Personal Protective Equipment (PPE)

1. Purpose

This policy sets forth the minimum requirements regarding Personal Protective Equipment (PPE) selection and use, including the criteria for conducting and documenting hazard assessments for the purpose of determining appropriate PPE for the task / hazard.

PPE is intended to protect, shield or isolate personnel from chemical and physical hazards. Engineering and administrative controls should be implemented where possible before PPE is used.

2. Scope

This policy applies to all employees, contractors, customers, visitors, and agency representatives while in the work environment.

Sections of the following programs are included in this policy but reside individually in the safety manual and should be referenced for specific related requirements and guidance:

- Abrasive Wheel Machinery
- Asbestos Program
- Benzene
- Boat and Vessel Safety
- Electrical Safety
- First Aid
- Hearing Conservation
- Helicopter Safety
- Hydrogen Sulfide
- Lead Management
- Quality Control Test Room Safety
- Respiratory Protection Program
- Working at Heights

3. Minimum Requirements

	Minimum Requirements	Supporting Documentation
1.	The following PPE shall be worn at all times while in the work environment: • Hard Hat • Safety Glasses with side shields • Safety Shoes • Fire Resistant Clothing (FRC) – see section 6 for exceptions.	Sections 6, 8–10, 12, 15
2.	All jobs / tasks / hazards will be evaluated for PPE applicability and will be documented on the PPE Matrix	Section 7
3.	PPE Free Zones will be visibly marked.	Section 8
4.	All employee PPE will be purchased by BP.	Section 15

5.	All employees will receive training on this policy and its contents.	Section 16

4. Definitions

Hazard Assessment—Required by 29 CFR 1910.132 (d)(1) the hazard assessment documents potential workplace hazards and the PPE required to control the hazard adequately.

PPE Free Zones—Are areas where individuals are unlikely to be exposed to hazardous conditions or substances and where field work is not routinely performed. These areas are typically described as:

- Office buildings
- Lunch rooms
- Break areas / rooms
- Parking lots
- Toilet facilities
- While inside vehicles being used for passenger transportation

Work Environment—Are areas inside BP fence lines (excluding marked PPE Free Zones) and areas where field work is being performed on behalf of BP. Areas generally included are:

- Inside station yards
- On docks
- Construction areas
- Shops and warehouses
- Terminals and truck loading / unloading facilities which includes secondary transport product delivery sites
- Tank farms and related equipment
- On offshore platforms
- Pipeline Right-of Ways
- Spill and leak sites
- Operating construction / equipment vehicles

Specifically excluded from the “Work Environment” are:

- Any PPE Free Zones which are visibly marked as such
- Ship and Barge operations (non-USPL personnel)

5. Roles & Responsibilities

5.1. Safety Coordinators

Safety Coordinators / Advisors are responsible for:

A. Evaluating jobs / tasks / hazards introduced to their area of responsibility and determining the appropriate PPE to be worn while performing that job / task.

B. Ensuring that updates to the hazard assessment are sent to the HSSE Manager for inclusion on the PPE Matrix

C. Providing technical guidance and assistance regarding PPE.

D. Evaluating specific requests for new types or brands of PPE to supplement or replace the current selection.

5.2. Team Leaders

These managers are responsible for:

A. Ensuring that PPE Free Zones are marked at their facilities

B. Ensuring that as new jobs / tasks / hazards are introduced to their area that the line organization communicates the new job / task / hazard to local HSE for evaluation and determination of PPE for inclusion on the PPE matrix.

C. Ensuring PPE is made available and accessible for employees and visitors.

D. Ensuring that all affected personnel are trained on any PPE that they may have to use.

E. Ensuring that all affected personnel wear the appropriate PPE for the specific tasks and hazards associated with their work.

F. Shall follow the FRC Purchase Program to secure and maintain FRC for their employees.

5.3. Safety Advisors

Safety Advisors are responsible for

A. Maintaining the Hazard Assessment & PPE Matrix including receiving and evaluating field hazard assessment data for inclusion on the PPE matrix.

5.4. HSSE Manager

The HSSE Manager is responsible for:

A. Certifying the PPE Matrix when changes are made.

6. Minimum PPE Requirements and Application

A. The following minimum PPE shall be worn at all times while in the work environment.

1. Hard Hat
2. Safety Glasses with side shields
3. Safety Shoes
4. Fire Resistant Clothing (FRC)

Exception: The USPL workforce, i.e. employees and contractors, working outside of USPL fence lines are not required to wear FRC provided they do not have foreseen exposure to hydrocarbons with potential to produce a flash fire or to electrical hazards. With DOM approval, this exception may also apply to workers inside a fence line where no hydrocarbons are present in any pipeline or vessel, e.g. a new or decommissioned facility, and where the employee is not exposed to electrical hazards.

Guidance: FRC is generally *required* for workers inside USPL fence lines except for:

- PPE free zones, or
- if the entire fenced area is free of hydrocarbon containing vessels or pipes and the worker is not required to wear the protection for electrical hazards.

FRC is generally *not required* for workers outside USPL fence lines unless:

- a Primary Source Ignition (PSI) Class 1 Hot Work Checklist is necessary, or
- a PTW is necessary, or
- an Excavation Checklist is necessary and excavating or backfilling are being conducted by mechanical means, or
- the Electrical Safety policy requires it for arc flash protection, or
- we enter a third-party facility that requires it, or
- there is a specific identifiable exposure, e.g. the hot zone during emergency response or cad welding.

B. Additional PPE beyond the minimum PPE listed above is required for specific tasks as documented on the USPL PPE Matrix.

C. Each facility / station / terminal may choose to define “PPE Free Zones”. For more information on determining “PPE Free Zones” see Section 8.

D. In a rare instance when a government agency representative refuses to comply with these PPE requirements, the following steps should be taken:

1. Stop jobs or take other actions to mitigate potential hazards in the area.
2. Immediately notify line management up to the DOM of the situation, including location, agency involved, BP site contact and steps taken to mitigate risk and accommodate the agency.
3. If there is no imminent hazard, allow the agency personnel access with a close escort, being diligent to caution the agency personnel of potential hazards and remove hazards where possible. It is recommended that two BP personnel accompany the agency representative(s) refusing to wear PPE if possible.
4. Document the agency personnel’s refusal to comply with site HSSE policy.

7. Hazard Assessment & PPE Matrix

7.1. General

A. OSHA’s Personal Protective Equipment (PPE) Standard 1910.132 states that each employer must assess the workplace to determine if there are any physical and/or chemical hazards present or likely to be present to which employees may be exposed that would require the use of PPE. This hazard assessment information leads to the development of the PPE Matrix which lists required PPE by job task. See the USPL PPE Matrix in DRM

B. Employees are responsible for adhering to the PPE requirements outlined on the PPE Matrix.

C. The Hazard Assessment and resulting PPE Matrix is designed to be an evergreen document. It documents the jobs / tasks / hazards that have been identified and evaluated throughout USPL and lists the proper PPE to be worn while engaged in particular activities.

7.2. Updating the Hazard Assessment and PPE Matrix

A. When a job / task / hazard which has not been previously evaluated as part of the hazard assessment is identified, it must be evaluated to determine the appropriate PPE to be worn while engaged in that job / task, or while exposed to the particular hazard.

B. Section 5 outlines the key roles and responsibilities regarding notification and evaluation of a new job / task / hazard as well as certification that the hazard assessment has been performed.

C. The identified job / task / hazard and required PPE will be documented on the PPE Matrix.

7.3. PPE Matrix Template

See Appendix I for the Hazard Assessment & PPE Matrix template to be used for documenting the Hazard Assessment.

8. The Work Environment & PPE Free Zones

8.1. Work Zones

A. One of the basic elements of an effective PPE program is the delineation of work zones at the site. The purpose of establishing work zones is to prevent unprotected personnel from entering controlled areas where hazards exist.

B. A fenced site or area shall be divided into two zones, “PPE Free Zones” where no PPE is required, and the “Work Environment” which is described as areas where the established minimum level of PPE is required, and where additional PPE is required as identified on the PPE matrix.

8.2. PPE Free Zone

A. The “PPE Free Zone” is the area where individuals are unlikely to be exposed to hazardous conditions or substances and where field work is not routinely performed. Because the zone has been determined to be free from exposure to hazardous conditions or substances, personnel working within it may wear normal work apparel.

B. Designation of the “PPE Free Zones” shall be based on available site characterization data, must be permanently marked and must be communicated to personnel at the location.

C. The PPE Zone must be marked so that personnel standing on the PPE Free side of the line are not at risk from potential hazards or equipment on the work environment side of the line.

D. The boundaries shall be modified and adjusted permanently if lasting conditions or changes occur (e.g. change in process, implementation of engineering controls, introduction of a new hazard, etc.); however, any change to the boundaries must be identified, physically marked and communicated accordingly.

E. Additionally, if infrequent and temporary work must be performed within a marked PPE Free Zone, measures must be taken to restrict personnel from entering the temporary work zone (e.g. barricade tape, signage, communication) until the work is completed and the area returns to the PPE Free Zone.

8.3. Safe Personnel Pathways

A. Some shops and warehouses are co-located with office buildings where non-field personnel frequently traverse to gain entry to the office section of a building. “Safe Personnel Pathways” which exempt personnel from wearing PPE in the “Work Environment”, such as a pathway through a workshop, may be routed through the shops and warehouses. *This exemption only applies to buildings such as shops and warehouses under the following conditions*:

1. The pathway begins and terminates at the doors to the shop / warehouse providing a safe route through the shop / warehouse into the office building.
2. The pathway allows sufficient space/distance to protect personnel from potential injury or exposures (e.g. flying debris from grinding, welding or cutting.) present in the “Work Environment”.
3. The pathway allows adequate space/room within the “Work Environment” to conduct work safely.
4. The pathway is clearly defined and marked by yellow striping on either side of the pathway separating it from the “Work Environment” (areas that require PPE).

5. The pathway is kept free of potential hazards and obstacles.

B. Personnel *not* wearing the minimum PPE for the work environment are permitted to traverse shops / warehouses in order to access the office building provided that:

1. They are passing directly through the shop / warehouse on the designated “Safe Personnel Pathway”. (Stopping for conversations while on the pathway is not acceptable)

2. They are cognizant of work / hazards around them. The “Safe Personnel Pathway” does not provide a physical protection barrier, so it is recognized that at times work / hazards may intrude on the designated pathway (e.g. forklift crossing pathway).

C. Additionally, some facility characteristics require personnel to report to work via crossing the “work environment” (e.g. Terminal parking lots requiring personnel to walk near truck loading racks to report to work). In these circumstances the following will be considered:

1. If feasible, the facility characteristics will be altered to eliminate or minimize the distance personnel must traverse through the work environment when reporting to or from work, while not wearing the minimum PPE.

2. If when entering or leaving the facility personnel are required to walk through the work environment, personnel are required to take a direct route which minimizes their exposure to hazards to the facility where the minimum PPE can be donned prior to re-entering the work environment. Local management may deem it necessary to specify walking routes.

3. In all cases, personnel must be aware of work being performed around them and exercise judgment when reporting to work and not traverse through an active work area or hazardous situation.

8.4. Guidance for PPE Free Zones

See Appendix II for guidance on determining PPE Free Zones.

8.5. Guidance for PPE Signs

If signage is used to designate work environments and PPE free zones, here is guidance on what was used in the past and may still be available.

A. PPE Required Beyond This Point

1. Two sizes available – 8” x 11” and 14” x 20”

B. PPE Free Zone

1. Two sizes available – 8” x 11” and 14” x 20”

C. Minimum PPE Required: Fire Resistant Clothing (FRC), Hard Hat, Safety Shoes, Safety Glasses with Side Shields

1. One size – 14” x 20”

D. The vendor who provided USPL with our initial order of PPE signage in 2007 has all the information needed. Their contact information is:

1. Industrial Graphics Corporation, 304 Industrial Drive, Fredonia, WI, 53021, phone 262-573-7927. Contact James Goetsch.

2. Appendix V shows the signs that were available.

9. Head Protection

Hard hats are designed to protect from impact and penetration caused by objects hitting or bumping your head, and from limited electrical shock or burns.

A. Hard hats meeting the requirements of ANSI Z89.1 are required to be worn in the work environment at all times.

1. The hard hat shell and suspension shall be assembled and worn as instructed by the manufacturer
2. Class C hard hats are prohibited (conductive shell)

Note: OSHA may not issue a citation for workers not wearing hardhats due to personal religious convictions. But in those situations, consider other mitigations to avoid falling objects, bumping their head, and electrical shock.

B. Hard hats shall be inspected prior to each use and per the manufacturer's recommendations. If a hard hat becomes brittle, cracks, or is otherwise damaged, it must be replaced immediately and as recommended by the manufacturer.

1. Generally, manufacturers recommend hard hat suspension replacement every year and shell replacement every 5 years.
2. Replacement hard hats will be issued as needed for all employees.

10. Eye and Face Protection

10.1. General

A. Eye and/or face protection is required to be worn at all locations where there is exposure to eye or face hazards from flying particles, molten metal, liquid chemicals, caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

B. Eye and/or face protection is required to be worn in the following areas or circumstances:

1. Safety glasses with side shields while in the work environment
2. Additional or alternative eye/face protection may be required as the PPE matrix dictates

10.2. Safety glasses

A. All safety glasses must meet the requirements of ANSI/ISEA Z87.

B. See Section 15 regarding procurement of prescription safety glasses.

10.3. Safety goggles

A. Goggles provide a secure shield around the entire eye area and provide protection against hazards from all directions. Goggles are rated for impact or chemical protection.

B. Impact protective goggles provide more protection than safety glasses and may be required for jobs such as grinding, overhead work where particles may fall, working in windy conditions.

C. Chemical protective goggles prevent liquids from reaching the eyes and may be required for tasks such as pouring liquids, opening pressurized systems.

10.4. Face Shields

A. Face shields provide protection to the entire face area and are only worn over primary eye protection such as safety glasses or goggles.

1. Face shields must be chemical splash and impact resistant

B. Face shields are typically required when grinding, using pneumatic tools, handling chemicals at high temperatures, or opening pressurized systems with a potential for splashing.

10.5. Abrasive Blasting Hoods and Suits

A. Abrasive blast hoods provide protection from the impact of the rebounding abrasive blast material and coatings being removed and shall be worn at all times while blasting.

B. Additionally, sand blasting shroud, jacket, or suit shall be worn.

10.6. Welding and Laser protective eyewear

A. Specific protective eyewear is required for heat welding and cutting and use of lasers. The equipment manufacturer's instructions must be consulted for correct recommended protective eyewear.

10.7. Contact Lenses

A. Employees are permitted to wear contact lenses under the appropriate protective eyewear.

11. Hearing Protection

A. Hearing protection must be worn by all personnel in the following areas or circumstances:

1. Where the exposure to noise is 85 dBA or greater for an 8 hr shift
2. Where the exposure to noise is 82 dBA or greater for a 12 hr shift
3. Where designated signs are posted as Hearing Protection Required
4. As the PPE matrix dictates.

B. Refer to the Hearing Conservation Program in the safety manual for detailed information regarding hearing protection applicability, selection, and use.

12. Body Protection

12.1. General

A. In addition to the minimum requirement of Fire Resistant Clothing (FRC) while in the work environment, there are other situations where additional PPE may be required. Examples of additional body PPE includes but is not limited to:

1. Tyvek outer wear
2. Splash aprons
3. Personal Flotation Devices
4. High-visibility safety apparel
5. Welders apron
6. Fall Protection

B. Tasks and situations where additional body protection is required are identified on the PPE matrix.

12.2. Fire Resistant Clothing (FRC)

A. All employees, contractors, customers, visitors, and agency representatives are required to wear FRC while in the work environment.

Exception: The USPL workforce, i.e. employees and contractors, working outside of USPL fence lines are not required to wear FRC provided they do not have foreseen exposure to hydrocarbons with potential to produce a flash fire or to electrical hazards. With DOM approval,

this exception may also apply to workers inside a fence line where no hydrocarbons are present in any pipeline or vessel, e.g. a new or decommissioned facility, and where the employee is not exposed to electrical hazards.

Guidance: FRC is generally *required* for workers inside USPL fence lines except for:

- PPE free zones, or
- if the entire fenced area is free of hydrocarbon containing vessels or pipes and the worker is not required to wear the protection for electrical hazards.

FRC is generally *not required* for workers outside USPL fence lines unless:

- a Primary Source Ignition (PSI) Class 1 Hot Work permit is necessary, or
- a Cold Work–Breaking Containment permit is necessary, or
- an Excavation permit is necessary and excavating or backfilling are being conducted by mechanical means, or
- the Electrical Safety policy requires it for arc flash protection, or
- we enter a third-party facility that requires it, or
- there is a specific identifiable exposure, e.g. the hot zone during emergency response or cad welding.

B. Fire resistant lab coats alone do not provide complete coverage of the body and cannot be used to satisfy this FRC requirement.

C. Procured FRC must meet the following specifications:

1. The minimum weight of FRC fabric will be 6-oz/sq yd, or will have a Thermal Protection Performance (TPP) of 6 or greater.
2. The material shall meet the electrical Hazard Risk Category 2, which is an arc thermal performance value (ATPV) of 8 cal/cm^2.

   Exception: Non-employee (e.g. transport driver, contractor, or visitor) fire resistant clothing is not required to meet the electrical Hazard Risk Category 2 rating, unless their work requires it due to proximity to electrical hazards. See the PPE Matrix or electrical equipment warning labels for identification of those tasks or areas.
3. FRC shirts / jackets and pants must cover the full length of the arms and legs. Where FRC is required, the outer layer of clothing including pants, shirts (if FRC jacket is not worn) and jackets must be FRC.
   a) In the event that specialized clothing must be utilized it will be donned over the FRC clothing, and if practical must also be fire resistant.

D. General or commercial laundering may be used to clean FRC. Refer to Appendix IV for general laundering instructions.

12.3. Flash Suits

A. A Flash Suit is a specialized piece of PPE designed to protect against electrical arcs. Flash Suits are worn over basic FRC clothing which covers the head, face, upper body, arms and torso. It is normally constructed of leather, Kevlar, kermel, nomex or a combination of these.

B. Requirements for wearing Flash Suits are detailed on the PPE Matrix, as well as in the Safety Manual under the Electrical Safety Program.

12.4. Fall Protection

A. Employees and contractors are required to use fall protection equipment or systems when an assessment of the hazard indicates that a person could fall six (6) or more feet.

B. Reference the Working at Heights policy in the safety manual for detailed information regarding fall protection requirements, applicability, method, equipment selection, and use.

C. Where employees are working over or near water, assess whether the greater risk is from falling from a height or from drowning if the employee falls into the water and has limit movement due to fall protection. See the Working at Heights policy for more information.

12.5. High-Visibility Safety Apparel

A. Personnel exposed to public vehicular traffic shall be provided with and shall wear DOT-approved warning vests marked with or made of reflector or high-visibility material. Where FRC is required, this outerwear shall be FRC.

B. Three Performance Classes of high-visibility safety apparel are available. Consideration should be given to the minimum appropriate level of protection using the following guidance from ANSI/ISEA 107, American National Standard for High-Visibility Safety Apparel and Headwear.

1. Performance Class 1 provides the minimum amount of required material to differentiate the wearer from the work environment. For occupational activities which; permit full and undivided attention to approaching traffic; provide ample separation of the pedestrian worker from conflicting vehicle traffic; permit optimum conspicuity to backgrounds that are not complex; and where vehicle and moving equipment speeds are not exceeding 25 mph.

2. Performance Class 2 provides superior visibility for wearers by the additional coverage of the torso, and is more conspicuous than Performance Class 1. For occupational activities where risk levels exceed those in paragraph 1 above, such as where; greater visibility is desired during inclement weather conditions; complex backgrounds are present; workers are performing tasks which divert attention from approaching vehicle traffic; vehicle or moving equipment speeds exceed 25 mph; or work activities take place in closer proximity to vehicle traffic.

3. Performance Class 3 offers greater visibility to the wearer in both complex backgrounds and through a full range of body movements, and enhanced visibility beyond Performance Class 2. For occupational activities where risk levels exceed those in paragraph 2 above, such as where: workers are exposed to significantly higher vehicle speeds and/or reduced sight-distances; the worker and vehicle operator have high task loads, clearly placing the worker in danger; or the wearer must be conspicuous through the full range of body motions at a minimum of 1280 feet, and must be identifiable as a person.

13. Hand Protection

A. Hand protection shall be worn when performing jobs that expose the hands to harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns and harmful temperature extremes. Some gloves offer protection for multiple hazards, but no glove protects individuals from all potential hand hazards. It is important to understand the specific uses and capabilities of gloves and the level of protection provided by each type to ensure proper selection and application.

B. Hand protection shall be worn as the PPE matrix dictates.

C. Refer to the glove selection chart in Appendix III for more information regarding types and uses of gloves.

D. Refer to the Electrical Safety policy for information regarding selection and testing of electrical gloves.

14. Foot Protection

A. A variety of foot protection exists to provide protection from falling or dropped objects, chemical exposure, compression from roll over hazards, puncture, and electrical hazards.

B. Foot protection meeting the requirements of ANSI Z-41or ASTM F 2413 is required to be worn in the following areas or circumstances:

   1. Safety shoes with impact protection (i.e. hard toed) while in the work environment.

   2. As the PPE matrix dictates.

C. See Section 15 for the Employee Safety Shoe Purchasing Program

D. Additionally, safety shoes must be of leather-construction, with oil-resistant soles. The following shoe types are not permitted in the work environment:

   1. Athletic / tennis / sneaker,

   2. Shoes with nylon / synthetic webbing or mesh and holes

E. Visitors may enter the work environment without ANSI / ASTM approved shoes, but must at a minimum have shoes of leather material which fully encompass the foot. Additionally, visitors will be accompanied by a BP employee while in the work environment to ensure they are not exposed to hazards unnecessarily.

F. Specialized shoes (i.e. waders, rock climbing shoes) may be used in lieu of required safety footwear per the PPE Matrix or approval from the Safety Coordinator.

15. PPE Procurement

15.1. PPE Procurement Responsibility

The responsibility for procuring PPE is as follows:

A. Employees: The Company will provide all necessary PPE, and additionally will approve reimbursement for safety glasses and safety shoes as detailed below.

B. Contractors: All contractors will be required to provide all PPE for their employees and are responsible for ensuring that their sub-contractors meet the PPE requirements as well.

C. Customers: Companies who load products at BP Terminals will be required to provide PPE for their employees or sub-contractors. The terminal may stock extra PPE (i.e. FRC, hard hats and safety glasses) for use by infrequent carriers while on BP property.

D. Visitors: Each company location will stock extra necessary PPE excluding safety shoes for visitors to don if entering the work environment.

15.2. Employee Prescription Safety Glasses Purchasing Program

Employees requiring prescription safety glasses will be reimbursed by BP following current Human Resources polices or bargaining agreements with the following requirements:

A. An optical prescription from a licensed practitioner is presented

   1. Medical eye examination is at employee’s own expense

B. One tinted and one clear pair per 2 years, or one pair of photogray per 2 years. A maximum spend of $300 is allowed.

C. Prescription safety glasses costing more than $300 for verified medical reasons require approval by the DOM prior to purchase.

D. If safety glasses need to be replaced before the two-year requirement, and damage to the safety glasses is considered work-related, new safety glasses may be purchased at no cost to the employee at the discretion of local management.

15.3. Employee Safety Shoe Purchasing Program

Regular and casual employees who are exposed to the work environment are eligible to participate in the safety shoe program.

A. Each eligible employee may purchase one pair of safety shoes per calendar year pending supervisor approval.

B. USPL will contribute 100% of the purchase price when safety shoes are ordered up to $200.

C. Safety shoes costing more than $200 for verified medical reasons require approval by the DOM prior to purchase.

1. To receive reimbursement, the employee must bring the “dated” original receipt along with proof that the shoes meet the ANSI Z-41 or ASTM F 2413 requirements.

2. If safety shoes need to be replaced before the program dictates, and the damage to the shoes is considered work-related, new shoes may be purchased at no cost to the employee at the discretion of local management.

16. Training

A. Each employee required to use PPE shall be initially trained to know the following:

1. When PPE is necessary (per the PPE Matrix),

2. What PPE is required (per the PPE Matrix),

3. How to properly put on, remove, adjust, and wear PPE,

4. Limitations of PPE, and

5. Proper care, maintenance, useful life, and disposal of the selected PPE.

B. The employee must demonstrate an understanding of the training by successful competency testing before being allowed to perform work requiring the use of PPE. Re-training must be performed when:

1. There are changes in the workplace that make previous training obsolete,

2. When there are changes in the types of PPE to be used, and/or

3. There are inadequacies in the employee's knowledge of or use of the chosen PPE.

C. Employee training and understanding shall be documented in the Learning Management System.

17. PPE Maintenance and Inspection

A. Proper care and maintenance of PPE shall be maintained in accordance with the products’ manufacturer instructions. Any defective or damaged PPE shall be removed from service, tagged and identified for either repair or disposal.

B. Employees are responsible for the pre-use inspection, proper care, maintenance, and disposal of the PPE they use.

1. PPE maintenance includes:

a) Inspection – the practices for routinely examining PPE for wear, damage, or failure prior to use.

b) Testing – certain types of PPE must be periodically tested for specific performance properties to ensure adequate protection per the manufacturer's instructions.

c) Repair – encompasses manufacturer-approved practices for repairing and bringing PPE back into service.

d) Disposal – the removal of PPE from service when certain retirement criteria are met or when, in the estimation of the worker or management, the PPE performance might have deteriorated.

Note: PPE that has been contaminated must be properly decontaminated or disposed according to the USPL chemical handling and disposal procedures.

2. Proper care includes:

a) Cleaning – process for the removal of non-hazardous soiling or surface contamination such as dirt, dust, grease, body oils, etc.

b) Decontamination and Sterilization – the physical and/or chemical process of eliminating and preventing the spread of the contamination.

c) Storage – encompasses the practices and conditions for properly storing PPE.

18. References

1. 29 CFR 1910.132 *Subpart I – Personal Protective Equipment (General Requirements)*
2. 29 CFR 1910.95 *Occupational Noise Exposure*
3. ANSI Z89.1 *Standard for Industrial Protective Helmets*
4. ANSI Z87.1 *Occupational and Educational Personal Eye and Face Protection Devices*
5. ANSI Z41 *Protective Footwear*
6. ANSI/ISEA 107 *American National Standard for High-Visibility Safety Apparel and Headwear*
7. NFPA 70E

Appendix I
U.S. Pipelines & Logistics Hazard Assessment & PPE Matrix

When a job / task / hazard which has not been previously evaluated as part of the hazard assessment is identified, it must be evaluated to determine the appropriate PPE to be worn while engaged in that job / task, or while exposed to the particular hazard.

Section 5 outlines the key roles and responsibilities regarding notification and evaluation of a new job / task / hazard as well as certification that the hazard assessment has been performed.

The identified job / task / hazard and required PPE will be documented on the PPE Matrix.

The PPE Matrix can be viewed in DRM.

U.S. Pipelines & Logistics PPE Matrix									Oct-2018
Note: If contradictory instructions exist between this PPE Matrix and any SOP or JSA, then the document specifying the greater degree of protection will prevail.		**Additional PPE Requirements** **(Other than the minimum listed for the work environment)** **Note: Yellow highlighted cells have been revised from the previous matrix version.**							
Job Title / Job Family	**Hazard Potential Activity**	**No Additional PPE Required**	**Body**	**Head**	**Respiratory**	**Face/Eye**	**Hearing**	**Foot**	**Hand**
Workforce (All personnel in the work environment)	**Minimum PPE requirements**		**Fire resistant clothing** See exception below.	**Hard hat**		**Safety glasses**		**Safety shoes**	
Workforce			**Exception:** Employees and contractors working outside of USPL fence lines are not required to wear FRC provided they do not have foreseen exposure to hydrocarbons with potential to produce a flash fire or to electrical hazards requiring USPL PPE Category 0 or higher clothing. See the PPE or Electrical Safety Program policies for more detail. Hard hat, safety glasses and safety shoes are still required to be worn on the Right of Way.					Consider snow and ice traction cleats in winter weather.	
	Transport		FRC is required to be worn, but is not required to meet the electrcial Hazard Risk						

The following information should be used to help evaluate jobs / tasks / hazards for inclusion on the PPE Matrix.

Hazard Assessment Guidelines

OSHA's Personal Protective Equipment (PPE) Standard 1910.132 states that each employer must assess the workplace to determine if there are any physical and chemical hazards present or likely to be present to which employees may be exposed that would require the use of PPE. A Hazard Assessment Checklist to determine the existence of unsafe conditions and the type of threat the condition poses to our employees may be used. The checklist also assists in the determination of which PPE is necessary to protect against each hazard, matching the PPE to the particular hazard. The PPE Matrix provides the required documentation that a hazard assessment was performed.

The following steps will aid in the hazard assessment process steps required to assess the workplace to determination of the type of PPE that is necessary to provide adequate protection to employees and others from hazards present, or likely to be present in the workplace.

Step 1: Survey

Conduct a walk-through survey of the workplace that may need PPE. The purpose of the survey is to identify the sources of hazards to employees, contractors and others. Consideration should be given to, but not limited to, the basic hazard categories.

Basic Hazard Categories

- Impacts (falling/flying objects)
- Harmful dust
- Light (optical) radiation (welding, brazing, cutting, etc.)
- Penetration (sharp objects)
- Compression (roll-over or pinching objects)
- Chemical exposure (inhalation, ingestion, skin contact, eye contact or injection)
- Energized equipment
- Respiratory system
- Extreme cold
- Noise
- Water (potential for drowning)
- Vibration
- Electrical
- Heat
- Flying debris exposures
- Fire and explosion

Sources of Hazards

- Sources of motion or movement of personnel that could result in personnel hitting or being struck by objects.
- Sources of high or extremely low temperatures that could result in burns, eye injury or ignition of protective equipment.
- Types of chemical/hydrocarbon exposures
- Sources of harmful dusts
- Sources of light radiation such as welding, brazing, cutting, high intensity lights, etc.)
- Sources of falling objects or potential for dropping objects.
- Sources of sharp objects which might pierce the feet or cut the hands
- Sources of rolling or pinching objects which could result in crushes.
- Layout of the workplace and location of employees, contractors and other personnel
- Electrical hazards

Objects / Equipment to Observe

- Objects causing atmospheric hazards (dusts, gases, fumes, vapors, illumination, etc.)
- Pressurized equipment (tanks, piping, hoses, etc.)
- Containers (storage areas and means of storage)
- Hazardous supplies and materials (flammables, explosives, gases, acids, caustics, toxic materials, etc.)
- Buildings and structures (condition and layout of floors, doors, stairs, handrails, etc.)
- Electrical conductors and apparatus (wires, switches, breaker panels, conduit, etc.)
- Engines and motors
- Machinery and equipment (forklifts, cranes, motor vehicles, etc.)
- Hand tools (manual, portable power tools, etc.)
- Ground and environmental conditions (slope, uneven surfaces, rain, wind, mud, ice, etc.)
- Elevated work areas (platforms, ladders, scaffolding, manlifts, etc.)
- Excavations and confined spaces

Step 2: Organize the Data

Following the walk-through survey, organize the data and information for use in the hazard assessment. The objective is to prepare for an analysis of the hazards in the environment to enable proper selection of PPE.

Step 3: Analyze the Data

Having gathered and organized the data, an estimate of the potential for injuries and illnesses should be made. Each of the basic hazards should be reviewed (see walk-through survey) and determination made as to the type, level of risk and seriousness of potential injury from each of the hazards found in the area. The possibility of exposure to several hazards simultaneously should be considered.

Step 4: Selection Guidelines

After completion of the hazard assessment, the general suggested process for the selection of PPE is to:

- Become familiar with the potential hazards and what PPE is available and what it can do (splash protection, impact protection, etc.) to prevent injuries and illnesses.
- Compare the hazards associated with the work environment and the capabilities of the available PPE (e.g. impact resistant lenses for flying objects during grinding operation).
- Select the PPE which ensures a level of protection greater than the minimum required to protect employees from the hazards.
- Fit the user with the device and provide instruction on care, use and limitations of PPE.

Step 5: Assess the Suitability of Available PPE and Select New or Additional PPE

Once the hazards of the workplace have been identified, the employer must determine the suitability of the PPE presently available and, as necessary, select new or additional PPE that ensures a level of protection greater than the minimum required to protect the employees from the hazards. Careful consideration must be given to comfort and fit of PPE to ensure that it will be used. PPE must conform to updated American National Standards Institute (ANSI) standards that have been incorporated into the OSHA regulation.

Appendix II
PPE Free Zone & Safe Personnel Pathway Guidance

PPE Free Zone Guidance – Stations / Terminals

The intent of the PPE Free Zone is to provide personnel with a visible boundary which separates the work environment from the PPE Free environment.

Developing PPE Free Zones

Initially, all areas inside a station / terminal (fenced facility) are considered to be the work environment, which requires donning the minimum PPE as outlined in this policy (i.e. hard hat, safety glasses with side shields, FRC and safety shoes). Per the definition of the "PPE Free Zone," the following are typically considered to be part of the PPE Free Zone:

- Office buildings
- Lunch rooms
- Break areas / rooms
- Parking lots
- Toilet facilities
- While inside vehicles being used for passenger transportation

Figure A correctly depicts the intent of the PPE Free Zone. Figure B represents the incorrect placement of PPE Free Zones. The intent is to wear PPE while in the work environment. Segregating multiple areas into PPE-required vs. not-required leads to inconsistency and it does not follow the intent of this policy.

Figure A

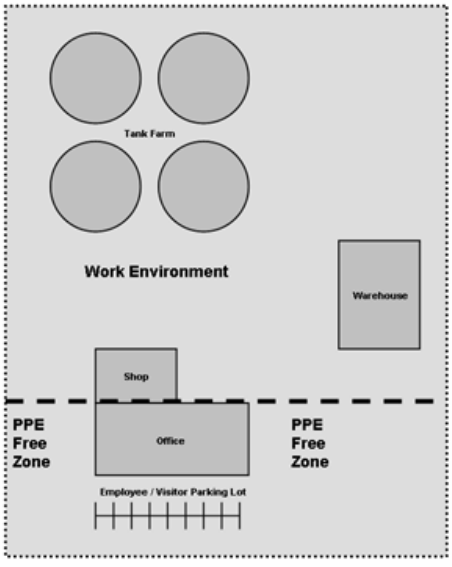
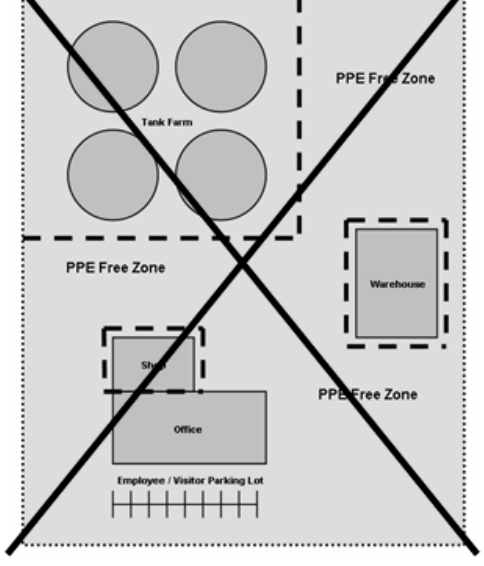


Figure B



PPE Free Zone Guidance – Shops / Warehouses

The intent of the "Safe Personnel Pathway" is to identify a pathway through a shop or warehouse which is free from known hazards to allow personnel to traverse the shop / warehouse safely. Shops / warehouses which do not require personnel to traverse through them in order to access the office building *are not subject to* "Safe Personnel Pathways," and will be treated as part of the work environment.

In determining if it is acceptable to establish "Safe Personnel Pathways" the following question should be asked:

> *Is this shop or warehouse co-located with an office, meaning that personnel will traverse the shop / warehouse in order to gain entry into the office environment?*

If the answer to this question is NO, then the criteria for establishing the "Safe Personnel Pathway" has not been met, and the shop / warehouse must be treated as part of the work environment, meaning that *all* personnel in the shop / warehouse must don the minimum PPE required while in the work environment.

If the answer to the above question is YES, the below information should be used as guidance for determining "Safe Personnel Pathways" inside shops and warehouses.

- The pathway begins and terminates at the doors to the shop / warehouse providing a safe route through the shop / warehouse.
    - Figure 1 area "a" and "b" are incorrect areas for the "Safe Personnel Pathway" as they do not provide a route from door to door to traverse the shop.
    - Figure 1 area "d" is incorrect because the intent of the "Safe Personnel Pathway" is to provide a safe "pathway" for personnel, not to provide areas where PPE is not required.
- The pathway allows sufficient space/distance to protect personnel from potential injury or exposure (e.g. flying debris from grinding, welding or cutting.) present in the "Work Environment".
    - Figure 1 area marked "c" shows the pathway traversing directly through a fixed hazard area (welding & grinding). This is unacceptable.
- The pathway allows adequate space/room within the "Work Environment" to conduct work safely.
- The pathway is clearly defined and marked by yellow striping on either side of the pathway separating it from the "Work Environment" (areas that require PPE).
- Figure 2 shows an example of an adequate "Safe Personnel Pathway"

Figure 1

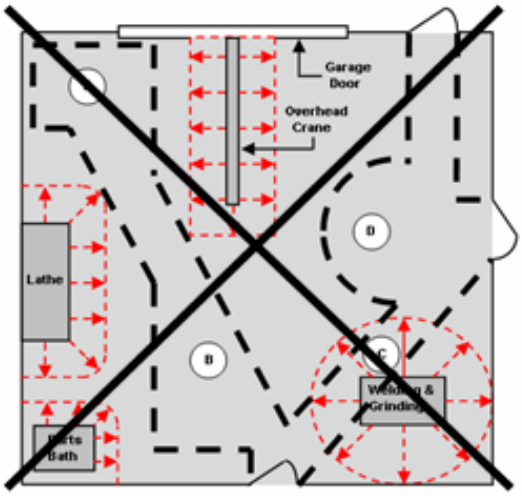
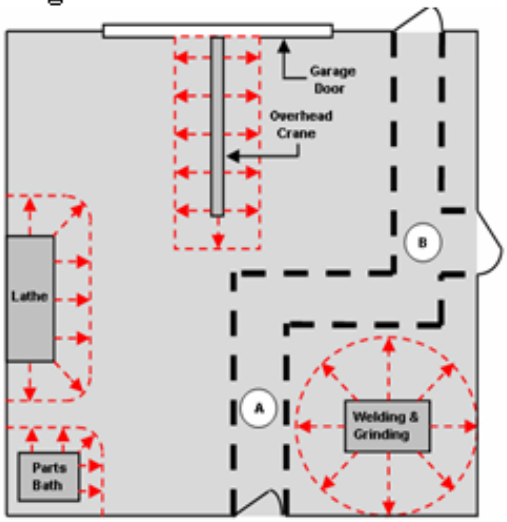


Figure 2



Appendix III
Glove Selection Matrix (By Hazardous Substance)

Hazardous Substance	Recommended Glove Type
Ammonia	Nitrile, Viton, or Butyl Rubber
Benzene	Viton or supported Polyvinyl Alcohol (PVA)
Crude Oil	Nitrile
Diesel Fuel	Nitrile, Neoprene, or Polyvinyl Chloride (PVC)
Ethanol	Nitrile
Ethylene Glycol	Nitrile, Neoprene, or PVC
Natural Gas Liquids (NGLs)	Nitrile
Refined Products (Gasoline)	Nitrile
Xylenes	Viton or supported PVA

NITRILE is a synthetic rubber that is also referred to as NBR or acrylonitrile-butadiene.

Supported vs. Unsupported — Supported gloves provide more durable hand protection than unsupported gloves of the same material. Generally, a supported glove has a fabric liner that is coated, while the unsupported glove is comprised of 100% compound produced by dipping directly into the compound. The unsupported glove provides more tactile sensitivity and dexterity.

Appendix IV

General Laundering Instructions for FRC

Summary

1. Wash separately in a Normal or Cotton cycle at any water temperature up to a maximum of 140ºF. Use any typical laundry detergent. Do not use soap (tallow soap containing animal fats).
2. Turn garments inside out before wash to reduce streaking from abrasion. Fill the washer no more than 2/3 full and use high water level.
3. **DO NOT use chlorine bleach or liquid nonchlorine bleach.**
4. **Do not use starch or fabric softeners as they may coat fibers and mask FR performance and/or serve as fuel in the event of garment ignition.**
5. The use of conditioned or soft water can help improve removal of contaminants from garments. Hard water precipitates soaps and can result in the build-up of calcium and magnesium salts. These can serve as fuel in the event they are exposed to a source of ignition.
6. It is important that all soils and other contaminants are completely removed from garments during the wash process. This may require the use of stain removal products, such as Shout®, Spray 'n Wash®, or Zout®; or presoaking garments prior to washing. The use of hot water can often make detergents more effective in the removal of soils. If all contaminants cannot be removed in general laundering, garments should be dry cleaned.
7. Do not over dry garments. If desired, you may press with an iron on the Permanent Press/Low setting.
8. Always consult the garment manufacturer for detailed instructions and precautions.

General Information

Below are recommendations to provide optimal care and maintenance of fire resistant clothing (FRC).

1. Always follow the care label.
2. Use household laundry detergents. Do not use fatty based or bar soaps. Liquid detergents are recommended.
3. Do not use chlorine bleach, hydrogen peroxide, starch, fabric softeners, or detergents or pretreatment products with chlorine bleach, hydrogen peroxide or derivatives of chlorine bleach or hydrogen peroxide.
   NOTE 1— If there are questions about whether a cleaning product contains these chemicals, refer to the product's ingredients.
4. Loosely add clothing to the washing machine. Do not overload the machine.
5. Select a machine cycle that is appropriate for the soil level and type of clothing being handled and use the hottest water allowed by the clothing care label.
6. Use soft water or detergent specifically designed for hard water. Hard water (greater than 7 grains per gallon of hardness) can leave residue on fabrics that may mask flame resistance.
7. Clothing soiled with combustible or flammable chemicals should be handled carefully. Failure to fully remove these chemicals could compromise the flame resistant effectiveness of the garment.
   NOTE 2— If general laundering does not thoroughly remove contaminants, commercial laundering or dry cleaning is recommended.

Listed below are recommendations for increasing the wear life, appearance and comfort of the clothing.

1. It is recommended to launder FR and non-flame resistant garments separately.
   NOTE 3—Laundering FR and NFR garments together may result in appearance degradation and/or lint transfer for some FR fabrics, although is it unlikely to result in reduced flame resistance.
2. Pre-treat stains and heavy soil lines on collars and cuffs. Rub with full-strength, heavy-duty liquid detergent or off-the-shelf pretreatment products following the product's recommendations for use.
3. Wash in the water temperature recommended by the label.
4. Turn garments inside out when laundering.
5. Tumble dry on hottest setting allowed by the clothing care label. Do not over dry. Remove from dryer immediately when dry. Some garment labels indicate better drying performance when using the permanent-press or easy-care sensor-dry settings, instead of a time-to-dry setting because sensor-dry settings will avoid over-drying. Line drying is also acceptable.

6. If desired, steam or dry iron with heat settings according to the care label instructions.
7. Use regular detergent with top-loading washers and high efficiency detergents with front-loading washers.

Removal from Service—Ultimately, determination of when FRC should be removed from service is based on a subjective evaluation of the end user. The following items, identifiable by visual examination, may diminish the effectiveness of FRC.

1. *Worn Out*—Thin spots, holes, excessive wear or abrasion
2. *Mechanical Damage*—Cuts, rips, tears, open seams, and nonfunctional closures.
3. *Modifications*—Alteration(s) that differs significantly from the original design.
4. *Fit*—The FRC garment no longer fits the wearer.
5. *Flammable Substances*—Flammable contaminants that cannot be removed by cleaning.

Repairs—Repairs of FRC should be made using fabrics and components that are equivalent to those used in the original manufacturing to avoid reducing the performance properties of the flame resistant garment.

NOTE 4—Hemming pants or attaching patches may be performed using non-FR thread for convenience.

Modifications—Modifications to FRC shall be made using fabrics and components that are equivalent to those used in manufacturing. Modified garments that differ significantly from original design or function, e.g. making long sleeve shirts into short sleeve shirts, should not be worn.

Sources:

1. ASTM International Designation: F 2757 – 09, Standard Guide for Home Laundering Care and Maintenance of Flame, Thermal and Arc Resistant Clothing.

2. Flame Resistant Uniforms, FR Clothing: General Cleaning and Care Procedures (link: http://www.flameresistantuniforms.com/fr-garment-care.html).

Appendix V

PPE Signage