JRSO Policy: Personal Protective Equipment/Safety Gear

Introduction

The JOIDES Resolution Science Operator (JRSO) has a vital interest in maintaining a healthy and safe environment for employees. This policy identifies personal protective equipment and safety clothing that will be provided to employees by JRSO.

Definitions

Safety gear used on board the JOIDES Resolution includes the following items:

- **PPE:** personal protective equipment includes protective gear for feet, hands, eyes, head, and ears.
- **Safety glasses:** per OSHA 1910.133, protective eyewear that meets or exceeds the ANSI Z87.1-2003, ANSI Z87.1-1989 (R-1998), or ANSI Z87.1-1989 standards are deemed to be in compliance with the requirements of the OSHA regulation.
- **Reading safety glasses:** eyewear with protective lenses that provides reading correction (e.g., +1.5 diopter) but are not prescription.
- **Prescription safety glasses:** eyewear with protective lenses that provide optical correction; may be spectacles with metal or plastic frame, or a combination, with side-shields or adaptable to accept side-shields.
- **Close-toed shoes:** shoes with toes covered; may include athletic shoes; may not include open-heeled shoes (e.g., Crocs™ or close-toed sandals).

*Safety clothing*: Long-sleeved button-down or cotton t-shirt, long pants, and work jacket.

Policy: Provision of Safety Gear

JRSO will provide the following personal protective equipment/safety gear to employees who work in areas where PPE is required or recommended to perform duties:

- Prescription safety glasses: reimbursable; see *Prescription Safety Glasses*.
- Steel-toed safety boots: reimbursable; see *Safety Shoes*.
- Eye protection (safety glasses): supplied on the ship by Tools and Analytical services (TAS) or the appropriate department on shore.
- Ear protection: supplied on the ship by TAS or the appropriate department on shore.
- Gloves: appropriate hand protection supplied on the ship by TAS or the appropriate department on shore.
- Safety clothing: for seagoing personnel, JRSO will supply safety clothing (selection from the approved posted list and ordered through the appropriate department) with a JRSO logo and color scheme. These items can be replaced nominally annually with supervisor approval.

All safety gear provided for seagoing personnel should remain on board the drillship for business use.
Prescription Safety Glasses

JRSO will provide safety glasses and, upon request and approval of a supervisor, reading safety glasses, for all employees working in an area requiring PPE.

JRSO will reimburse for the purchase of prescription safety glasses for employees who normally require prescription glasses and perform tasks directly related to their normal job description where eye protection has been deemed necessary for safety considerations. Supervisors shall designate those positions or personnel authorized to receive safety glasses. Students/graduate students may be eligible if the supervisor grants approval.

Prior to receiving the prescription safety glasses, over-glasses safety goggles or shields should be worn when performing any task in which safety glasses are required.

JRSO allows up to $250 for lenses, frames, and side-shield protectors annually. Additional reimbursement for the cost of transitional lenses for employees whose work requires them to move frequently between brightly lit and dark areas will be considered on an individual basis. Employees have the option to select more expensive frames and lenses; however, charges exceeding the allotted amount will be at the employee’s expense. Any frame selected must incorporate or be adaptable to accept side shield-protectors.

The following applies to this policy:

• JRSO is not responsible for charges associated with eye examinations to determine the need for vision correction.
• JRSO is not responsible for replacement or repair to prescription safety glasses that are lost or damaged through negligence, misuse, or theft.
• JRSO will replace prescription safety glasses that are damaged in the course of job performance (to the allotted amount).
• JRSO will replace prescription safety glass lenses at the allotted rate due to a change in prescription determined by optical examination; however, JRSO is not responsible for the cost of the examination.

Employees must submit receipts to their department manager to be reimbursed for the allotted amount.

Safety Shoes

Shore Policy

Close-toed shoes are mandatory for activity that requires routine presence in areas that are not exclusively office environments. This applies to all employees including those performing supervisory, inspection, clerical, and delivery work. Areas covered include laboratories; dock areas; loading zones; anywhere equipment such as forklifts and pallet jacks are operating; anywhere pallets are stored or used; anywhere heavy packages, drums, gas cylinders, or cryogens may be used, stored, or moved; and anywhere the Texas Hazard Communication Act applies.

Safety shoes are required when operating equipment including forklifts or when moving heavy items such as gas cylinders, drums, or pallets.

Supervisors are responsible for enforcing the use of appropriate protective footwear and shall apply this policy in a prudent manner; however, supervisors may be more restrictive based on their knowledge of activities and in areas under their responsibility. Supervisors are encouraged to review the effectiveness of fabric- or canvas-covered shoes where chemicals, glass, or potentially penetrating objects may be used.

Shipboard Policy
The Siem Personal Protective Equipment (PPE) and Clothing Vessel Management Manual (attached) governs shipboard requirements for safety shoes. All personnel (including JRSO staff and scientists) must wear safety-toe boots or shoes when outside the accommodation (includes berthing, dining, office, and labs) area unless in designated area approved by the Division Manager. The shipboard laboratories on the JOIDES Resolution contain many potential hazards including chemical, physical, pressurized gases, cryogenic liquids, and more. Close-toed shoes should be worn within any of the laboratory spaces at all times and are specifically required in the chemistry laboratory when chemicals are in use.

Safety Shoe Reimbursement

Employees who sail on the JOIDES Resolution will be reimbursed for the purchase of safety-toed shoes that meet the OSHA 1910.136 requirements. Such shoes are expected to last for approximately three years, but a supervisor may allow more frequent purchase if deemed necessary.

Shipboard and shore-based employees who are required to wear safety shoes may be reimbursed for the cost of the safety-toed shoes, up to $200.00, and must coordinate the purchase through their supervisor. In special cases, the supervisor can allow a higher dollar amount, but prior approval must be obtained in writing from the supervisor.

**Basis**

Siem Offshore Means of Protecting Personnel from Injury and Harm (PPE): OMM/SMM PR-222

Siem Offshore Mandatory Personal Protective Equipment (PPE): SMM PR-223
1. **Purpose**

   The purpose of this procedure is to
   - identify means of protection of personnel against various types of harm and injuries including excessive noise,
   - describe the personnel protective equipment (PPE) available onboard, and
   - provide the guidelines and instructions for their mandatory use.

2. **Scope**

   This procedure applies to all personnel onboard.

3. **Definitions**

   Reference to the definitions given in PR-GL-004-1, and PR-GL-004-3, Items 3.0.

4. **Responsibilities**

   The following areas of responsibility are applicable for the tasks described in this procedure:

<table>
<thead>
<tr>
<th>Position/function</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>Master</td>
<td>Overall responsible for compliance with this procedure. The Master has the authority to set additional PPE requirements when deemed required.</td>
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<tr>
<td>Safety Officer</td>
<td>Responsible for training and re-training of crew in correct use of PPE.</td>
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<tr>
<td>Onboard personnel</td>
<td>Adherence to procedure.</td>
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</table>

5. **Description**

5.1 **General**

   The personal protective equipment and clothing available on board shall include, but not limited to:

   - Boiler suits - long sleeves and flame retardant
   - Safety shoes - long leg ankle protection
   - Hard hats / helmets
   - Bump caps - for engine room only
   - Safety glasses - general purpose
   - Goggles / visors
   - Ear protectors
   - Safety harnesses
   - Safety lines
   - Work vests / life vests
   - Leather gloves
   - Steel gloves or safe knit gloves – for Galley
   - Gloves with mechanical protection
   - Chemical gloves
   - Chemical suits
   - Rain coats
-- Means of Protecting Personnel from Injury and Harm (PPE)
Office & Shipboard Management Manuals - OMM/SMIM

- Rubber boots
- Thermal clothing
- Immersion suits
- Respiratory Equipment

For vessels fuelled by liquefied natural gas (LNG) following additional PPE shall be used:

- Leather neck protection and full visor for hard hats
- Thermal gloves with long wrist protection
- Boiler suits must be in flame-retardant and anti-static material, as applicable.
- Hearing protection in the form of ear plugs.
- Cryogenic aprons readily available in the event of a fire.

The Company has authorized a list of standard PPE of good quality. Only makes and models from the Company approved supplier shall be used on board and applicable standards and legislation is adhered to in all areas where we operate.

The matrix in **PR-223 Mandatory Personal Protective Equipment (PPE)** shall be consulted if in doubt of PPE to be used for each activity.

### 5.2 Boiler Suits, Safety Shoes, Helmets and Bump Caps

Boiler suit with long sleeves and of flame retardant fabric, safety shoes with ankle protection legs and helmet is mandatory PPE and must as a minimum be worn by all personnel on deck when the vessel is engaged in off-shore operations and whenever the vessel is in an offshore operation area at sea or engaged in loading or off-loading in port.

Personnel engaged in bunkering on vessels fuelled by liquefied natural gas (LNG) must have leather neck protection and full visors mounted on helmets during bunker operation.

Personnel engaged in the vessel's mooring and casting off operations must also wear boiler suit, safety shoes and helmet.

Boiler suit, safety shoes and helmet or bump cap shall be worn when working in the engine room, machinery spaces and enclosed spaces such as Fuel Oil Tanks, Ballast Water Tanks and Fresh Water Tanks. Bump caps may replace helmets in the Engine Room where the risk of falling objects is minimal or negligible and where the use of helmet is considered too complicated or adding a risk to the activity.

Galley staff, when engaged in normal activities in the galley, shall wear water-resistant, non-skid and shock absorbent safety shoes and galley staff uniform with head dress or similar protection. When cutting meat/fish and when deemed necessary a steel glove or a safe knit glove for protection of the hand shall be worn.

The use of crocs, sandals and other types of footwear with open toe and heel is not allowed on board.

### 5.3 Eye Protection / Face Protection

In general, the recommended spark arrestors shall always be in place in equipment requiring same.

Additionally, eye protection in the form of goggles or visors shall be worn when handling materials or performing work with a risk of getting foreign objects in the eye.
Goggles and Visors must not be confused with general purpose Safety Glasses.

Goggles / Visors must be worn when engaged in the following jobs:

- Boring or drilling overhead
- Buffing and grinding
- Chipping and chiselling
- Riveting, sludging and scaling
- Some woodworking operations
- Replacing or tightening gauge glasses
- In close vicinity of where areas where goggles / visors is required
- Breaking concrete
- When using a hammer on a striking tool
- Handling lime or other fine and dusty material
- Working inside boilers and furnaces where the eyes are exposed to excessive foreign matter
- Handling irritating caustics, acids or other chemicals
- Cutting wire

Anyone near other persons, who are doing work that requires the use of optical safety glasses, must also wear them.

When welding or cutting with acetylene gas, shade lenses no. 5 or 6 should be used. Assistants for acetylene welders or cutters should use No. 4 shade lenses or their equivalent.

For electric arc welding welder should use welding helmets or hand shields with Nos. 10 or 12 shade lenses. Assistants for electric welders should use No. 6 shade lenses.

Flammable eye shields or visors must not be worn. A spark or intense heat may set them on fire and cause serious injury.

Complete coverage eye protection should be worn when dust hazards exist and when using any type of pneumatic tool i.e. when operating the anchor winch and letting go during anchoring of the vessel.

 Splash proof chemical goggles should be used when handling hazardous chemical liquids, powders or vapors such as cleaning material with chemical solutions, handling creosoted material, coal tar products, and asphalt or bitumen compounds or in any other operation where the eyes may be exposed to hazardous chemicals.

To ensure maximum eye protection and comfort, any type of eye protection used should be adjusted properly to the individual's face. When excessive fogging of lenses occurs, various types of "anti-fogging" compounds are available for application to the lenses to limit fogging conditions.

Personnel, who wear contact lenses and are exposed to chemical and dust hazards, should always be aware of the problems caused by getting a foreign material into the eyes. Such personnel must immediately see the Medic/Chief Officer for treatment.

Persons dependent on spectacles to perform their work tasks shall keep two pairs on board. Further, it is recommended that persons using spectacles use optical safety glasses where these are required according to Company PPE matrix (PR-223).

Cost for optical safety glasses will be paid by the Company. Before buying optical safety glasses, approval must be obtained from the Master and the Crew Manager.
The cost for the optical safety glasses will be reimbursed by adding the cost on the travel reimbursement form.

All eye protection (optical or non-optical) shall be CE approved or equal approval according to standard EN166. Optical eye protection shall also be according to standard EN167.

5.4 Ear Protection

a) Personnel are required to use appropriate ear protection when working in noisy environments.

b) In environments with excessive noise, e.g. engine room, thruster rooms and other potentially noisy areas, there is a mandatory requirement to ensure that high noise level signs are posted.
   - Ref. to Norwegian Reg 2005-01-01-06 chapter 15, section 15-23 (Forskrift om arbeidsmiljø, sikkerhet og helse for de som har sitt arbeid om bord på skip).
   - For Australia, reference is made to Safe Work Australia Code of Practice – Managing Noise Prevention and Preventing Hearing Loss at Work, table 1, page 7. This demonstrates maximum exposure standards without PPE and this standard must not be exceeded within Australian waters.

5.5 Harness

When personnel are working at a height of 2 meters or more, fall arrest equipment is required.

Type of Harness

a) Waist belts and chest harnesses may be used only for work positioning purposes, i.e. may be used to prevent a person from reaching a position where the risk of a fall exists. European standards do not permit waist belts or chest harnesses to be used as fall-arrest equipment.

b) Fall-arrest equipment requires a full body harness. Such a harness incorporates buttock straps designed to absorb the forces on a falling person. A harness is required to be used in conjunction with shock-absorbing equipment.

Types of Shock-Absorbing Equipment

a) A lanyard from the harness incorporating a shock absorbing or breakout device must be attached to a secure anchor point. The length of such a lanyard may not exceed 2 meters including any connecting hooks.

b) Shock-absorbing equipment of the dynamic type (e.g. inertia reel) must be directly attached to the body harness, the other end being secured to a suitable anchor point. For convenience, a short lanyard of up to 400 mm may be utilized between the harness attachment point and the hook of the inertia reel.

Lanyards

a) A lanyard may not be used together with shock-absorbing equipment of the dynamic type. The forces imposed on the body of the person by the equipment during the fall-arrest process may, in certain circumstances, exceed the limits set by the legislation if the person is wearing both these items of equipment.

b) Some lanyards of the shock-absorbing type are constructed of so-called "bungee rubber". Short 400-mm lanyards of this type are unsuitable for use in conjunction with an inertia reel. The "bounce back" effect caused by stressing the rubber lanyard may disengage the locking pawl of the inertia reel, allowing a second-phase falling of the person.
Connecting Hook
The connecting hook or shackle, used in conjunction with the fall-arrest equipment, requires being
of an auto-locking or double action type.

Compatibility
All components that comprise the fall restraint equipment e.g. harnesses, lanyards, ropes,
connectors should be compatible with each other and should be inspected and maintained by
cOMPETENT PERSONS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

5.6 Leather Gloves

When selecting gloves with regards to quality and material the following should be considered:

- Work on deck with a risk of hand injuries
- Handling equipment with sharp edges
- Handling chemicals
- Handling equipment with hot surface

Bunkering of LNG require use of thermal leather gloves with long wrist protection.

5.7 Work Vest

When work is being carried out where there is a risk of falling into the water, a work vest shall be
worn.

When required by Client and/or Company, the vessel is equipped with Personnel Locator Beacon's
(PLB's) for use during such activities.

5.8 Respiratory Equipment

Dust mask shall be worn by personnel involved with operation of the vessels anchor winch during
anchoring and all personnel in the vicinity of the anchor winch when letting go the anchor.

Other respiratory equipment should be used when working with hazardous substances, as defined
in relevant Material Safety Data Sheet (MSDS).

5.9 Chemical Suit and Gloves

Chemical suit and gloves shall be used when handling chemicals, chemical spills and when there
is a need for extra protection.

5.10 Rain Coat, Rubber boots and Thermal Clothing

Rain coat, rubber boots and thermal clothing shall be worn when the weather and climate require
extra protection on deck. The rain coat and thermal clothing shall always be worn in addition to the
boiler suit.

5.11 Jewelry

It is important that the use of jewelry in connection with shipboard activities is controlled. Use of
jewelry at work can cause a potential danger, and serious injuries may occur as a result of jewelry
in contact with hazards as electricity, moving equipment/ machinery, hot surfaces, ladders, doors
e etc. Thus, following restrictions are defined:

- Use of finger rings is not permitted while at work. If the ring cannot be removed, it should
  be taped up properly.
Means of Protecting Personnel from Injury and Harm (PPE)
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- Use of bracelets and necklaces is not permitted at work. Exception is made for "open copper" medical bracelets.
- Other jewelry, such as body piercing, is only permitted at work if completely covered by clothes and PPE.
- Watches should be removed when working with power tools, moving equipment and machinery. If worn during other types of work, watches should be completely be covered by PPE.

In addition, all visiting personnel are encouraged to take off their jewelry when boarding a vessel and to keep it off until disembarking.

5.12 Maintenance

The Master shall make arrangements to ensure that PPE is properly maintained. The type of equipment and its intended use determine the level of inspection or maintenance with respect to PPE:

a) An inspection by the user immediately before use may be sufficient for simple equipment, and maintenance may be in the form of cleaning or laundering, with the item being replaced when worn out.

b) Persons provided with personal protective equipment shall use the equipment in a proper manner in line with the intended use and shall report any defects of the equipment to their supervisors.

c) It should be avoided to use equipment which is contaminated by oil, grease, or other substances.

d) Where appropriate a record of inspection and/or maintenance shall be maintained.

5.13 Storage

The Master shall make appropriate arrangements for the proper storage of PPE:

a) The storage shall be adequate to protect the equipment from damage or contamination.

b) Items of PPE that is stored ready for use shall be kept separate from what is awaiting repair or maintenance.

5.14 Training and re-training

The Safety Officer shall ensure the training in the correct use of PPE and contribute to the enhancement of personal awareness in this respect by retraining as deemed necessary in connection with risk-assessments.

5.15 Flow chart

None.

6. References

- PR-223, Mandatory Personal Protective Equipment (PPE)
### Mandatory Personal Protective Equipment (PPE)

#### Shipboard Management Manual / SMM

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<th>SAFETY SHOES (Long legs protection)</th>
<th>HARD HAT / HELMET</th>
<th>BUMP CAP</th>
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1. Applies to mooring operations on the back deck of anchor handlers and vessels with increased risk of falling overboard.
2. Bump Cap may replace helmet.
3. As per MSDS.
5. "At height" where a person could fall a distance, liable to result in an injury to them.
6. When required by Client and/or Company.
7. To be used during pressure-testing, purging and disconnection,
8. Gloves with protection against mechanical risk.
9. Special water-resistant, non-wet and shock absorbing safety shoes for galley.

Any exemption from the PPE requirement shall be documented by a Risk Assessment approved by the Master.