabiners, hooks and stitching on fall arrest lanyard. Ensure it is cleaned on a regular basis to maintain good hygiene. Carry out a 6 monthly check and maintain a record on a form.

Figure 2
LR GMS03-10-232
Annex 9:
PPE Specifications

References:

1. Lloyd’s Register #17 GMS03-10-216 Personal Protective Equipment
2. Code of Safe Working Practices for Merchant Seafarers (2015 edition - Amendment 6/10/2021)

Useful free resources

[10 main PPE used on board ship](#) - Marine Insight

[PPE, the final safety barrier](#)
Maritime Mutual Insurance Association Ltd.

[PPE checklist](#) - AMSA

[PPE safe work poster](#) - North of England P&I

[Personal injury focus: hand and finger injuries](#)
Britannia P&I Club

[No gloves would have been better](#)
The Nautical Institute

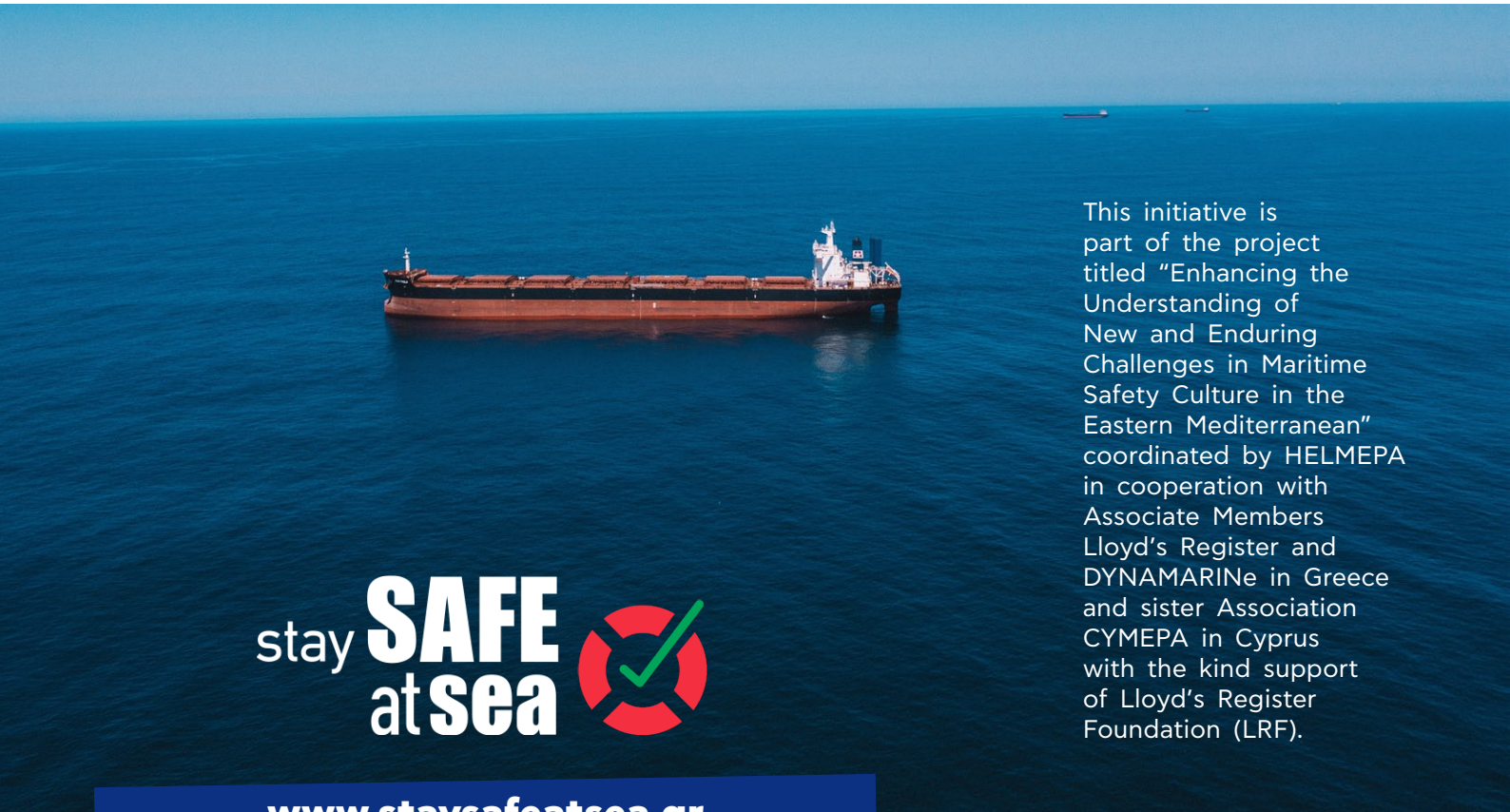
JOIN EASY

UPLOAD ANONYMOUSLY SHARE YOUR KNOWLEDGE

Join VIRP + Upload your company's most significant incident or near-miss reports directly [here](#) and help us enhance maritime safety culture. Special importance is placed on submitting High Potential (HiPo) incidents or near-miss that under other circumstances could have resulted in one or more fatalities.

Note

All information uploaded is strictly anonymous.
HELMEPA is the Administrator of VIRP.



stay **SAFE**
at sea 

This initiative is part of the project titled "Enhancing the Understanding of New and Enduring Challenges in Maritime Safety Culture in the Eastern Mediterranean" coordinated by HELMEPA in cooperation with Associate Members Lloyd's Register and DYNAMARINE in Greece and sister Association CYMEPA in Cyprus with the kind support of Lloyd's Register Foundation (LRF).

www.staysafeatsea.gr



ΕΛΛΗΝΙΚΗ ΕΝΟΣΗ ΠΡΟΣΤΑΣΙΑΣ
ΘΑΛΑΣΣΙΟΥ ΠΕΡΙΒΑΛΛΟΝΤΟΣ
HELLENIC MARINE ENVIRONMENT
PROTECTION ASSOCIATION

