



PERSONAL PROTECTIVE EQUIPMENT (PPE)



Purpose

The purpose of the Personal Protective Equipment Program is to set forth the procedures for the use, care, and maintenance of personal protective equipment required to be used by employees of Arrow S Energy Operating (the company) for the prevention of injuries.

Scope

Applies to all Arrow S Energy Operating employees. When work is performed on a company owned or operated site, the contractor's program shall take precedence, however, this program may be adopted for use by contractors who do not have a formal personal protective equipment (PPE) program.

Key Responsibilities

HSE Director

- Assists in the selection of appropriate PPE. If a task exposes an employee to hazards which cannot be eliminated through engineering or administrative controls, the HSE Manager assists managers to identify and select PPE suitable for the specific task performed, conditions present, and frequency and duration of exposure. Employees need to give feedback to management about the fit, comfort, and suitability of the PPE being selected.
- Assists managers in assuring all PPE meets regulatory requirements.
- Ensures a certified PPE hazard assessment is completed. The hazard assessment must indicate a determination if hazards are present or are likely to be present, which necessitate the use of PPE. The certifier's name, signature, date(s) should be present on the assessment documents. Sources of hazards include but are not limited to: hazards from impact/motion, high/low temperatures, chemicals, materials, radiation, falling objects, sharp objects, rolling or pinching objects, electrical hazards, and workplace layout. Certifies in writing the tasks evaluated, hazards found, and PPE required to protect employees against hazards and ensures exposed employees are made aware of hazards and required PPE before they are assigned to the hazardous task.

Managers and Supervisors

- Supervisors and managers shall regularly monitor employees for correct use and care of PPE and obtain follow-up training if required to ensure each employee has adequate skill, knowledge, and ability to use PPE.
- Supervisors and managers shall enforce PPE safety rules following the guidance of this program.

Employees

- Complying with the correct use and care of PPE.
- Reporting changes in exposure to hazardous conditions that might require a follow-up assessment of the task for PPE.
- Reporting and replacing defective or damaged PPE, which shall not be used.
- Wearing of required PPE is a condition of employment.

Procedure



General

Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, must be provided, used and maintained in a sanitary and reliable condition.

Arrow S Energy Operating is responsible for employee-owned equipment. Where employees provide their own protective equipment, Arrow S Energy Operating must assure its adequacy, including proper maintenance and sanitation of such equipment.

Employee owned equipment is NOT permitted, except for safety toe footwear and prescription safety glasses. Arrow S Energy Operating is still responsible for the assurance of its adequacy of those two items.

All PPE issued shall be at no cost to the employee as required by federal regulation. All employees will know and follow the procedures outlined in this Program.

Eye Protection

Employees must use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids or chemical gases or vapors. Eye and Face PPE must comply with ANSI Standard Z87.1-2003 (Z87+), *Occupational and Educational Personal Eye and Face Protective Devices*.

Safety Glasses

Safety glasses, with side shields, that meet ANSI Z-87.1-2003 standards with “high Impact lenses” are required to be worn by all employees, contractors, and visitors while on Arrow S Energy Operating property, at all times, as described below:

- At field locations, in shops and warehouses, except in approved, designated, striped safety zones.
- In all yard work zones or by everyone when in the vicinity of loading or unloading equipment, performing mechanic or maintenance work, test stand operations, operating equipment such as forklifts, welding, or any type of work which has the potential to inflict an eye injury.
- In any office, restroom, or any other building while performing any type of work where a potential eye injury may be present.
- Visitors will be provided with visitor glasses. In the absence of approved prescription safety glasses, “Over the glass” type safety glasses or goggles, must be worn over the nonsafety glasses until approved prescription safety glasses are obtained.
- Workers assisting welders must wear absorbent safety glasses that protect the wearer from ultra-violet (UV) and/or infrared rays (IR).
- Dark shaded lens (sunglasses) darker than a # 1 shade is prohibited to be worn indoors unless welding or assisting a welder.
- A doctor must support “exceptions for medical reasons” in writing to exempt safety eyewear requirements.
- Safety glasses are not required:
 - Inside offices.
 - Inside vehicles.
 - Parking lots when traveling from vehicles to and from trailers or buildings that do not pass-through active work areas.

Goggles



- Chemical splash proof goggles shall be worn when handling or mixing liquid chemicals, solvents, paints, etc., and/or as recommended on the Safety Data Sheet of the material being handled.
- Dust proof goggles shall be worn when blowing equipment down with air or while performing other jobs where safety glasses are not adequate to prevent airborne particles from entering the openings around the lenses and side shields.

Face Shields

- Full face shields shall be worn over safety glasses when operating handheld or stationery grinders with abrasive or wire wheels, while chipping paint or concrete or, performing jobs where there is the potential for flying objects striking the face and safety glasses or goggles would not provide adequate protection.

Head Protection

Employees must wear hard hats when working in areas where there is a potential for injury to the head from impact events. Helmets must comply with ANSI Standard Z89.1-1997 Class E, *American National Standard for Industrial Head Protection* for Type II head protection or be equally effective.

- Employees must wear hard hats when working in areas where there is a potential for injury to the head from falling objects.
- Hard hats will not be altered in any way.
- Do not paint hard hats.
- Do not drill, cut, bend, or apply heat.
- Hard hats will be inspected by the employee regularly for cracks, chips, scratches, signs of heat exposure (sun cracks), etc.
- Defective hard hats will be replaced immediately.
- Hard hats must be made available to visitors.
- Employees will be trained in the use, care and maintenance of head protection equipment.

Hearing Protection

Hearing protection is required to be worn by all employees, contractors, and visitors while in posted "High Noise" areas.

Warning signs will be posted in areas known or suspected to have noise levels exceeding 85 dBA either constantly or intermittently.

When signs are not posted, employees shall wear hearing protection when noise caused by machinery, tools, etc., prevents normal conversations from being heard clearly.

Rule of thumb: If you must yell to be heard, hearing protection is required

Types

- Molded Inserts (ear plugs)
- Canal Caps (head band type)
- Muff, either headband or hard hat mounted earmuffs and earplugs shall be provided to the employee in sizes and configurations that will be comfortable to the employee.

Care and Maintenance

- Inspect hearing protection prior to each use.



- Hearing protection must be kept clean to prevent ear infections.
- If earplugs are of disposable type, they must be discarded when they become dirty, greasy, or cracked.
- Earmuffs that have deteriorated foam inserts, cracked seals or are defective must be replaced.

Fit

- Due to individual differences, not everyone can wear the same type of hearing protection. A variety of styles may have to be tried before one is found to be comfortable and provide adequate protection.
- Employees shall be instructed how to obtain the proper fit.

Hand Protection

Gloves

- Gloves are required to be worn when performing work which may expose the hands to extreme temperatures, cuts and abrasions, or exposure to chemicals.
- Welding gloves made of leather or other heat resistant materials shall be worn when performing arc welding or oxy/gas cutting.
- Impervious (chemical resistant) gloves shall be worn when handling chemicals that specify gloves as personal protection equipment when handling.
- Refer to the specific chemical's Safety Data Sheet for the correct glove type.
- Persons assigned to working with chemicals, i.e., solvent vats, shall be issued their own individual gloves for hygiene purposes.
- Leather gloves should be worn when working with sharp materials or when handling rigging equipment.
- Cloth gloves should be worn when handling objects or materials, which could cause blisters, splinters, cuts, etc.
- Heat resistant gloves shall be worn when handling hot materials or objects that have been heated beyond ambient temperatures.
- Insulated gloves shall be worn to prevent frostbite in extreme cold climates.
- Glove Inspections
 - Gloves shall be inspected before each use for holes, tears, and worn areas.
 - Chemical gloves shall be periodically air tested for pinholes by twisting the cuff tightly, apply low air pressure to expand the glove, and then submersing in water to check for bubbles.
 - Defective gloves shall be discarded immediately. Exception: machinists are exempted from wearing gloves while working with rotating machinery.

Foot Protection

Safety footwear shall be worn by all employees with regularly assigned duties at field locations, in shops and warehouses.

- Office workers and visitors who enter these areas on an infrequent basis will not be required to wear foot protection provided they stay clear of the work being performed.
- If required to be in close proximity of the work, the work will be stopped while visiting the area or safety footwear will be worn.
- The boot must provide ankle protection and have soles designed to protect from punctures with defined heels for climbing ladders.
- Metatarsal guards will be worn when duties present a hazard of equipment or material crushing the foot.
- All safety footwear must meet ANSI Z41-1999 standards.

**Fall Protection**

Personal fall protection is required when performing certain elevated jobs in excess of four feet. Consult the Arrow S Energy Operating Fall Protection Program.

Electrical Protection

Consult the Arrow S Energy Operating Electrical Safety Program.

Worksite Hazard Assessment

A written hazard assessment shall be performed. During the hazard assessment a determination if hazards are present or are likely to be present, this necessitates the use of PPE. The following sample hazard sources will be identified:

- High or low temperatures
- Chemical exposures (use SDS for guidance)
- Flying particles, molten metal or other eye, face, or skin hazards
- Falling objects or potential for dropping objects
- Employee falling from a height of 4' or more
- Sharp objects
- Rolling or pinching that could crush the hands or feet
- Electrical hazards

The results of this assessment shall be communicated to each affected employee and kept at the local office.

Proper Fitting or Sizing of PPE

Consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the PPE is more likely if it fits the wearer comfortably. PPE is generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

Defective Equipment

Procedures must be in place to ensure defective or damaged PPE is not used. PPE that is in disrepair must be discarded or removed from service until repaired.

Training on the Use of PPE

Training should be given to employees concerning when to wear PPE, what PPE should be worn, how to put on and take off and adjust PPE. The limitations of the PPE and its use, care, and maintenance should also be included in the training.

Retraining on the Use of PPE

Each affected employee must demonstrate an understanding of training received and the ability to use PPE properly. When there is a reason to believe that any employee who has been trained does not have the required understanding and skill or there are changes in the workplace, the employee must be retrained.

PPE Training is Documented

Training shall be documented, and records maintained. The training certification shall include:

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- Name of employee(s) trained
- The dates of training, and
- Training content



PPE Matrix for Arrow S Energy Operating Company Wide

1000 Louisiana, Suite 7000 Houston, TX 77002

D = Depends on Situation **M** = Mandatory **N** = Not Required

PPE Matrix for Arrow S Energy Operating Company Wide 1000 Louisiana, Suite 7000 Houston, TX 77002 D = Depends on Situation M = Mandatory N = Not Required					Job/Task					
					Field	Shop	Driving	Office	Summer	Winter
CATEGORY	EQUIPMENT	THREAT	INSPECTION	MAINTENANCE						
Head Protection:										
	Hard Hats	Falling Objects	Each Use	Dispose	M	D	-	-	-	-
Eye and Face Protection:										
	Safety Glasses	Eye Injuries	Each Use	Keep Clean	M	M	-	-	-	-
	Face Shield		Each Use	Keep Clean	D	D	-	-	-	-
	Goggles		Each Use	Keep Clean	D	D	-	-	-	-
	Spoggels		Each Use	Keep Clean	D	-	-	-	-	-
	Welding Helmet		Each Use	Keep Clean	D	D	-	-	-	-
Hearing Protection:										
	Disposable Earplugs	Hearing Loss	Each Use	Dispose	D	D	-	-	-	-
	Ear Muffs		Each Use	Keep Clean	D	D	-	-	-	-
Clothing Protection:										
	Cold Weather Clothes	Frostbite	Each Use	Keep Clean	-	-	-	-	-	D
	Rainwear	Wet Skin Hypothermia	Each Use	Keep Clean	D	-	-	-	D	D
	Flame Resistant	Flash Burn Heat Exhaustion	Each Use	Keep Clean	D	D	-	-	D	M
Foot Protection:										
	Safety Shoes	Crush Injuries	Each Use	Dispose	M	M	-	-	-	-
Hand Protection:										
	Work Gloves	Hand Injuries	Each Use	Dispose	M	M	-	D	-	-
	Rubber Gloves	Chemical Burns	Each Use	Dispose	D	D	-	D	-	-
Lung Protection:										
	5 Minute Escape Air-pack	Death by Poisoning	Monthly	Keep Clean	D	D	-	-	-	-



Arrow S Energy Operating PPE Hazard Assessment Certification Form

Name of work place: Arrow S Energy Operating
Work place address: 1000 Louisiana, Suite 7000 Houston, TX 77002
Work area/s: All company locations

Conducted by:
Date of Assessment:
Title:
Signature:

EYES		
Work activities, such as:	Work-related exposure to:	PPE
Abrasive Blasting	Airborne dust	Safety glasses
Grinding	Small particles/ flying debris	Spoggles or face shield
Drilling	Flying particles	Safety glasses
Welding	UV burn to eyes	Welding helmet
Torch cutting	Molten metal/ UV burn to eyes	Deep shade goggles

HEAD		
Work activities, such as:	Work-related exposure to:	PPE
Working under overhead falling object hazards	Falling objects	Hard Hat

HANDS		
Work activities, such as:	Work-related exposure to:	PPE
Normal construction work	Cuts and scrapes	Leather gloves
Cutting	Punctures	Rubber gloves (chemical resistant)
Welding	Pinches	Latex gloves
Working with tools	Amputations	Insulated gloves
Working with sharp objects	Crushes	Slip resistant gloves
Working with hot or cold objects	Burns/ frostbite	Adequate gloves/ clothing
Working with chemicals	Frostbite, skin absorption	As per SDS
Working with electricity	Shock	Non-conductive gloves/ clothing

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Cleaning body fluids	Bloodborne pathogens type illnesses	As per the Bloodborne Pathogens Procedure
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FEET		
Work activities, such as:	Work-related exposure to:	PPE
Normal oil and gas activities/ work	Crushes	Safety shoes

BODY/SKIN		
Work activities, such as:	Work-related exposure to:	PPE
Normal construction work	Cuts and scrapes	Shirts with sleeves (No tank-tops)
Cutting	Punctures	Wear pants (No shorts)
Welding	Pinches	Chemical apron
Working with tools	Amputations	Winter clothing
Working with sharp objects	Crushes	Light summer clothing
Working with hot or cold objects	Burnes	Flash/flash Resistant Clothing
Working with chemicals	Frostbite, skin absorption	As per SDS
Working with electricity	Shock	Non-conductive gloves/ clothing
Working w/ flammable liquids or gas	Explosions or fire	FR clothing
Working in weather over 90 degrees	Heat related illness	Short sleeve FR clothing
	Sunburn	Sunscreen

BODY WHOLE		
Work activities, such as:	Work-related exposure to:	PPE
Normal construction work	Cuts and scrapes	Flame/ flash resistant clothing
Working w/ flammable liquids or gas	Explosions or fire	Light breathable clothing (unless atmosphere LEL is IDLH)
Working in weather over 90 degrees	Heat related illness	

LUNGS/ RESPIRATORY SYSTEM

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Work activities, such as:	Work-related exposure to:	PPE
Work around poisonous gas	Poisonous gas	Five-minute escape pack
Work in dusty environment	Dust	Respirators
Working with chemicals	Fumes	Single strap dust mask (must be supplied by employee and approved by the HSE Director)
Cutting	Toxic vapor	N95 respirator
Grinding	Dust	N95 respirator
Sanding	Dust	Adequate respiratory protection
Burning	Smoke	Adequate respiratory protection
Venting	Air contaminants	Adequate respiratory protection

EARS/ HEARING		
Work activities, such as:	Work-related exposure to:	PPE
Generators	Excessive loud noises	Hearing protection
Motors	Excessive loud noises	Hearing protection
Grinding	Excessive loud noises	Hearing protection
Pneumatic equipment	Excessive loud noises	Hearing protection
High pressure gas flow	Excessive loud noises	Hearing protection