Personal Protective Equipment (PPE)

TSP-24 PPE, Contractor Communication

Thailand Profit Center
August, 2009
Basic PPE

At a minimum personnel must wear basic PPE which includes

- Work Clothing
- Head Protection
- Eye and Face Protection
- Foot Protection
- Hearing Protection
- Hand Protection
Work Clothing – Fire Resistant/Retardant Clothing (FRC)

- FRC is mandatory for all areas of offshore production or drilling facilities, other than living quarters/accommodation unless a sign or field directive is posted to the contrary.

- Other locations (e.g. shorebases and construction barges) may also have areas designated where FRC is required.

- FRC is not required for short term visitors and contractor personnel for less than three days visit unless their exposure is deemed to require FRC.
  - Determination FRC requirement for visitors and short term personnel shall be determined before visit arrangements and are finalized by the sponsoring manager, in consultation with the Facility Manager or HES Specialist.
  - If required, visitors will be provided with FRC during their HESS orientation.
FRC Compliance

- For all trades except welders, clothing shall be either Nomex or a CTEP approved FRC material.

- Shirt and pant combinations or coveralls consistent with industry standard protective clothing shall be worn by contractor employees when working for Chevron.

- Colors may match clothing normally supplied by the contractor to their employees.

- Contractors shall supply two (2) sets of FRC to each employee free of charge before their assignment to a designated area.

- Replacement shall be issued in accordance with the policies of the contractor company.
Head Protection

- Contractors shall provide their employees with head protection in compliance with this document or as stipulated in their contract with Chevron.

- Non-conductive (plastic) head protection in compliance with ANSI-Z89.1 shall be worn at all times by personnel and visitors when in any area designated as requiring head protection or where dropped object or head bump exposure exists. Generally this includes:

  - Wellhead platforms.
  - All areas of Production Platforms, Drilling Rigs, Construction Barges, vessel/boat decks except the living accommodations, control rooms, work shops and offices.
  - All areas outside the accommodation module where or when there is head injury exposure.
  - When identified as needed during the JSA.
Head Protection

Safety Helmet (Hard Hat) Colors as follows:

- White - For Long Term Personnel
- Green - For SSE Personnel during their SSE Term
- Orange – Visitors

Exceptions:

- Helmets may only be removed by WELDERS during activities when they must wear welding shields or hoods.
Eye and Face Protection

- Eye and face protection in compliance with ANSI-Z87.1 or CTEP approved equivalent shall be worn at all times by contractor personnel, and visitors when in the locations where eye injury exposure exists, or when carrying out work near but not limited to the following operations:
  - Use of hand tools where chips, sparks or dust may be generated including the opening of packing cases
  - Use of powered hand tools
  - Use of machine tools
  - Welding, flame cutting, burning, chipping and grinding.
  - De-scaling, sand and shot blasting
  - Paint removal and spraying
  - Pressure testing
  - Work with any chemical or substance requiring eye or face protection by the applicable Material Safety Data Sheet (including hydrocarbon process/products).
  - When identified as needed during the JSA.
Eye and Face Protection

Where prescription safety glasses are required, the following minimum requirements shall apply:

- Persons wearing prescription glasses without safety lenses must wear approved cover goggles in areas requiring eye protection.

- Where prescription glasses are required to be worn with full-face respirators, a spectacle kit for the respirator shall be provided for the glasses in order to preserve the respirator's seal.

Face Protection Shields must be worn in addition to safety glasses or safety goggles when performing activities which have the potential for face injury from flying objects during welding, hammering, grinding, grit blasting etc., including working with chemicals.
Eye and Face Protection

Exceptions:

- Welders may remove their safety glasses only when using welding goggles. (Safety glasses shall be worn in combination with welding hoods/shields.)

Contact Lenses

- Chevron discourages the use of contact lenses in laboratories and in areas where chemicals or dust is handled or present.
- Personnel who choose to wear contact lenses must always wear eye protection.
Foot Protection

- Safety footwear in compliance with ASTM-F2412 and F2413 or Chevron approved equivalent shall be worn in all areas where work related foot injuries can occur.

- Safety footwear shall be part of the basic PPE for all personnel in the categories listed below and shall be worn at all times when outside accommodations, offices, etc.
  - Offshore Production, Drilling, Construction and Marine Vessels
  - Workshops
  - Shorebases (warehouses, docks, jetty’s and storage areas)

- Contractors shall replace safety footwear free of charge to their employees as and when it becomes worn or unserviceable.
Hearing Protection

- Hearing protection tested in compliance with ANSI S12.6 must be utilized when working in areas where noise levels exceed time weighted average (TWA) of 85 decibels A scale for an 8 hours exposure.

- The following are the designated areas required hearing protection at all times:
  - All areas of central processing platform for offshore operations
  - All areas outside the LQ’s on drilling rigs both offshore and onshore
  - On helicopters (all flight)
  - Areas around rotating machinery
  - Any other areas which have a noise level above 85 decibels based on noise surveys
  - When identified as needed during JSA’s

Recommended Hearing Protection Include:

- Ear plugs (disposable and reusable)
- Ear muffs
Hand Protection

- Hand injuries have been identified as a high risk concern.

- Hand protection in compliance with ANSI-105 is recommended to be worn whenever there is an exposure to hand injury from hot surfaces, sharp objects, chemicals, etc.

- Appropriate hand protection must be worn when handling chemicals or working with electricity.

- There is no one glove that can suit every purpose.

- All supervisors shall ensure their subordinates understand, have and wear the appropriate hand protection when assigning work or when identified as needed during JSA’s.
## Example Glove Types, Selection and Usage

<table>
<thead>
<tr>
<th>Type of Glove</th>
<th>Types of Hazard</th>
<th>Recommendation for use</th>
<th>Caution</th>
<th>Pictures</th>
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</thead>
<tbody>
<tr>
<td>1. Cut Resistant Gloves</td>
<td>• Food preparation • Open blade activity, e.g., knives, or working with sharp objects</td>
<td>• Always use with latex gloves during food preparation to avoid cross food contamination. • Glove decontamination procedures must be used in food preparation</td>
<td></td>
<td><img src="image1.png" alt="Glove Image" /></td>
</tr>
<tr>
<td>2. KONG Gloves</td>
<td>• High risk activities identified by JHA • Maintenance activities • Loading and unloading cargo, i.e., boat crews. • Working with lifting gear, e.g., chain hoist, slings • High impact work</td>
<td>• Size selection required • Not recommended for hydraulic oil contaminated tasks</td>
<td></td>
<td><img src="image2.png" alt="Glove Image" /></td>
</tr>
<tr>
<td>3. Ansell Edmont Sol-Vex Gloves (37-175)</td>
<td>• Chemical handling • Mercury contaminating sludge handling • Laboratory analysis • Part cleaning • Vessel entry and tank cleaning activities</td>
<td>• Avoid sharp objects • Not recommended for general usage • Not recommended for Acetone, Benzene, MEK, Phenol, Styrene, Sulfuric acid and Trichloroethylene</td>
<td></td>
<td><img src="image3.png" alt="Glove Image" /></td>
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| 4. Polka dot (cotton gloves)       | • Light general maintenance e.g., loading/unloading light cargo from chopper, sweeping, platform gauging activities | • No impact protection  
• Not fit for use with chemicals  
• No cut protection  
• Avoid sharp objects | ![Glove Image](image1.png) | ![Glove Image](image2.png) |
| 5. Welding Gloves                   | • Welding activity  
• Hot work related activity | • Low impact protection  
• Specific for welding  
• Not recommended for general usage | ![Glove Image](image3.png) | ![Glove Image](image4.png) |
| 6. Red Mechanix Original Glove      | • Maintenance activities by mechanics, provides high dexterity and grip.  
• Turbines, pumps maintenance | • Low impact protection  
• Size selection required  
• Not recommended for hydraulic oil contaminated tasks | ![Glove Image](image5.png) | ![Glove Image](image6.png) |

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<td>7. Electrical Gloves</td>
<td>• High voltage electrical activity</td>
<td>• No impact protection • Avoid sharp objects • Not recommended for general usage</td>
<td>Maximum use for 500 voltage</td>
<td><img src="image1.png" alt="Glove Image" /></td>
</tr>
<tr>
<td>8. Best N-DEX Gloves 7005</td>
<td>• Lab Activities • Working with harmful chemicals such as Benzene, Toluene, Xylene, Acetone, Sulfuric acid, Sodium Hydroxide.</td>
<td>• Avoid sharp objects • Not recommended for general usage</td>
<td></td>
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**Identify the risks and wear PPE appropriate to the task**

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Additional and Specialized PPE

- Respiratory Protection
- Electrical Insulating Gloves
- Life Jackets, Work Vests
- Safety Harness with fall arrest and arranged for 100% tie off
- Diving, Rescue and Medical Equipment
- LEL, H₂S, Benzene, Hg, Radiation Monitors/Respirators
- Fireman Outfits (Bunker Coats, Overall Pants, Boots, etc.)
Respiratory Protection

- Appropriate respirators in compliance with ANSI Z88.2 shall be provided and worn when required by the MSDS for chemicals, toxics, dusts, fumes, mists, vapors, gases, sprays, and smoke or when identified as needed during JSA’s.

Respirators include either purifying or filtering and air supplied.

- Purifying or filtering respirators
  - Single use filtering half face (disposable)
  - Air purifying half or full face mask

Purifying and filter canisters color codes

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<th>For Contaminant Protected Against:</th>
<th>Canister Color:</th>
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<tr>
<td>Acid Gases</td>
<td>White</td>
</tr>
<tr>
<td>Organic Vapors</td>
<td>Black</td>
</tr>
<tr>
<td>Acid Gases and Organic Vapors</td>
<td>Yellow</td>
</tr>
<tr>
<td>Acid Gases, Organic Vapors and Ammonia Gases</td>
<td>Brown</td>
</tr>
<tr>
<td>Benzene Vapors</td>
<td>Black</td>
</tr>
<tr>
<td>Mercury Vapors</td>
<td>Orange With Indicator Ring</td>
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Respiratory Protection

- Air Supplied Respirators
  - Self-contained breathing apparatus (SCBA) Full Face Positive Pressure
  - Supplied (compressed) air-line respirators Full Face Positive Pressure

When wearing respirators, the following must be complied with:

- For SCBA and Airline Supplied Respirators, the wearer must have a current physical examination confirming their health for breathing apparatus and have been trained in the use of the breathing apparatus within 1 year.
- The selected respirator must fit the wearer properly.
- Users must be fit tested at least annually per the manufacturer’s procedure for the fit test kit.
- If the exposure consists of two or more contaminants for which air-purifying canisters are recommended (e.g. Mercury and Benzene) and a combination canister is not available, then an air supplied respirator must be used.
- Purifying or filtering respirators must not be used if the working area has less than 19.5% oxygen.
Respiratory Protection

Wearers/users must not have:

- Contact lenses
- Glasses with temple pieces
- A beard, mustache, or long sideburns
- Breathing problems, such as asthma
- Claustrophobia (fear of confined space)
- Heat sensitivity (often suffered from heat such as heat cramp, heat stroke, etc.)

When using respirators, the user must immediately leave the area if:

- Breathing becomes difficult
- Dizziness or other distress occurs
- Irritation, smell and taste contaminants is sensed
- The respirator becomes damaged
Specialized PPE Protection

Responsible contractor shall provide specialized PPE to personnel as appropriate but not limited to:

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