

BP OIL -- TOLEDO REFINERY

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SCOPE	This procedure describes the appropriate personal protective equipment that each employee, contractor, and visitor shall wear to prevent injury. It describes what is required, as well as when and where it shall be worn.	
HEALTH Special PPE & Special Hazards	Proper selection and use of PPE prevents harmful exposure to eyes, ears, skin and lungs.	
SAFETY	Protection from flash fire. Protection of eyes, face, feet, hands, head and respiratory system.	
REFERENCE DOCUMENTS	<p>OSHA: 29 CFR 1910.95, .106, .132, .133, .134, .135, .136, .138, and .252</p> <p>SAF-109 Respiratory Protection Program, SAF- 081 Hearing Protection, SAF- 043 Flame Retardant Clothing, SAF-115 Corrosive Hazard Area Identification, SAF026 - FM01 PPE Requirement Amendment Request Form, SAF026- RF01 Chemical Protective Garments SAF-042 Working at Heights</p> <p>Inspection & Storage, Green Zone Map: 49-51-E25, MAINT-E-028: Maintenance Shops Safe Work Practices.RDP 3.2-0100 BP Refining Defined Practice for Personal Protective Equipment</p>	
SPECIAL MATERIALS & EQUIPMENT	Personal Protective Equipment Safety Glasses w/side shields Goggles/Spoggles Hard Hat Fire Retardant Face Covers Work shoes/boots Winter Traction Aids	Filter Lenses Respirators Ear Muffs Face Shield Ear Plugs Gloves
QUALITY	ANSI/ASSE Z87.1- 2010 Approved Eye and Face Protection ASTM F2412-11 Standard Test Methods for Foot Protection ASTM F2413-11 Standard Requirements for Protective Footwear ISEA/ANSI Z89.1-2003, 2009, or 2014 Standard for Industrial Head Protection NIOSH – approved respirators	

ENVIRONMENTAL	N/A
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1.0 Definitions & Acronyms	<p>Employee/Personnel – Unless stated specifically, these terms will refer to all BP employees, contractors, visitors, and guests.</p> <p>Enclosed Vehicle - Trucks, cars, cranes, or other equipment that is closed on all sides. If a window or door is opened the vehicle no longer meets the definition of “enclosed”.</p> <p>Green Zone - Areas defined by Map: 49-51-E25 (See Attachment A) and does not require PPE except when work is being performed or in regard to the use of winter traction aids.</p> <p>X-BOX - POD located North of the North POD and formally referred to as “North Annex POD” and “CoW POD.”</p> <p>FRC - Flame Resistant Clothing.</p> <p>PPE - Personal Protective Equipment.</p> <p>Safety Shoes - Steel or composite-toe work shoes/boots with an off-set heel.</p> <p>Spoggles - Safety glasses that contain a foam or rubber piece that provides a seal to the face intended to reduce the risk of dust and solid particles to the eye.</p> <p>PF - Personal Flotation Device.</p>
2.0 General	<p>2.1 PPE will be required at all times outside of the green zone except as defined in this section or 6.0. The Green Zone includes those areas marked on the attached map (Attachment A) along with areas outside of the refinery fenceline, such as Lallendorf or the Navarre Training Center.</p> <p style="padding-left: 40px;">2.1.1 PPE will generally not be required to be worn inside buildings or enclosed vehicles. This procedure will detail any vehicles or buildings where PPE must be worn.</p> <p style="padding-left: 40px;">2.1.2 PPE will generally not be required to be worn inside the Green Zone on the attached map.</p> <hr style="border-top: 3px double #000;"/> <p>NOTE: The Shift Relief Policy requires specific PPE for Operations Personnel even if in the Green Zone.</p> <hr style="border-top: 3px double #000;"/> <p>2.2 PPE is not required when walking to/from an enclosed motor vehicle and a building outside the Green Zone provided the parking space is in close proximity (<50’) to the building and <u>not in a process unit</u>. This is intended to provide employees access to their offices/changing areas at</p>

	<p>the start/end of the workday.</p> <p>2.3 At the POW, parking spaces may be >50' from the building provided that the area is: not a process unit, the employees are arriving to or departing from the work day, and there were no parking spaces located closer than 50'.</p> <p>2.4 PPE will be required in certain buildings within the Green Zone as defined in section 16.0.</p> <p>2.5 PPE may also be required in the green zone based on task. The risk assessment will determine what PPE is necessary and be documented in the Task Risk Assessment (TRA) packet or Job Safety Analysis (JSA).</p> <p>2.6 PPE is available at the Safety Store. If PPE is purchased through a vendor other than the Safety Store, it must meet the minimum requirements found in this procedure.</p> <p>2.7 PPE shall be in good working order and replaced when necessary.</p> <p>2.8 EMS, Fire Dept. & Law Enforcement are exempt from standard PPE when responding to an incident. The PPE requirements will be determined by the on-scene Commander/Safety Officer.</p> <p>2.9 Toledo ERT conducting marine operations on the water and watercraft are exempt from standard PPE. The ERT will follow the ERT standard operating procedures under the direction of the On-scene Commander.</p>
<p>3.0 Hazard Assessment</p>	<p>3.1 PPE standards were developed per the Hazard Assessment found in Attachment E. All work tasks should be evaluated for task specific PPE. The CoW process will be the primary source of Hazard Assessment and provide PPE requirements for work tasks.</p> <p>3.2 MAINT-E-028 provides guidance of performing Hazard Assessments when the CoW process does not apply within BP shops.</p> <p>3.3 Base level hazard assessments have been completed for the Heavy Craft shop, lab building, outside green zone area, I&E shop, and the machine shop. The hazard assessments are located in Attachment G.</p> <p>3.4 Other OPNS, SAF, and MAINT procedures will contain Hazard Assessments and PPE requirements. When applicable, these procedures must be adhered to.</p>
<p>4.0 Contractors & Visitors</p>	<p>4.1 The Main Gatehouse has a limited supply of personal protective equipment (PPE) for loan. Upon departure from the Refinery, the checked-out PPE will be returned to the Gatehouse. Visitors who do not return PPE will be responsible for the replacement cost and their company will be invoiced accordingly.</p> <p>4.2 Visitors will be required to meet the PPE standards for the areas they are visiting. If they cannot, an exemption may be given based on an</p>

	<p>evaluation of risk in the areas that will be visited. This exemption shall be written permission and should be given by a member of the HSSE team or the Shift Manager. The written permission must be available upon request.</p> <hr/> <p>NOTE: Written permission may be in the form of an email.</p> <hr/> <p>4.3 Truck drivers entering the refinery for loading and/or unloading of bulk products, such as: LPG, Vac Bottoms, Decanted Oil, etc., are expected to furnish their own PPE.</p> <p>4.4 FRC is not required for truck drivers loading asphalt at gate 25.</p> <p>4.5 Third-party entities that own fixed equipment within the refinery fence line should follow their own minimum PPE requirements, such as: commercial rail road crews, First Energy and Air Products.</p>
<p>5.0 BP Employees</p>	<p>5.1 All BP employees will receive personal Fire Resistant Clothing (FRC), an insulated FRC jacket and a fire retardant hard hat liner in accordance with the following: BP will purchase Nomex clothing for Toledo Refinery employees through the Purchasing Department. Employees who work outside will be furnished with their choice of one; parka; insulated bib overalls; or insulated coverall.</p>
<p>6.0 Minimum PPE Requirements and Specifications</p>	<p>6.1 Minimum PPE consists of:</p> <ul style="list-style-type: none"> • Fire Retardant Clothing • Safety glasses w/ rigid side shields(may be detachable) • Hardhat • Gloves while performing work or exposed to cut hazards • Steel or composite-toe work shoes/boots • Hearing protection • Personal H₂S meter (see note below). <hr/> <p>NOTE: It is important to note that H₂S monitors will not protect you from a H₂S exposure. These devices are warning devices which alert you to the potential presence of hazardous concentrations of H₂S.</p> <hr/> <p>6.2 Minimum required PPE for the Water Intake will vary. See Attachment B for specific PPE requirements.</p> <p>6.3 Additional PPE is required when entering or working in Aurora Pink Demarcated areas. These requirements are listed in detail in SAF 115 Corrosive Hazard Area Identification.</p>
<p>7.0 Fire Resistant Clothing(FRC)</p>	<p>7.1 Refer to SAF 043 Fire Retardant Clothing Procedure for more information.</p>
<p>8.0 Eye and Face Protection</p>	<p>8.1 All personnel will wear only approved safety glasses with side shields, goggles or spoggles. Each type will meet or exceed ANSI Z87.1-2010</p>

basic impact standards.

- 8.2 Sunglass type safety glasses may be worn from dawn to dusk. If indoors, sunglass type safety glasses cannot be worn while performing maintenance tasks. See Attachment C for images of glasses that fall under the category of “sunglass type.”
- 8.3 Vehicles are no longer enclosed when windows or doors are open. Therefore, minimum eye protection is required outside the Green Zone.
- 8.4 Contact lenses may be worn under approved safety glasses.
- 8.5 Spoggles may be used as a form of increased eye protection against dust. Spoggles should not be used to protect against any liquids, chemicals, mists, gases, or vapors. The foam /rubber liners are not intended to provide a complete seal and may absorb liquid and hold it against the skin.
- 8.6 An ANSI Z87.1 – 2010+ impact approved face shield over safety is required for the following tasks:
- Line breaking
 - Rodding out bleeds
 - Handling or sampling of acids, caustics & other corrosive chemicals
 - Handling or sampling of hot asphalt
 - Lighting furnace burners
 - Looking into furnaces in operation
 - Handling and sampling hydrocarbons or chemical process streams
 - High pressure water blasting (>100 psi)
 - When using a grinder or powered wire wheel
 - Chipping or hammering that could result in flying fragments or debris
 - Entry into areas marked in high visibility aurora pink paint
 - When using high-impact air driven impact guns
 - As determined in the pre-job risk assessment and specified on the Task Risk Assessment

NOTE: In the event that a tight space does not allow enough room to wear a face shield while using high-impact air driven impact guns, a risk assessment must be performed.

NOTE: If contractors are performing tasks that require a face shield for impact protection the face shield shall meet the ANSIZ87.1- 2010+ standard. If the face shield is not for impact protection, it may meet the basic impact standard.

- 8.7 Goggles with integrated face shields may be used as an alternative to a face shield for chemical splash hazards such:
- Line breaking
 - Rodding out bleeds

	<ul style="list-style-type: none"> ○ Handling or sampling of acids, caustics & other corrosive chemicals ○ Handling and sampling hydrocarbons or chemical process streams <p>8.8 ANSI Z87.1 - 2010 basic impact approved goggles or spoggles shall be worn for the following tasks:</p> <ul style="list-style-type: none"> ○ Working/cleaning in the FCC Regenerator until dust free (spoggles are not acceptable for this task) ○ Mixing refractory, mortar or other dusty materials ○ Handling or working around materials that generate excessive dust ○ As determined in the pre-job risk assessment and specified on the Task Risk Assessment. <p>8.9 A full face respirator mask can be used as substitution for face shields, spoggles, and goggles as long as the face piece of the respirator meets ANSI Z87.1 – 2010 (2010+, if being used for impact protection).</p> <p>8.10 When welding, welding shields/hoods <u>over safety glasses</u> shall be worn.</p> <p>8.11 See Attachment D for specific requirements relating to selection of filter lenses for welding and cutting.</p> <p>8.12 Those standing in close proximity to welding/cutting tasks shall also utilize dark green plastic cover goggles or tinted shield/hood that will provide equal or greater eye protection.</p> <hr/> <p>NOTE: Goggles/spoggles cannot replace a face shield for those tasks that specifically require a face shield (like line breaking).</p> <hr/> <p>8.13 The refinery will furnish prescription safety glasses in approved frames for BP employees per the terms and conditions of the Prescription Eyewear Program. See the Health Center for further information.</p>
<p>9.0 Head Protection</p>	<p>9.1 All head protection must meet ANSI Z89.1-2003, 2009 or 2014.</p> <p>9.2 Type 1, Class G approved protective helmets are to be worn as minimum head protection.</p> <p>9.3 Type 1, Class E approved protective helmet are required to be worn by affected employees when near exposed electrical conductors which could contact the head.</p> <p>9.4 Each BP employee will be furnished a protective helmet by the company.</p> <p>9.5 Baseball style hats shall not be worn under a hard hat.</p> <p>9.6 The employee must make sure the fit is proper and the suspension should be inspected before use.</p> <p>9.7 Protective helmets can be equipped with chin strap and/or fire retardant</p>

	<p>winter liner.</p> <p>9.8 Hard hats must be worn with the bill forward unless under a welding helmet.</p> <p>9.9 Inspect your protective helmet for any damage (cracks, dents etc.) and replace if damaged or following a significant impact. It is recommended to replace the suspension annually and the shell every 5 years.</p> <p>9.10 Hard hats shall not be modified (making holes, modifying suspension, painting, etc.).</p> <p>9.11 Hard hats must be worn in conjunction with face shields, welding helmets and welding hoods during field welding activities. If the hard hat is not capable of being worn in the welding zone based upon tight working conditions, accommodations must be made to ensure that overhead hazards in the area are understood and controlled during the welding operation.</p> <p>9.12 In cases where the work requires use of SCBA's, Supplied Air Masks and Full Face respirators, hard hats may be removed. Overhead hazards should be removed or controlled in these situations. This must be documented on the Permit to Work or Task Risk Assessment.</p> <p>9.13 The the owner of this procedure will approve hard hat styles for use at the Toledo Refinery.</p>
<p>10.0 Hand Protection</p>	<p>10.1 Gloves shall be worn when performing work. Gloves shall also be worn when there is a potential for hand injury, such as climbing ladders, closing toolboxes, picking up trash, etc. People are encouraged to carry gloves with them any time they wear standard PPE.</p> <p>10.2 Gloves should be selected on the basis of the material being handled, the particular hazard involved, and their suitability for the operation being conducted. One type of glove will not work in all situations. For general work, the minimum specification is cotton general duty work glove to protect the hand from cuts. See Appendix F for the glove selection chart.</p> <p>10.3 It is acceptable to work without gloves on jobs requiring a greater amount of dexterity than a gloved hand. However a pre-task risk assessment must be completed prior to beginning work.</p> <p>10.4 Some examples of specialized protective gloves are:</p> <ul style="list-style-type: none"> ○ Insulated Winter ○ Chemical Protective ○ Thermal Protective ○ Abrasion/Cut Resistant ○ Vibration Reducing ○ Fire Fighting ○ Impact Protection <p>10.5 Gloves may create a hazard when worn around revolving tools or rotating</p>

	<p>machinery. The pre-task risk assessment should consider whether gloves are appropriate.</p>
<p>11.0 Foot Protection</p>	<p>11.1 BP employees receive a shoe certificate to aid in the purchase of approved work shoes. This program is administered by the Human Resources Department.</p> <p>11.2 Footwear shall have an off-set heel. This helps prevent slipping when climbing ladders.</p> <p>11.3 Footwear shall have a protective safety-toe (such as steel toed or non-metallic toe cap) meeting the requirements of ASTM F2413-11. Additionally reinforced insoles/soles to prevent puncture hazards are recommended.</p> <p>11.4 Wear chemical protective foot protection when working with chemicals.</p> <p>11.5 The following footwear cannot be worn in any process, maintenance, warehouse, or tank field area:</p> <ul style="list-style-type: none"> ○ Athletic style shoes, flat soled shoes without an offset heel, open toed shoes, crepe soled shoes, tennis shoes, sneakers, canvas type shoes, sandals, high heeled shoes, clogs or shoes with metal taps. <p>11.6 Safety shoes need to be replaced when they lose their effectiveness.</p> <hr style="border: 1px solid black;"/> <p>NOTE: Steel toe shoes should be replaced if leather toe wears out exposing steel toe cap.</p> <hr style="border: 1px solid black;"/> <p>Winter Traction Aids:</p> <p>11.7. Winter traction aids are required by all site BP and contract employees when walking/working on snow and/or ice covered surfaces.</p> <p>11.8. Any person escorting a visitor on-site is required to provide them with traction aids if they will be in areas that require their use.</p> <p>11.9. Employees may determine that for specific tasks the traction aids create a greater slip hazard and removing the traction aids is the appropriate mitigation. The expectation remains that all tasks are fully risk assessed to determine the appropriate mitigation for the individual task at hand. If working under a JSA or work permit, a waiver of the traction aids needs to be documented.</p> <p>11.10. Refer to the Q&A located in SAF-026-RF-02 for further guidance on winter traction aids.</p>
<p>12.0 Hearing Protection</p>	<p>12.1 The minimum standard for hearing protection devices allowed for general use within Toledo Refinery shall provide an attenuation of 24 dB</p>

	<p>Noise Reduction Rating (NRR) as determined in compliance with 40 CFR Part 211, Subpart B.</p> <p>12.2 See SAF 081 Hearing Protection and Attachment B for more information on hearing protection devices, and when they are needed.</p>
<p>13.0 Respiratory Protection</p>	<p>13.1 Respiratory protection, air-purifying or supplied air, may be required by the pre-task risk assessment. This will be communicated by the Task Risk Assessment.</p> <p>13.2 Respiratory protection may be required at any time for operators or other personnel depending upon the state of refinery operations. Emergencies or other process upsets may require the use of air-purifying or supplied air respirators for unit response and/or evacuation.</p> <p>13.3 Respiratory protection shall be selected, used, and maintained in accordance with SAF 109: Respiratory Protection Program.</p>
<p>14.0 Entanglement Hazards</p>	<p>14.1 These rules apply in all cases where PPE is required (areas outside of the Green Zone and inside the Green Zone, based on task):</p> <ul style="list-style-type: none"> ○ When working with rotating machinery or other equipment that has a potential to entangle an employee, the task should be risk assessed and include consideration for removing gloves, loose clothing, jewelry, and rolling up/securing sleeves. <hr/> <p>NOTE: Hair can only be tucked under a hardhat if the hardhat still fits securely on the head.</p> <hr/>
<p>15.0 Water/Drowning Hazards</p>	<p>15.1 Employees working over or within 6 feet of water at the locations listed below, where the danger of drowning exists, shall wear a U.S. Coast Guard approved life jacket or buoyant work vest:</p> <ul style="list-style-type: none"> ○ Marine Dock ○ Water Intake ○ WWTU Bio Ponds ○ Fire Water Pond ○ On any watercraft ○ Other locations as necessary <hr/> <p>EXCEPTION: Personal Floatation Devices(PFD) are not needed for work near water that is surrounded by hard barricades, or if personnel use 100% fall protection that is configured to remove the drowning hazard, or if a Level 2 Task Risk Assessment deems that PFDs are not necessary.</p> <hr/> <p>15.2 Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations at the locations listed below. Distance between ring buoys shall not exceed 200 feet.</p> <ul style="list-style-type: none"> ○ Marine Dock

	<ul style="list-style-type: none"> ○ Water Intake ○ WWTU Bio Ponds ○ Fire Water Pond <p>15.3 Refer to SAF-042 Working at Heights for PFD requirements in Aerial Platform Lifts.</p>
<p>16.0 Building Specific PPE</p>	<p>16.1 The following buildings within the Green Zone have specific PPE requirements. These requirements do not apply to break/office areas as long as they are divided from work areas by walls or doors, unless work is taking place.</p> <p>Warehouse</p> <p>16.2 Minimum PPE Includes:</p> <ul style="list-style-type: none"> ○ Steel or composite-toe work shoes/boots (see 11.0) ○ Safety glasses with side shields (see 8.0) <p>Laboratory</p> <p>16.3 Standard Laboratory PPE includes:</p> <ul style="list-style-type: none"> ○ FRC long-sleeved outer wear (i.e., coveralls, lab coats, or pants & shirt), ○ Steel or composite-toe work shoes/boots (see 11.0) and conventional or athletic style all leather flat sole shoes are acceptable inside the lab. ○ Safety glasses w/side shields (see 8) ○ Additional PPE may be required for specialized tasks or by procedures and include: splash shields/goggles, aprons, gloves, and earplugs. <p>16.4 Section 14: Entanglement Hazards applies to this work area</p> <p>Maintenance Workshops</p> <p>16.5 The following is minimum PPE for all maintenance workshops during normal working hours or when work is taking place in the shops outside of normal working hours:</p> <ul style="list-style-type: none"> ○ Steel or composite-toe work shoes/boots (see 11) ○ Safety glasses w/side shields (see 8) ○ Hardhats and FRC are job specific requirements that should be assessed per task. <p>16.6 Section 14: Entanglement Hazards applies to this work area</p> <p>16.7 Exceptions:</p> <ul style="list-style-type: none"> ○ I&E Shop: The south side of the yellow PPE line is considered a PPE exempt area. ○ Heavy Craft Shop: The west side of the green PPE line is considered a PPE exempt area.

	<ul style="list-style-type: none"> ○ Machine Shop: There is no PPE exempt area (other than offices and break rooms)
<p>17.0 Training</p>	<p>17.1 Each employee who is required to wear PPE under this procedure shall receive training in the following:</p> <ul style="list-style-type: none"> ○ When PPE is necessary. ○ What PPE is necessary. ○ How to properly put on, take off, adjust, and wear PPE. ○ The limitations of the PPE. ○ The proper care, maintenance, useful life, and disposal of PPE. <p>17.2 Re-training shall be given when:</p> <ul style="list-style-type: none"> ○ Changes in the workplace make the previous training obsolete. ○ Changes in the type of PPE used makes the previous training obsolete. ○ Inadequacies in the employee's knowledge or use of PPE indicate that the employee has not retained the requisite understanding or skill.
<p>18.0 Self-Verification</p>	<p>18.1 An annual review of SAF-026 will be conducted by the procedure owner.</p>
<p>19.0 Deviations</p>	<p>19.1 Deviations to this procedure may be requested and authorized using the Personal Protective Equipment Requirement Amendment Request Form (SAF-26-FM01)</p> <p>19.2 This form shall only be used for deviations that will last less than a year, are not task specific, and cannot be captured as part of a Level 1 or 2 Task Risk Assessment.</p> <p>19.3 Deviations are to be returned to and retained by the Senior Safety Advisor.</p> <p>19.4 A deviation from minimum PPE requirements may be made when the PPE prevents the task from being performed. The variance shall be agreed upon by the Reliability Coordinator, Performing Authority, and BP Safety Advisor. This variance shall be documented as part of the Task Risk Assessment package.</p>

Appendix A: Fire Retardant Clothing

<p>SCOPE</p>	<p>This procedure describes that each employee shall wear the appropriate fire retardant clothing. Fire retardant clothing will help protect all employees from the effects of a flash fire.</p>
<p>HEALTH Special PPE & Special Hazards</p>	<p>N/A</p>
<p>SAFETY</p>	<p>Protection from burns associated with flash fires.</p>
<p>REFERENCE DOCUMENTS</p>	<p>OSHA 29 CFR 1910.132</p>
<p>SPECIAL MATERIALS & EQUIPMENT</p>	<p>Fire Retardant Clothing</p>
<p>QUALITY</p>	<p>N/A</p>
<p>ENVIRONMENTAL</p>	<p>N/A</p>

OVERVIEW

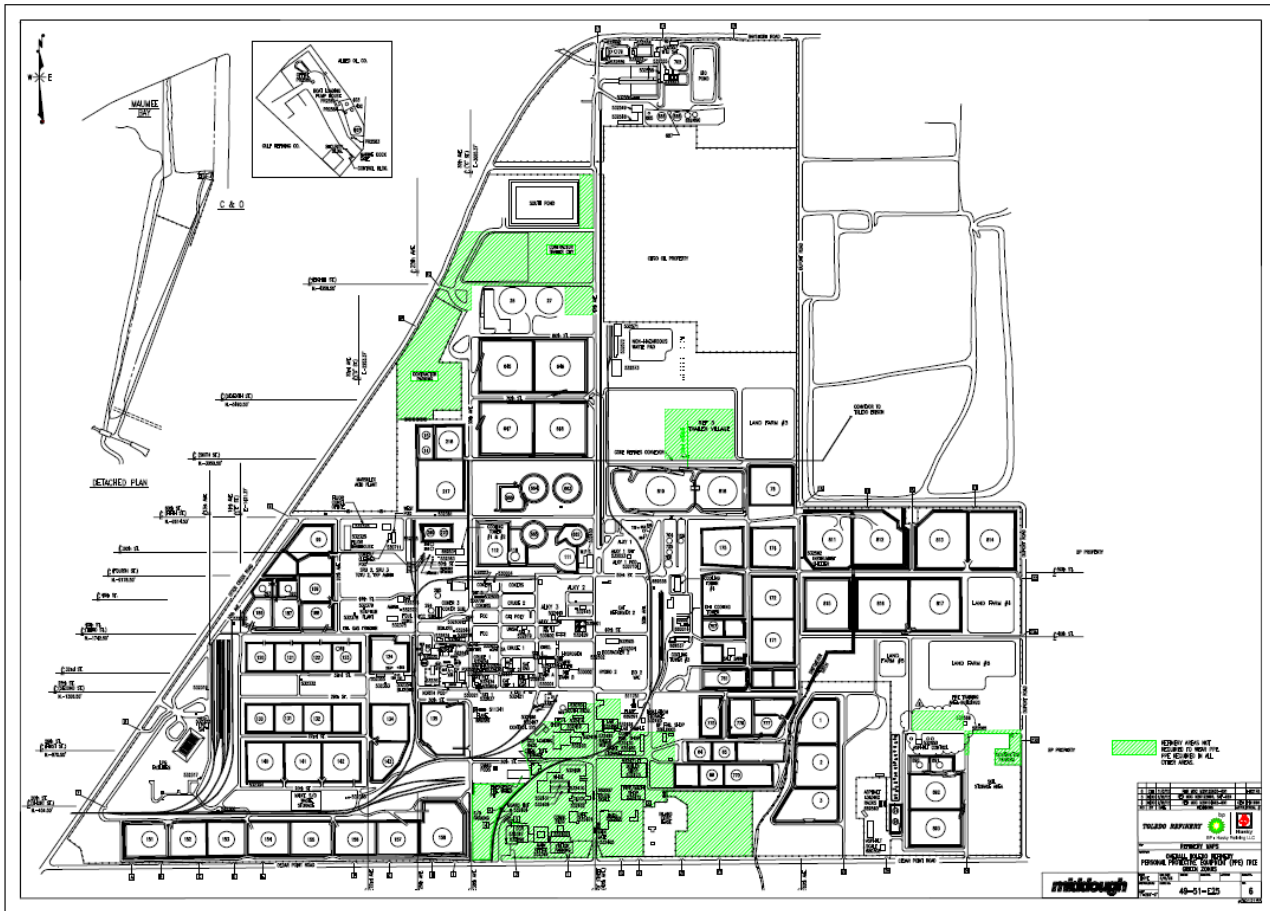
The purpose of this procedure is to protect employees, contractors and visitors from potential exposure to hydrocarbon flash fires. It is mandatory for all BP Toledo Refinery employees, contractors and visitors to wear long sleeved fire retardant clothing (sleeves down; zipped up) as specified in our PPE Procedure (SAF 026). FRC is required whenever outside of the designated 'Green Zones'. Nomex IIIA® is the fabric of preference for BP employees. At a minimum, FRC fabrics shall be the equivalent of 6 oz./yard per Nomex IIIA® or an arc rating of 5.7 ATPV (Arc Thermal Performance Value) or meet the requirements of NFPA 2112 Standard on Flame Resistant Garments for Protection of Industrial Personnel Against Flash Fire and have an arc rating of 5.7 ATPV (Arc Thermal Performance Value).

Fire retardant clothing is most effective if it is worn outside all other clothing. The use of outer clothing other than fire retardant clothing, except as noted in this procedure & the PPE Procedure, will not be permitted. Layering of clothing under the fire retardant clothing should provide comfort in all climates. Wearing of fire retardant clothing is mandatory and is a condition of working within BP Toledo Refinery. This policy benefits all employees, contractors and visitors who may be exposed to flash fire.

<p>1.0 Exceptions</p>	<p>1.1 BP employees, contractors and visitors have the option to adjust their fire retardant clothing (unzipped, sleeves rolled up, tied around waist, etc.) to enhance their comfort level in offices and control rooms (Satellites), as permitted by the supervisor for that building.</p> <p>1.2 When employees are required to wear special personal protection equipment, fire retardant clothing will be worn beneath the special personal protection equipment. Examples of special equipment are as follows: rain gear, disposable coveralls which may be worn during shutdowns to enter extremely dirty areas or vessels, welders leathers, etc.</p>
<p>2.0 Contractors & Visitors</p>	<p>2.1 Contractor employees and visitors within the Refinery or other refinery facilities are required to wear fire retardant clothing in the same circumstances as BP employees.</p> <p>2.2 Visitor FRC shall be requested through the FRC SharePoint Site.</p> <hr/> <p>NOTE: A limited supply of fire retardant coveralls are available at both the Lobby and Main Gate for visitors in the event arrangements have not been made through the visitor's BP contact.</p> <hr/> <p>2.2 It is the responsibility of each individual contract company to supply their employees with proper fire retardant clothing. Any contractor working at the Marine Dock or Water Intake will be required to wear fire retardant clothing.</p> <p>2.3 Truck drivers entering the Refinery for loading and/or unloading of bulk products, such as: LPG, Vac BTMS, Decanted Oil, etc., are expected to furnish their own PPE which meets BP requirements.</p>
<p>3.0 BP Employees</p>	<p>3.1 Fire retardant clothing should have employees' first name, nickname or initials and last name. All employees will receive fire retardant clothing, an insulated jacket and a fire retardant hard hat liner in accordance with the following: BP will provide Nomex clothing for Toledo</p>

	Refinery employees.
4.0 Replacement	<p>4.1 Employee FRC Requests shall be made through the FRC SharePoint Site. Examples of requests that are required to be submitted to the FRC SharePoint Site:</p> <ul style="list-style-type: none"> • Size Change • Name Change • Employee is moving to a new Department • Employee needs to change FRC Pick-Up location • New Employee FRC Request • Employee leaves company, retires or is terminated • Missing FRC <p>4.2 All other requests should be directed to your area Administrative Assistant.</p>
5.0 Alterations and Repairs	<p>5.1 Any garment found to be torn shall be placed in the torn garment bags located at every FRC drop-off bin. The torn garment bags will then be placed in the drop-off bin.</p> <p>5.2 All repairs and/or alterations will be done by the laundering service according to the manufacturer's recommendations. Long sleeves shall not be shortened nor pant legs altered such that a person's legs or arms are left unprotected. Nomex can be altered, however, to enhance the fit of the clothing. Nomex thread must be used to make alterations.</p> <p>5.3 Only patches approved by the BP HSE Department may be attached to the Nomex clothing. See the BP Purchasing Department for guidance on alterations and Nomex thread.</p>
6.0 Laundering	<p>6.1 All BP employees are required to utilize the site laundering service</p> <p>6.2 Employees are not permitted to remove FRC clothing from the Toledo Refinery and company owned off-site locations without supervisor permission</p> <p>6.3 The BP Purchasing Department will be responsible for laundering Nomex coveralls stored for Visitors. In cases where clothing is contaminated with hazardous material or hazardous waste, the clothing will be cleaned or replaced.</p>
7.0 Training	<p>7.1 Each supervisor is responsible for explaining the details of the Fire Retardant Clothing Procedure to all of his/her employees and contractors. The training must include the following:</p> <ul style="list-style-type: none"> • Benefits of fire retardant clothing • Review of the Fire Retardant Procedure • Sizing and laundering details • Disciplinary process for violation of the Fire Retardant Clothing Procedure (same as hard hat and safety glasses)
8.0 Audit	<p>8.1 Each employee is responsible for compliance with this procedure.</p>

Attachment A



Map: 49-51-E25

Attachment B

Minimum PPE Requirements							
	Safety Glasses W/ Side Shields	Hardhat	Safety Shoes	Face Shield	FRC	H2S Monitor	Hearing Protection
Green Zone- General							
Tank Fields	X	X	X		X	X	
Maintenance Work Shops	X		X				
Warehouse	X		X				
Outside Green Zone- General	X	X	X		X	X	X
Blender	X	X	X		X	X	
Water Intake- Outside Areas	X		X				
Water Intake- Inside Strainer Building	X		X				X
Water Intake- Inside Fence line of Diesel Generator	X		X		X		X
Decanted Oil Loading Rack	X	X	X		X	X	
Asphalt Loading Rack	X	X	X		X ***	X	
LPG Loading Rack	X	X	X		X	X	
WWTU	X	X	X		X	X	
Marine Dock	X	X	X		X	X	
Laboratory(in testing areas)	X		X		X		
POW	X	X	X		X	X	
Aurora Pink Demarcated Areas	X	X	X	X	X	X	X **
Note: These are minimum requirements that may be altered by task specific risk assessments. Gloves are always required when performing work. ** Area dependent *** Asphalt Loaders are not required to wear FRC							

Attachment C

Examples of tints that qualify as “Sunglass Safety Glasses”:



Dark Tinted and Blue/Dark Mirrored

Examples of tints that DO NOT qualify as “Sunglass Safety Glasses”:
These types are approved for use between dusk & dawn



Indoor/outdoor lenses, blue lenses and yellow lenses. Not pictured: Clear lenses.

Attachment D
Filter Lense Selection

Welding operation	Shade No.
Shielded metal-arc welding - 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	10
Gas-shielded arc welding (nonferrous) - 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	11
Gas-shielded arc welding (ferrous) - 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	12
Shielded metal-arc welding:	
3/16-, 7/32-, 1/4-inch electrodes	12
5/16 -, 3/8-inch electrodes	14
Atomic hydrogen welding	10-14
Carbon arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, 6 inches and over	5 or 6
Gas welding (light) up to 1/8 inch.....	4 or 5
Gas welding (medium) 1/8 inch to 1/2 inch	5 or 6
Gas welding (heavy) 1/2 inch and over	6 or 8

NOTE: In gas welding or oxygen cutting where the torch produces a high yellow light, it is desirable to use a filter or lens that absorbs the yellow or sodium line in the visible light of the operation.

Attachment E Hazard Assessment

A general review of the BP Toledo Operations Areas indicates that the following hazards may be present:

Hazards	Conditions
Head Hazards	Falling objects Moving objects Bumping into equipment
Eye and Face Hazards	Flying particles Molten metal/welding slag/sparks Hazardous liquids or vapors Light radiation Flash fire
Electrical Hazards	Electrocution Arc Flash
Noise Hazards	High noise levels Impact noise
Respiratory Hazards	Harmful dusts, fibers, fumes, mists, gases, smoke, vapors
Body/Torso Hazards	Flash fire Hazardous liquids or vapors Molten metal/welding slag/sparks
Hand Hazards	Hazardous liquids or vapors Abrasions Punctures Lacerations Temperature extremes
Foot Hazards	Falling or rolling objects Sole-piercing objects Slippery or uneven surfaces

Attachment F
Hand Protection Selection Chart

NOTE: This Appendix is intended to provide guidance on the selection of hand protection.

HAND PROTECTION



BP - Husky Refining LLC

THINGS TO CONSIDER WHEN CHOOSING THE RIGHT GLOVE

- Identify The Hazard
- Length Of Glove (Gauntlet)
- Temperature Of The Item You Are Handling
- Vibration Or Impact
- Cut Resistance



Nitri-Knit Glove -
 These are available in lined or unlined. For use when working with acids, bases, oils and solvents.



PVC Snorkel Glove -
 PVC is good protection against Acids, Caustics, Bases and Alcohol. Not good for ketones or solvents.



STANSOLV GLOVE -
 Nitrile gloves that are thin for dexterity and z patterned for excellent grip. These are good for handling gasoline, kerosene, hydrochloric acid, ethanol and naphtha.



Driver Leather Glove -
 All purpose gloves that have no cut resistance. These come lined and unlined.



Nylon Glove With Nitrile Coating -
 These are used in applications which require a high degree of dexterity and sensitivity. These are nylon backed and should not be worn around anything where heat is present. No cut resistance.



Leather Driver Gauntlet Cuff Glove -
 Gauntlet cuff gloves are good to avoid your wrists to exposures to heat. No cut resistance.



Nitrile Disposable Gloves -
 These are designed to provide barrier protection and tactile sensitivity to the wearer. The mil gloves are not designed for long, direct exposures to chemicals. Gloves should be removed and replaced immediately if incidental splash exposure occurs.



Cut Resistant Glove -
 To be a true cut resistant glove make sure the glove has a rating that starts with ISO 13997 or ASTM/ISEA. The ASTM can range from cut level 1 to level 5 with cut level 1 being the least cut resistant.

NOTE: Select the appropriate glove for the material that you will be handling. Make sure you have the right size to fit your hand.

Attachment G

Base Level PPE hazard assessments (location specific)

PPE Hazard Assessment			
This form is generally intended to apply to the area being assessed, not specific tasks.			
Area: Heavy Craft Shop		Responsible Organization: Maintenance	
Completed by: S.Sedlak		Date: 6/30/2015	
Activity/Tools	Potential Hazards	Body Parts	PPE Required
Rotating Equipment in area	6, 8	C, B	IV
Overhead crane	5	A	I (If lifts are taking place overhead)
Moving equipment in area	13	J, K	IX
Welding/grinding/torch cutting	6, 8	B, C	IV
	Hazard Key	Body Part Key	PPE Key
	1. Cut 2. Abrasion 3. Burn 4. Fall 5. Falling/dropped objects 6. Flying objects 7. Noise 8. Flying particles 9. Inhalation 10. Slip 11. Splash 12. Radiation 13. Impact/crush 14. Other	A. Head B. Face C. Eye(s) D. Hearing E. Respiratory F. Trunk G. Arms H. Hands I. Fingers J. Legs K. Foot/feet L. Toes M. Other	I. Hardhat II. Goggles III. Spoggles IV. Safety Glasses V. Face Shield VI. Ear Muffs VII. Fall Arrest VIII. Gloves(list type) IX. Safety shoes X. Respirator XI. Chemical Suits XII. Other
Comments:			
Work in maintenance shops is subject to all task specific PPE and safe work requirements. In addition, Maintenance shop work procedures apply and must be followed.			

PPE Hazard Assessment			
This form is generally intended to apply to the area being assessed, not specific tasks.			
Area: QA/QC Lab		Responsible Organization: Technical	
Completed by: S.Sedlak		Date: 6/30/2015	
Activity/Tools	Potential Hazards	Body Parts	PPE Required
Rotating Equipment in area	6, 8	C, B	IV
Chemicals in use (all refinery process streams including gases, liquids, acids, caustics, hydrocarbons, and H2S streams)	9, 11, 14	C, G, H	IV, VII Nitrile, XII
Bottle crushing activities	6, 7	A, B, D	V, VI, VII general
	Hazard Key	Body Part Key	PPE Key
	1. Cut 2. Abrasion 3. Burn 4. Fall 5. Falling/dropped objects 6. Flying objects 7. Noise 8. Flying particles 9. Inhalation 10. Slip 11. Splash 12. Radiation 13. Impact/crush 14. Other	A. Head B. Face C. Eye(s) D. Hearing E. Respiratory F. Trunk G. Arms H. Hands I. Fingers J. Legs K. Foot/feet L. Toes M. Other	I. Hardhat II. Goggles III. Spoggles IV. Safety Glasses V. Face Shield VI. Ear Muffs VII. Fall Arrest VIII. Gloves(list type) IX. Safety shoes X. Respirator XI. Chemical Suits XII. Other
Comments: Work in the QA/QC lab is subject to all task specific PPE and safe work requirements. In addition, laboratory procedures must be followed and include task specific PPE and safety work rules. 14: Fire XII: Exhaust Hoods provide ventilation and shield when chemicals are used in hoods & FRC lab coats			

PPE Hazard Assessment			
This form is generally intended to apply to the area being assessed, not specific tasks.			
Area: Outside Green Zone		Responsible Organization: Operations	
Completed by: S.Sedlak		Date: 6/30/2015	
Activity/Tools	Potential Hazards	Body Parts	PPE Required
Rotating Equipment in area	6, 8	C, B	IV
Chemicals in use (all refinery process streams including gases, liquids, acids, caustics, hydrocarbons, and H2S streams)	9, 11, 14	All	IV, XII
Work at heights, material at heights	5, 6,	A, B	I, VI, IX
Mobile equipment	13	J, L	IX
Dust and debris (wind)	8	C	IV
Process equipment	7	D	VI (or plugs)
	Hazard Key	Body Part Key	PPE Key
	1. Cut 2. Abrasion 3. Burn 4. Fall 5. Falling/dropped objects 6. Flying objects 7. Noise 8. Flying particles 9. Inhalation 10. Slip 11. Splash 12. Radiation 13. Impact/crush 14. Other	A. Head B. Face C. Eye(s) D. Hearing E. Respiratory F. Trunk G. Arms H. Hands I. Fingers J. Legs K. Foot/feet L. Toes M. Other	I. Hardhat II. Goggles III. Spoggles IV. Safety Glasses V. Face Shield VI. Ear Muffs VII. Fall Arrest VIII. Gloves (list type) IX. Safety shoes X. Respirator XI. Chemical Suits XII. Other
Comments: Work outside the green zone is subject to all task specific PPE and safe work requirements. In addition, any operations or maintenance procedures applicable to the work must be followed. This assessment is based on a normal running process, not emergency situations.			
14: Fire XII: FRC and personal H2S monitor			

PPE Hazard Assessment			
This form is generally intended to apply to the area being assessed, not specific tasks.			
Area: I&E Shop (new)		Responsible Organization: Maintenance	
Completed by: S.Sedlak		Date: 6/30/2015	
Activity/Tools	Potential Hazards	Body Parts	PPE Required
Rotating Equipment in area	6, 8	C, B	IV
Overhead crane	5	A	I (If lifts are taking place overhead)
Moving equipment in area	13	J, K	IX
Welding/grinding/torch cutting	6, 8, 9	B, C	IV, XII
	Hazard Key	Body Part Key	PPE Key
	1. Cut 2. Abrasion 3. Burn 4. Fall 5. Falling/dropped objects 6. Flying objects 7. Noise 8. Flying particles 9. Inhalation 10. Slip 11. Splash 12. Radiation 13. Impact/crush 14. Other	A. Head B. Face C. Eye(s) D. Hearing E. Respiratory F. Trunk G. Arms H. Hands I. Fingers J. Legs K. Foot/feet L. Toes M. Other	I. Hard hat II. Goggles III. Spoggles IV. Safety Glasses V. Face Shield VI. Ear Muffs VII. Fall Arrest VIII. Gloves (list type) IX. Safety shoes X. Respirator XI. Chemical Suits XII. Other
Comments:			
Work in maintenance shops is subject to all task specific PPE and safe work requirements. In addition, Maintenance shop work procedures apply and must be followed. A non-PPE area has been established in the shop that is located away from potential flying debris and hazard areas.			
XII: Local exhaust ventilation in welding area			

PPE Hazard Assessment			
This form is generally intended to apply to the area being assessed, not specific tasks.			
Area: Machine Shop		Responsible Organization: Maintenance	
Completed by: S.Sedlak		Date: 6/30/2015	
Activity/Tools	Potential Hazards	Body Parts	PPE Required
Rotating Equipment in area	6, 8	C, B	IV
Overhead crane	5	A	I (if lifts are taking place overhead)
Moving equipment in area	13	J, K	IX
Welding/grinding/torch cutting	6, 8	B, C	IV
	Hazard Key	Body Part Key	PPE Key
	1. Cut 2. Abrasion 3. Burn 4. Fall 5. Falling/dropped objects 6. Flying objects 7. Noise 8. Flying particles 9. Inhalation 10. Slip 11. Splash 12. Radiation 13. Impact/crush 14. Other	A. Head B. Face C. Eye(s) D. Hearing E. Respiratory F. Trunk G. Arms H. Hands I. Fingers J. Legs K. Foot/feet L. Toes M. Other	I. Hardhat II. Goggles III. Spoggles IV. Safety Glasses V. Face Shield VI. Ear Muffs VII. Fall Arrest VIII. Gloves(list type) IX. Safety shoes X. Respirator XI. Chemical Suits XII. Other
Comments:			
Work in maintenance shops is subject to all task specific PPE and safe work requirements. In addition, Maintenance shop work procedures apply and must be followed.			

Revision history

The following information documents at least the last 3 changes to this document, with all the changes listed for the last 6 months.

Date	Revised By	Changes
1/15/2014	Sedlak	Updated ANSI standards for face shields, updated PPE requirements for water intake. Re-numbered subsections and created bullet pointed lists from previously paragraphed information. MOC : 20143848-001
6/30/2015	Sedlak	Updated language around winter traction aids, added reference documents, added reference to spoggles, clarified language around maintenance shop PPE requirements, added glove selction and filter lense selection charts, added hazard assessment requirements, and added definition section. M20151779-001
3/23/2017	Sedlak	Administrative change to update references from SAF -118 and SAF- 036 to SAF- 042 since both procedures were combined into a new SAF. M2017300-001.
9/18/2017	Daniel Hurst/Emily Stewart	Included language allowing the use of goggles with integrated face shields and acceptable alternative to a face shield for chemical splash hazards. Clarified the hard hat under welding hood language. Added the FRC procedure in as an appendix. Added a list of areas in the refinery that have a base level PPE hazard assessment and added the assesments to the attachments (attachment G)

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