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1.0 Applicability

This Program applies to all SMU faculty, staff and service providers who work under contract for SMU at all facilities owned and/or operated by SMU.

2.0 Scope

The use of appropriate personal protective safety equipment applies to faculty, staff, students, visitors and volunteers performing tasks or entering areas that require specific Personal Protective Equipment (PPE) and to comply with regulations and SMU Programs. The use of appropriate personal protective safety equipment applies to faculty, staff, students, visitors and volunteers performing tasks or entering areas that require specific Personal Protective Equipment (PPE).

Other requirements for the use of PPE are defined for specific hazards:

- Respiratory Protection Program
- Hearing Conservation Program
- Chemical Hygiene Program
- Bloodborne Pathogen Program

Program exception:

The program does not apply to uniforms (i.e., attire, excluding shoes, which are worn for the purpose of ready visual identification) worn by Police or Contractors.

This Program conforms to SMU's policies and EHS Management System standards and guidance documents; and complies with regulatory requirements.

3.0 Definitions

The following terms are defined in order to allow a better understanding of this Program:

- **Eye/Face Protection**: Equipment designed to provide protection to the face and eyes during exposure to such hazards as flying particles, molten metal or sparks, liquid chemicals, acids or caustic liquids, or potentially injurious light radiation (i.e., lasers, welding, etc.)
- **Foot Protection:** Equipment designed to provide protection to the feet and toes during exposure to situations with the potential for foot injuries such as falling or rolling objects, chemical or liquid exposures, piercing objects through the sole or uppers, and/or where the employee's feet are exposed to electrical hazards.
- **Hand Protection:** Equipment designed to provide protection to the hands during exposures to potential hazards such as sharp objects, abrasive surfaces, temperature extremes and chemical contact. Hand protection is selected based upon the hazard and performance characteristics of the gloves.
- **Hazard Assessment:** The process utilized to identify hazards in the workplace and to select the appropriate Personal Protective Equipment to guard people against potential hazards.
- **Head Protection:** Equipment designed to provide protection to the head during exposure to potential hazards such as falling objects, striking against low hanging objects, or electrical hazards.
- **Hearing Protection:** Equipment designed to provide protection to an individual's hearing during exposure to high noise levels.
- **Personal Protective Equipment (PPE):** Includes all equipment designed to provide protection to the wearer from potential hazards to the eyes, face, hands, head, feet, ears, and extremities.

- **Respiratory Protection:** Equipment designed to provide protection to the wearer from potential inhalation hazards such as vapors, mists, particulates, and gases.

4.0 Core Information and Requirements

4.1 General PPE Requirements

If PPE is required when performing tasks in certain areas, the work location will provide signage to indicate the PPE requirements. These signs will be posted at entrances to the applicable areas to remind employees, contractors, and visitors of the requirement to wear PPE while in this specific area (Ex: Signage that indicates the use of safety glasses in the wood shop). SMU will provide PPE, other than certain protective footwear, at no cost to the employees that is required to comply with the provisions in OSHA 29 CFR 1910. When employees provide their own exempted protective equipment, the SMU will verify its adequacy, proper maintenance, and sanitation of such equipment (See Appendix A for the general certification of personnel protective equipment hazard assessment).

4.2 Hazard Controls

Where engineering controls are not feasible or practical for the elimination or control of employee exposure to workplace hazards, SMU will provide suitable personal protective equipment (PPE) as required by regulation for all affected employees, supervisors, and management. All subcontractors and/or visitors will be required to furnish their own PPE that meets all current OSHA standards and specifications.

Competent or qualified personnel such as trained supervisors or safety personnel will advise on what protective equipment is required for the assigned job task, based on a hazard assessment of that particular job task.

4.3 Hazard Assessment

Conduct hazard assessments for facilities to identify and characterize the hazards that personnel may be exposed to during the course of their work.

Assessments must include a walk-through survey of the work areas with consideration given to the following hazard types:

- Impact
- Penetration
- Compression (roll-over)
- Chemicals (including spills)
- Heat
- Harmful dust
- Light (optical) radiation
- Ionizing radiation
- Sources of motion
- High temperatures (including fires)
- Falling objects
- Sharp objects
- Electrical hazards
- Workplace layout/worker proximity

Evaluate the survey data to determine where hazards exist. When feasible, eliminate or reduce hazards by using engineering controls or other hazard reduction methods.

Identify and select personal protective equipment for hazards that are not readily controlled to protect the employee from the hazard.

4.4 Work Attire

Clothing shall cover the shoulder and upper chest area and not be loose or poorly fitted.

Never wear jewelry, such as rings, chain bracelets, or dangling earrings when working around machinery or moving parts.

Secure long hair (shoulder-length or longer) or contain it underneath head protection to prevent entanglement in machinery.

4.5 Head Protection

Wear head protection (hard hats) that meet the requirements of American National Standard Institute (ANSI) Requirements for Industrial Head Protection, Z89.1-1997 for Class E helmets, or international equivalent, at all times when working in field or in plant operations or when impact or overhead hazards to the head are present.

Inspect hard hats and inner suspension liners and replace them in accordance with manufacturers' recommendations.

Never use head protection manufactured of metal.

4.6 Eye and Face Protection

All eye and face protective equipment must meet ANSI Requirements for Eye and Face Protection, ANSI Z87.1, or international equivalent.

All employees, contractors, and visitors must wear safety glasses or ANSI Z87 rated prescription eyeware with sideshields at all times while in the field or at facilities or when hazards to the eyes or face are present.

Wear splash proof, indirect, or non-vented safety goggles when working with chemicals.

Wear impact-resistant safety goggles or safety glasses with sideshields and a full-face shield when the nature of the work is likely to produce flying projectiles that are an injury hazard to the face as well as the eyes.

This may include, but is not limited to, the following types of tasks:

- Grinding
- Sanding
- Chiseling
- Buffing
- Mixing Chemicals

Utilize eye and face protection when working with or near equipment that produces light and/or radiation hazards such as those associated with welding and cutting operations, e.g., welding hoods/helmets and infrared filtering lenses available in a variety of tints.

Approved non-prescription safety glasses with sideshields must be available at all field and facility locations for personnel use.

Personnel who wear contacts must have a pair of prescription glasses or replacement contacts available for use in the event the contacts are damaged or lost.

If an employee is required to wear corrective lenses due to a physician's prescription, these will meet ANSI Z87.1 standards.

4.7 Protective Footwear

4.7.1 Performance Standards

The following is an example of an ASTM F2413-05 marking that may be found on protective footwear:

ASTM F2413-05
M/I/50/C/50 PR
CS

In the above example, the footwear meets or exceeds the minimum performance requirements of ASTM Standard F2413, as issued in 2005. This footwear was tested for a male worker and has a class 50 impact resistance and a class 50 compression resistance. It is puncture resistant, and chain saw cut resistant.

- Line #1: ASTM F2413-05:

This line identifies the ASTM standard it indicates that the protective footwear meets the performance requirements of ASTM F2413 issued in 2005.

- Line #2: M I/75 C/75 Mt75:

This line identifies the gender [M (Male) or F (Female)] of the user. It also identifies the existence of impact resistance (I), the impact resistance rating (75 or 50 foot-pounds), compression resistance (C) and the compression resistance rating (75 or 50 which correlates to 2500 pounds and 1750 pounds of compression respectively). The metatarsal designation (Mt) and rating (75 or 50 foot-pounds) is also identified.

- Lines 3 & 4: PR CS

Lines 3 and 4 are used to identify footwear made to offer protection from other specific types of hazards referenced in the standard. They are used to designate conductive (Cd) properties, electrical insulation properties (EH), footwear designed to reduce the accumulation of excess

static electricity (SD), puncture resistance (PR), chain saw cut resistance (CS) and dielectric insulation (DI), if applicable. Line 4 is only used when more than three sections of the ASTM standard apply.

Conductive (Cd) footwear is intended to provide protection for the wearer against hazards that may result from static electricity buildup and to reduce the possibility of ignition of explosives or volatile chemicals. The footwear must facilitate electrical conductivity and the transfer of static electricity build up from the body to the ground. The electrical resistance must range between zero and 500,000 ohms.

Electrical shock resistant (EH) footwear is manufactured with non-conductive electrical shock resistant soles and heals. The outsole is intended to provide a secondary source of electric shock resistance protection to the wearer against the hazards from an incidental contact with live electrical circuits, electrically energized conductors, parts or apparatus. It must be capable of withstanding the application of 14,000 volts at 60 hertz for one minute with no current flow or leakage current in excess of 3.0 milliamperes, under dry conditions.

Static dissipative (SD) footwear is designed to provide protection against hazards that may exist due to excessively low footwear resistance, as well as maintain a sufficiently high level of resistance to reduce the possibility of electric shock. The footwear must have a lower limit of electrical resistance of 106 ohms and an upper limit of 108 ohms.

Puncture resistant (PR) footwear is designed so that a puncture resistant plate is positioned between the insole and outsole. It is an integral and permanent part of the footwear. Devices constructed of metal must pass the ASTM B117 Practice for Operating Salt Spray (Fog Apparatus) corrosion resistance testing. The device must show no sign of corrosion after being exposed to a five percent salt solution for 24-hours. The puncture resistant footwear must show no signs of cracking after being subjected to 1.5 million flexes and have a minimum puncture resistance of 270 pounds.

Chain saw cut resistant (CS) footwear is designed to provide protection to the wearer's feet when operating a chain saw. It is intended to protect the foot area between the toe and lower leg. This footwear must meet the ASTM F1818 Specification for Foot Protection for Chainsaw Users standard.

Dielectric insulation (DI) footwear is designed to provide additional insulation if accidental contact is made with energized electrical conductors, apparatus or circuits. It must meet the minimum insulation performance requirements of ASTM F1117 (Specification for Dielectric Footwear) and be tested in accordance with ASTM F1116 (Test Method for Determining Dielectric Strength of Dielectric Footwear).

4.7.2 Additional Requirements

Following are considerations that are beyond the scope of the ASTM performance standards.

- Safety shoes or boots must have a well-defined external heel.
- Visitors must wear protective footwear when in operational areas requiring foot protection.
- The following work environment factors may affect **slip resistance:** type of surface material; smoothness of the walking surface; wet or dry surface; type of liquid on the

surface; temperature of the surface and the surrounding air. In general, smooth and/or wet surfaces are more slippery. Cold temperatures can also reduce the amount of traction if the sole material becomes harder and less slip-resistant. Treads in the sole may allow liquid to disperse. The shape of the heel may be beveled so initially the heel makes more contact with the surface. Softer soles may also allow for more traction. Proper selection requires judgment with consideration given to specific site/use condition factors.

- **Ankle Protection**: Lace-up boots that cover the ankle and provide support are recommended when the user will be navigating rough/uneven terrain, or riding horses, ATVs, or motorcycles. A boot style also provides protection to the ankle and calf (depending on boot height) if animal bites or contact with poisonous plants or animals is a recognized hazard.
- **Chemical Permeability**: In general, disposable shoe covers or impermeable boot will be necessary to protect against contact with hazardous chemicals. The manufacturer will provide permeability data based on the material of construction. The selected shoe cover/boot must be resistant to the chemical(s) of interest.
- **Biological Agents**: Disposable shoe covers or rubber-like boots may be used when there is risk of contact with biological agents. For example, caretakers of animals that have been challenged with human pathogens may be required to don protective shoe covers or boots that are easily disinfected. The material of construction must be compatible with specified disinfectants.

4.7.3 Inspections and Regular Maintenance

Safety footwear should be inspected prior to each use. They should be checked for wear and tear and replaced as needed. Look for cracks or holes, separation of materials, broken buckles or laces. Check the soles for pieces of metal or other embedded items that could present electrical or tripping hazards. Follow manufacturer's recommendations for cleaning and maintenance.

4.7.4 Payment for Protective Footwear

In general, employers are required to purchase and provide employees with necessary personal protective equipment (PPE), including protective footwear. However, there are a few exceptions. Employees should consult their supervisors regarding department-specific policies. Some departments elect to provide and pay for PPE even if not required to do so in accordance with OSHA standards. Employers are not required to pay for the following, but may require their use:

- Non-specialty safety-toe footwear (e.g., leather work boots with steel toes) if the employee is allowed to wear it off the job site.
- Ordinary clothing, including insulated winter boots, that the employee would normally have to protect themselves from the elements.
- Replacement PPE when the employee has lost or intentionally damaged the PPE. However, the employer must provide replacement PPE at a reasonable interval.
- PPE, including footwear that the employee already owns and requests to use instead of the PPE that the employer provides at no cost to employees.
- Upgraded PPE that the employee wants to buy and use rather than the PPE that employer normally provides (if allowed by the employer).\

4.8 Hand Protection

Wear hand protection to protect hands from hazards including, but not limited to:

- Contact with harmful substances
- Cuts, lacerations, abrasions, or puncture wounds
- Chemical burns
- Temperature extremes

Use protective impermeable gloves when working with chemicals or liquid hydrocarbons. Refer to chemical manufacturer recommendations of chemical compatibility tables to determine the proper gloves to wear.

When evaluating gloves for use, include considerations for resistance to abrasion, cutting and puncturing, tear and tensile strength, resistance to the effects of heat and cold, flexibility, as well as rates of degradation permeation and penetration (breakthrough time)

Electricians must wear dielectric gloves rated for at least the highest voltage that they may encounter while working on or near live energized electrical equipment.

Electrical gloves shall be equipped with outer protectors and inspected and air leak tested prior to each use. Any defect or flaw discovered during pre-use inspection requires removal of the gloves from service until such time as they may be tested for dielectric integrity.

A certified laboratory must inspect/test the dielectric gloves for integrity in accordance with the manufacturer's guidelines or every six (6) months, whichever is more frequent. Stamp gloves with the most recent test date.

Immediately remove any dielectric glove with a stamped date older than six (6) months from service until tested or discarded.

4.9 Chemical Protective Clothing

Personnel working with acids or other hazardous substances will familiarize themselves with the products' Safety Data Sheets (SDS) and wear chemical-resistant aprons, gloves, face wear, and footwear as it is appropriate.

When evaluating chemical protective clothing (CPC) for use, include consideration for resistance to abrasion, cutting and puncturing, tear and tensile strength, flammability, resistance to the effects of heat and cold, closure strength, flexibility, weight, and thermal insulation, as well as rates of degradation, permeation, and penetration (breakthrough time).

Decontaminate clothing according to the manufacturer's recommendations. Most disposable clothing cannot be effectively decontaminated for reuse without compromising its integrity; disposable clothing is for one-time or limited use only.

Wear chemical-resistant aprons, coveralls, slicker suits, and safety-toed chemical-resistant boots whenever working with acids or other hazardous chemicals.

Consider the items listed below when evaluating CPC:

- Resistance to abrasion
- Cuts and punctures
- Tear and tensile strength
- Flammability
- Resistance to the effects of heat and cold
- Closure strength
- Flexibility
- Weight
- Thermal insulation
- Rates of degradation, permeation, and penetration breakthrough time

4.10 Flame Resistant Clothing

Wear flame-resistant clothing in designated areas or for a specific task to be undertaken where a reasonable potential exists for a flash fire to occur. Low risk contractors, vendors, and visitors entering designated areas should wear appropriate flame-resistant clothing as determined necessary by the worksite supervisor on site and in accordance with these requirements.

Contractor employees working in FRC designated areas performing FRC designated tasks are required to wear flame-resistant clothing. Flame-resistant clothing (FRC) must cover the entire body (trunk, arms, legs, and waist).

In cases where a risk assessment has been conducted and measures have been taken to eliminate the potential for a flash fire, FRC clothing may not be required. Verify that during job planning a supervisor has assessed risks for all tasks with a potential for a flash fire.

Indicate any necessary flame-resistant clothing on a task plan and safe work permit prior to work commencing.

4.11 Hearing Protection

Hearing protective devices (ear plugs, muffs, etc.) shall be the permanent solution only when engineering or administrative controls are considered to be infeasible or cost prohibitive. Hearing protective devices are defined as any device that can be worn to reduce the level of sound entering the ear. **Hearing protective devices shall be worn by all personnel when they must enter or work in an area where the operations generate noise levels of:**

- **Greater than 85 dBA sound levels as an 8 hour time-weighted average and/or;**
- **100 dB peak sound pressure level or greater**

4.11.1 Types of Hearing Protective Devices

Available hearing protective devices include the following:

Insert Type Earplugs: A device designed to provide an air-tight seal with the ear canal. There are three types of insert earplugs - premolded, formable, and custom earplugs.

Premolded Earplugs: Premolded earplugs are pliable devices of fixed proportions. Two standard styles, single flange and triple flange, come in various sizes, and will fit most people. Personnel responsible for fitting and dispensing earplugs will train users on proper insertion,

wear, and care. While premolded earplugs are reusable, they may deteriorate and should be replaced periodically.

Formable: Formable earplugs come in different sizes. Some are made of material which, after being compressed and inserted, expands to form a seal in the ear canal. When properly inserted, they provide noise attenuation values that are similar to those from correctly fitted premolded earplugs. Individual units may procure approved formable earplugs. Supervisors must instruct users in the proper use of these earplugs as part of the annual education program. Formable plugs can be corded.

Custom Molded Earplugs: A small percentage of the population cannot be fitted with standard premolded or formable earplugs. Custom earplugs can be made to fit the exact size and shape of the individual's ear canal. Individuals needing custom earplugs will be referred to an audiologist.

Canal Caps: Canal caps are ear plugs that are attached to a plastic or metal band. The advantage of the canal cap is that it can be easily removed in a quiet environment and can then be inserted when it becomes loud. The canal caps do not always seal as well as a formable or premolded earplug and may be uncomfortable if the pressure from the band is too strong. In general, we suggest other earplugs are used if possible.

Earmuffs: Earmuffs are devices worn around the ear to reduce the level of noise that reaches the ear. Their effectiveness depends on an air tight seal between the cushion and the head.

4.11.2 Selection of Hearing Protective Devices

Employees will be given the opportunity to select hearing protective devices provided by SMU, free of cost.

For employees who have experienced a significant threshold shift, hearing protector attenuation must be sufficient to reduce employee exposure to a TWA of 85 dB. Employers must select one of the following methods by which to estimate the adequacy of hearing protector attenuation. See OSHA 1910.95 App B for more information.

4.11.3 Issuance of Hearing Protective Devices

The issuance of hearing protective devices is handled through both EHS and the Supervisor. EHS will determine the correct noise reduction rating and issue and fit the initial hearing protective devices (foam inserts, disposables). Instruction on the proper use and care of earplugs and earmuffs will be provided whenever HPDs are dispensed. Personnel requiring earmuffs in addition to earplugs will be informed of this requirement and educated on the importance of using proper hearing protection. The Supervisor will dispense ear muffs when necessary and will maintain a supply of disposable earplugs.

4.11.4 Use of Hearing Protective Devices

Always use and maintain HPDs as originally intended and in accordance with instructions provided.

Earmuff performance may be degraded by anything that compromises the cushion-to-circumaural flesh seal. This includes other pieces of personal protective equipment such as eyewear, masks, faceshields, and helmets.

4.11.5 Maintenance of Hearing Protective Devices

Reusable earplugs, such as the triple flange or formable devices should be washed in lukewarm water using hand soap, rinsed in clean water, and dried thoroughly before re-use. Wet or damp earplugs should not be placed in their containers. Cleaning should be done after each use and prior to another employee wearing the same HPD.

Earmuff cushions should be kept clean. The plastic or foam cushions may be cleaned in the same way as earplugs, but the inside of the muff should be disassembled to clean. When not in use, ear muffs should be placed in open air to allow moisture that may have been absorbed into the cups to evaporate. Replace a cushion if it is cracked or damaged. Replace the earmuff if the band does not hold the cushions securely to the head.

4.11.6 Hearing Protection Performance Information

The maximum of sound attenuation one gets when wearing hearing protection devices is limited by human body and bone conduction mechanisms. Even though a particular device may provide outstanding values of noise attenuation the actual noise reductions may be less because of the noise surrounding the head and body bypasses the hearing protector and is transmitted through tissue and bone pathways to the inner ear.

Note: The term "double hearing protection" is misleading. The attenuation provided from any combination earplug and earmuff is not equal to the sum of their individual attenuation values.

4.12 Respiratory Protection

Respiratory Protective Equipment (RPE) is a particular type of Personal Protective Equipment (PPE), used to protect the individual wearer against the inhalation of hazardous substances in the air. RPE should only be used where adequate control of exposure cannot be achieved by other means within the hierarchy of control measures: Elimination, Substitution, Engineering Controls, Administrative Controls, PPE.

RPE is considered a last resort because it only protects individual workers, is prone to failure or misuse, such as wearing the wrong RPE for the job, and employees wearing RPE may get a false sense of security when using RPE.

Respiratory Protective Equipment (RPE) not worn or selected appropriately is totally ineffective and may give the user a false sense of protection

If RPE must be used, please refer to the SMU Respiratory Protection Program for requirements.

Respirators shall be worn by university faculty, staff, or students when any the following conditions apply:

- Environmental Health and Safety, with assistance from the employee's supervisor, has identified and evaluated respiratory hazards and determines the need for respiratory protection based on quantitative exposure assessments or a reasonable estimate of the employee's exposure to respiratory hazard(s) given the contaminant's chemical state and physical form.

- Employees are working in areas where contaminant levels may become unsafe without warning, such as in emergency response situations to an unknown spill of hazardous material. In these situations where exposures cannot be identified or reasonably estimated, the work area shall be considered immediately dangerous to life or health (IDLH). These IDLH atmospheres require air-supplied respirators along with specialized training.

- The Safety Data Sheet (SDS) or chemical label specifically requires the use of a respirator for the task being performed.

- Significant levels of infectious biological contaminants may become aerosolized. EHS will determine the appropriate level of respiratory protection that may be required.

- Employees are engaged in activities that are addressed in other EHS policies such as asbestos, certain other chemical, biological, or radiological hazards, or for confined space entry, which require the use of respiratory protection.

4.12.1 Voluntary Use

University faculty, staff, or students may choose to use a respirator on a voluntary basis during activities that involve exposures to low-level, non-hazardous nuisance odor, dust, or other similar particulates. If an employee or student chooses to use a filtering face piece respirator, also referred to as an N95 or N99 disposable dust mask, on a voluntary basis, The University must provide a copy of the information shown in Appendix A of the SMU Respiratory Protection Program, Voluntary Use of Respirators, to any and all individuals affected.

4.13 Care, Maintenance, Use and Limitations of PPE

4.13.1 Care and Maintenance of PPE

- Reusable PPE must be kept in plastic bags or storage lockers to promote cleanliness and prevent contamination or degradation.
- Follow manufacturer's instructions in cleaning and maintaining reusable PPE.
- Inspect prior to each use and replace defective or damaged PPE immediately.
- Discard defective or damaged PPE.
- When employees provide their own exempted protective equipment, the employer will verify its adequacy, including proper maintenance, and sanitation of such equipment.

4.13.2 Use of PPE

- The Manager will ensure employees wear required and properly fitted PPE.
- The Manager will ensure PPE is used correctly for the intended application.
- The Manager will ensure employees understand how to inspect, don, remove, adjust, and wear PPE.

4.13.3 Limitations of PPE

- The Manager will ensure employees understand PPE is designed for specific hazards; however, PPE must be evaluated to ensure it protects against the hazard as intended.
- The Manager will ensure employees understand that defective or damaged PPE can have a negative impact, such as dirty or scratched safety glasses or face shields can limit vision.

5.0 Roles and Responsibilities

5.1 Executives and Administrators

- Ensure that responsibilities assigned within this Program are carried out within their administrative work units.
- Monitor implementation of this Program within their work unit.
- Ensure adequate funding is available to support this Program.

5.2 Environmental Health and Safety Group (EHS)

- Assist work units in implementing the provisions of this Program.
- Develop training materials related to this Program.
- Assist in providing general PPE training to employees.
- Maintain records in accordance with this document.

- Periodically audit and update the PPE Program as needed.
- Coordinate implementation of the PPE Program within the work unit.
- Ensure equipment-specific PPE procedures are developed within the work unit.
- Ensure required training is provided to employees within the work unit.
- Assist in the investigation of all injuries and incidents involving the failure of PPE.
- Ensure that the records of this document are maintained for their work unit. Assist supervisors in completing the PPE Assessment Tool, evaluating job hazards, or selection of appropriate PPE.
- Assist in determining the type of PPE necessary based on the hazards involved in the job.

5.3 Directors and Managers

- Be thoroughly informed of the contents of this Program and how it applies to their areas of responsibility and authority.
- Ensure employees comply with all provisions of the PPE Program.
- Identify all authorized employees under their supervision.
- Ensure employees receive general PPE training.
- Provide training to employees on equipment-specific PPE needs within the work unit.
- Maintain records in accordance with this document.
- Complete and certify by signature a Workplace Hazard Assessment **(SF-006-4)** for the activities in his/her area to identify potential hazards and methods for their elimination.
- Post certified Workplace Hazard Assessment in applicable work area
- Conduct hazard assessments initially or when work practices change, review annually, and maintain in the department.
- Determine, based on the Workplace Hazard Assessment, the correct PPE necessary to perform work activities in a safe manner.
- Ensure that employees wear the required PPE.
- Train employees on the following topics:
    - When PPE is necessary
    - What type to use
    - How to put on, take off, adjust, and wear appropriate PPE
    - The proper maintenance, storage, disposal and useful life of PPE Make positive changes based off of corrective actions as determined from annual review of program and periodic permit assessments
- Investigate all injuries and incidents involving PPE.
- Complete annual PPE inspections in accordance this document.
- Take prompt corrective action when unsafe PPE conditions or practices are observed.
- Ensure that employees have purchased and are wearing protective footwear appropriate for the potential hazards that they may encounter.
- Maintain records of all employees under their purview and ensure that they are following this program using form

5.4 Employees

- Comply with all provisions of the PPE Program.
- Purchase his or her own non-specialty safety-toe protective footwear. This protective footwear must meet applicable performance standards outlined in this document.
- Present proof of compliance to their supervisor or supervisor's designee.
- Attend PPE training sessions as required.
- Wear PPE authorized by the department.

- Promptly report any concerns related to PPE to their immediate supervisor. Each individual is responsible for wearing his/her required PPE as identified by the supervisor, as a result of conducting a PPE assessment.
- Maintain and store his/her PPE in a clean and sanitary condition.
- Ensure that his/her PPE is in good operating condition before wearing it.
- Communicate to his/her supervisor any unforeseen hazards requiring additional PPE.
- Report to his/her supervisor any defective PPE or need for replacement.

6.0 Goals, Objectives and Performance Measures

Work Unit and Contractor performance measures related to this program are incorporated into scorecards.

Individual performance measures related to this program are incorporated evaluations and monitoring.

6.1 Performance Measures

It is the Goal of SMU to have Zero accidents. This goal can only be met by setting objectives and measuring our current performance against those objectives. Audits and inspections of the Program and usage of the Program by SMU employees and contractors will take place periodically and annually.

Department performance measures are will be incorporated into EHS scorecards. Individual performance measures related to this Program may be incorporated evaluations and monitoring.

6.2 Periodic Inspections

Inspections will be conducted to evaluate and correct any deficiencies in the Program. Periodic inspections are completed as part of an ongoing quality process.

- Supervisors of authorized employees are responsible for completing periodic inspections on at least an annual basis in order to ensure adherence to the PPE procedures described in this document.
- PPE inspections will be conducted using the checklist found in SF-006-02.
- Inspections will focus on correcting any deviations from PPE procedures.
- Inspection records are to be maintained by the work unit and must be available for review by EHS.

6.3 Annual Inspections

At least annually, SMU must inspect and certify PPE program application for each department, business unit, or worksite in which PPE Certifications are required, using document SF-006-02/03/ and 04. An authorized employee must perform the annual inspection. The inspection documents will be kept on record with EHS for three years.

6.4 Consequences

ORM will record any reports or observations of unsafe operations or conditions. Failure to follow this program, the procedures, render common practices or courtesies, or follow regulation standards may result in progressive disciplinary action up to and including termination.

7.0 Training

SMU will provide PPE training initially upon hire and repeated every three years. SMU will keep records of employee training. The training records will include employee name, training date, and the content of the training. Keep documentation on training for at least three years from the training date.

EHS is available to assist work units in providing general Personal Protection Equipment training to their employees.

Supervisors are responsible for training their employees on equipment-specific Personal Protection Equipment procedures.

Work units are responsible for maintaining a record of all Personal Protection Equipment training provided to their employees. EHS will maintain records of Personal Protection Equipment training provided by EHS personnel.

The EHS group will develop and deliver PPE training classes. SMU will provide the training program for and assure the participation of all employees who are subject to exposure to particular workplace hazards. The purpose of training is to ensure employees have the understanding, knowledge, and skills necessary for the safe performance of their duties.

Certification that the required training has been accomplished will be maintained. The certification will contain each employee's name, the signature or initials of the trainers, and the dates of training. The certification will be available for inspection by employees and the Worksite Supervisor.

SMU will provide training by qualified and competent personnel on the following topics:

- Advantages of using PPE, and limitations of equipment
- Proper wear/fit (sizing, donning/ doffing), and correct use
- Proper maintenance, storage, useful life, and disposal of PPE

Re-training will be provided when the workplace changes, the type of PPE changes, or when an employee demonstrates lack of use, improper use, or insufficient skill or understanding.

8.0 Program Evaluation

The EHS group will review the effectiveness of the Program by:

- Verifying and documenting that all qualified persons have had appropriate training.
- Inspecting PPE program application for each department, business unit, or worksite in which PPE Certifications are required, using document SF-006-2 found in appendix,. In addition, document SF-006-1 and SF-006-4 will be updated and certified according to new hazards and required PPE introduced to the University worksites.
- Reviewing incidents related to applicable operations and PPE failures.
- Documenting and reviewing the periodic inspections and annual Program inspections.
- Providing an annual review of the Personal Protective Equipment Program for compliance and opportunities for improvement.
- Revise the written Personal Protective Equipment Program as required.

9.0 Resources

Business Units shall ensure that appropriate resources are identified, allocated, and verified to ensure this Program is communicated and implemented.

10.0 Associated Forms, Documents, and References

10.1 Forms

Appendix A: (EHS group) General Hazard Assessment and PPE Certification SF-006-01
Appendix B: (Authorized Employee and EHS Group) PPE Audit Checklist SF-006-02
Appendix C: (Authorized Employee and EHS Group) Foot Protection Hazard Assessment SF-006-03
Appendix D: (Director and Manager and EHS Group) Workplace Hazard Assessment and Certification SF-006-04

10.2 Document Control

Owner Departments must keep records concerning Personal Protection Equipment permits, inspections, inventories and training.

All records must be kept for a minimum of 3 years within the department. The records must be made available to regulatory agencies such as OSHA and EHS upon request.

SMU will keep records of employee training. The training records will include employee name, training date, and the content of the training. Keep documentation on training for at least three years from the training date.

10.3 References

- 29 CFR 1926, Subpart C, General Safety and Health Provisions
- 29 CFR 1926, Subpart E, Personal Protective and Life Saving Equipment
- 29 CFR 1910, Subpart I, Personal Protective Equipment

11.0 Reviewed By

Date of Review	Reviewed By	Reason for Review
01-08-2018	EHS Group	Internal audit for compliance, design control
02-16-2018	Manager Review Group	Awareness, EHS quality process- Management Review
03-02-2018	AVP / CRO	Approval of draft program
	Legal	
	Human Resources	

12.0 Revision History

Revision Number	Date of Revision	Revision Description	Basis for Revision
Draft	01-11-2018		
V1	03-02-2018	Out of draft status	Internal reviews completed

13.0 Decision Record

Date of Decision	Approved By	Decision Description	Basis for Decision
03-02-2018	AVP / CRO	Implementation of program	EHS quality process - Continual Improvement

SMU has reviewed the hazards in the workplace and has analyzed the results and categorized them into the tables listed below. Selection of the appropriate PPE for each identified hazard has been indicated and should allow personnel to readily identify the PPE required to protect themselves from the hazards in their work environment.

Eye and Face Protection

Source Job/Task or Condition	Hazard Assessment	Appropriate PPE
Sawing drilling chiseling, power fastening, riveting and sanding	Flying fragments, objects, large chips, particles, sand, dirt, dust, etc.	• Impact Resistant Goggles • Full face shield, safety glasses with sideshields
Furnace operations, soldering, and welding	Hot sparks, molten metal, high temperature exposure, etc.	• Face shield, impact resistant goggles • Face shield, splash goggles • Screens, reflective face shields
Chemical handling (acids, crude oil, etc.)	Splash, irritating mists, or vapors	• Splash goggles • Face shield and splash goggles for severe exposure
General dust conditions, i.e., outside rig quarters. All field activities.	Nuisance dusts	• Safety glasses with sideshields • Goggles (impact resistant)
LIGHT and/or RADIATION a) Welding: Electric Arc b) Welding: Gas c) Cutting, Torch brazing, Torch soldering. d) Glare	 a) Optical Radiation b) Optical Radiation c) Optical Radiation d) Poor Vision	a) Welding helmet or welding shield. Typical shad: 10-14 b) Welding goggles or welding face shield. Shade: gas welding 4-8; cutting 3-6; brazing 3-4 c) Safety glasses with sideshields or welding face shield. Typical shade: 1.5 - 3.0 d) Tinted safety glasses with sideshields. Special purpose lenses, as suitable

Filter Lenses for Protection Against Radiant Energy			
Operation		**Arc Current**	**Minimum Shade**
Shielded metal arc welding		less than 60 60-160 160-250 250-550	7 8 10 11
Gas metal arc welding and flux cored arc welding		less than 60 60-160 160-250 250-500	7 10 10 10
Gas tungsten arc welding		less than 50 50-150 150-500	8 8 10
Air carbon Air cutting	Light Heavy	less than 500 500-1000	10 11
Plasma arc cutting	**light **medium **heavy	Less than 300 300-400 400-800	8 9 10
Torch brazing Torch soldering Carbon arc welding			3 2 14
Operation	***Plate Thickness*** inches		**Minimum Shade**
Gas welding: Light Medium Heavy	 Under 1/8 1/8 to ½ over ½		 4 5 6
Oxygen cutting: Light Medium Heavy	 Under 1 1 to 6 over 6		 3 4 5

** These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the work piece.

Head Protection		
Source Job/Task or Condition	**Hazard Assessment**	**Appropriate PPE**
IMPACT a) a) All construction worksites and activities. b) General production activities	Striking against/by objects in motion/stationary	Hard hat meeting ANSI Z89.1 or international equivalent standards

Foot Protection

Source Job/Task or Condition	Hazard Assessment	Appropriate PPE
IMPACT a) All construction worksites and activities.	Striking against/by objects in motion/stationary	Safety toe shoes/boots with oil resistant soles meeting ANSI Z41.1 or international equivalent standards
SLIPPING/TRIPPING a) All field activities b) Climbing ladders	a) Slipping/tripping as a result of a slick/obstructed walking surface b) Foot slipping from rung	a) Safety toe shoes/boots with oil resistant soles meeting ANSI Z41.1 or international equivalent standards b) Safety toe shoes/boots with oil resistant soles and minimum ¼" heels

Hearing Protection

Source Job/Task or Condition	Hazard Assessment	Appropriate PPE
All construction worksites and activities. Workshop activities when about threshold. All areas where noise levels exceed 85dBA TWA or 100 peak, e.g., crane operations, generator area, compressor area, bleed down operations	Hearing damage/loss	Formable earplugs; Custom molded earplugs; Canal Caps; Earmuffs;

Fall Protection

Source Job/Task or Condition	Hazard Assessment	Appropriate PPE
a) Elevated work surfaces (4' or more) b) Elevated walkways (4' or more) c) Wall openings 4' or more above a lower level and an inside bottom edge of less than 39" above the walking/working surface	Falling	Guardrail system, personal fall arrest system

Hand Protection

Source Job/Task or Condition	Hazard Assessment	Appropriate PPE
Grinding, machining, sawing drilling chiseling, power fastening, riveting, and sanding	Flying fragments, objects, large chips, particles, sand, dirt, dust, etc.	Gloves
Furnace operations, soldering and welding	Hot sparks, molten metal, high temperature exposure, etc.	Insulated gloves
Chemical handling (acids, oil, etc.)	Splash, irritating mists or vapors	Chemical-resistant gloves Nitrile gloves

Special Protective Apparel

Source Job/Task or Condition	Hazard Assessment	Appropriate PPE
Chemical handling/transfer procedures; vessel bleed off operations	Exposure of body parts to hazardous chemicals	• Chemical Apron • Disposable chemical-resistant clothing. (verify selection with supervisor/EHS)
a) Designated areas b) Transferring hydrocarbons where vapors are present that present a flash fire potential c) Hot work on active equipment/piping (hot tapping) d) plant operations with a flash fire potential within a facility e) Working in a totally enclosed process/production area where the nature of the work exposes the employee to a flash fire hazard f) While servicing energized electrical equipment 440 volts or greater	Fire hazard	Flame resistant clothing

Respiratory Protection		
Source Job/Task or Condition	**Hazard Assessment**	**Appropriate PPE**
Painting, chemical transfer procedures, spill clean up operations	Inhalation of toxic constituents, e.g., Asphyxiation	• Typical respirators • Self Contained Breathing Apparatus (SCBA) • Airline respirator • Suitable respirator for protection from toxic constituent
Confined space entry, tank-cleaning operations, emergency escape procedures	Suffocation	• Self Contained Breathing Apparatus (SCBA) • Airline respirator
Sandblasting operations, cement mixing, cutting woods, working with silicas, sanding, etc.	Dust inhalation	• Dust mask • Face mask

Comments/Exceptions/Additional Requirements:

The above information is accurate and applies to the SMU operations at the following location(s):

Certified by: _____ **Title:**_____ **Date:**_____

Scope			
Review the training, use, maintenance, and condition of PPE used to assure that the area is in compliance with corporate standards.			
Required Equipment/Resources			
SMU Personal Protective Equipment Program S-006			
Pre-Audit Meeting Completed? ☐			
Auditor(s)			
Date		**Location**	

Criteria	**Y / N / NA**	**Comments**	**Location**
Hazard Assessment			
A certified PPE hazard assessment has been conducted and posted.			
Hazard Assessment includes a walk-through survey of the work areas with consideration given to the major hazard types.			
Flame Resistant Clothing (FRC)			
Personnel are required to wear FRC in designated areas or for a specific task where a reasonable potential exists for a flash fire to occur.			
Shirt sleeves or coveralls are rolled down and buttoned while in designated areas and while performing designated tasks.			
Garments are compliant with NFPA 2112, CGSB 155.20, EN531 or equivalent standard.			
FRC garments are worn while servicing energized electrical equipment that is 440 volts or greater.			
Head Protection			
Head protection (hard hats) meets the requirements of ANSI Z89.1-1997 Class E helmets, or international equivalent.			
Head protection is worn at all times when working in field or when impact or overhead hazards to the head are present.			
Eye And Face Protective			
All eye and face protective equipment meets the requirements for ANSI Z87.1.			
All employees, contractors and visitors wear safety glasses and side shields at all times while in the field or at facilities or when hazards to the eyes or face are present.			
Splash proof, indirect, or non-vented safety goggles are worn when working with chemicals.			

Impact-resistant safety goggles or safety glasses with side shields with a full-face shield are worn when work is likely to produce flying projectiles.			
Protective Footwear			
Protective (steel-toed) footwear meets the applicable requirements of ANSI Z41-1991.			
Chemical-resistant, safety-toed boots or other specialized protective footwear is worn where liquid or chemical splash hazards exist.			
Hand Protection			
Impermeable gloves are used when working with chemicals.			
Electricians wear dielectric gloves rated for at least the highest voltage that they may encounter (Qualified Contractors only).			
Electrical gloves are equipped with outer protectors and inspected and air leak tested prior to each use (Qualified Contractors only).			
Certified labs inspect/test the dielectric gloves for integrity in accordance with the manufacturer's guidelines or every six months. Gloves are stamped with the most recent test date (Qualified Contractors only).			

Comments

Action Required	Status	Due Date	Responsible Person

FOOT PROTECTION HAZARD ASSESSMENT

Employee's Name		Date	
SMU ID			
Department		Supervisor	

Tasks expected to be performed while on the job:

	Mandatory	Recommended	NA
Toe Impact (I) and Compression (C) Rating			
▪ Class 50			
▪ Class 75			
Metatarsal Protection (Mt)			
Puncture Resistant (PR)			
Slip Resistant			
Electrical Shock (EH)			
Electrical Conduction (CD)			
Static Dissipation (SD)			
Dielectric Insulation (DI)			
Chain Saw Cutting (CS)			
Ankle protection			
Water resistant			
Chemical resistant (specify chemical):			
Thermally insulated (cold)			

WORKSITE SPECIFIC PPE HAZARD ASSESSMENT

	☐ A worksite	Specify location:
	☐ A single employee's job description	Name of employee: Position Title:
	☐ A job description for a class of employees	Position Titles: Location:

Your Name: **Department/Division:** **Date:**

EYE HAZARDS: Tasks that can cause eye injury include: working with chemicals or acids; UV lights; chipping, sanding, or grinding; welding; furnace operations; and metal and wood working.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical Exposure ☐		
High Heat/Cold ☐		
Dust/Flying Debris ☐		
Impact ☐		
UV/IR Radiation ☐		
Other:		

HEAD/NECK/FACE HAZARDS: Tasks that can cause head/neck/face injury include: working below other workers who are using tools or materials that could fall, working on energized electrical equipment or utilities, and working in trenches or confined spaces.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical Exposure ☐		
Dust/Flying Debris ☐		
Impact ☐		
UV/IR Radiation ☐		
Electrical Shock ☐		
Other:		

FOOT HAZARDS: Tasks that can cause foot injury include: exposure to chemicals or acids, welding or cutting, materials handling, renovation or construction, and electrical work.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical Exposure ☐		
High Heat/Cold ☐		
Impact/Compression ☐		
Electrical ☐		
Puncture ☐		
Slippery/Wet Surfaces ☐		
Other:		

WORKSITE SPECIFIC PPE HAZARD ASSESSMENT

HAND HAZARDS: Hand injury can be caused by: work with chemicals or acids, exposure to cut or abrasion hazards (for example, during demolition, renovation, woodworking, or food service preparation), work with very hot or cold objects or materials, and exposure to sharps.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical Exposure ☐		
High Heat/Cold ☐		
UV/IR Radiation ☐		
Electrical Shock ☐		
Puncture ☐		
Cuts/Abrasion ☐		
Other:		

BODY HAZARDS: Injury of the body (torso, arms, or legs) can occur during: exposure to chemicals, acids, or other hazardous materials; abrasive blasting; welding, cutting, or brazing; chipping, sanding, or grinding; use of chainsaws or similar equipment; and work around electrical arcs.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical Exposure ☐		
High Heat/Cold ☐		
Impact/Compression ☐		
Electrical Arc ☐		
Cuts/Abrasion ☐		
Other:		

FALL HAZARDS: Personnel may be exposed to fall hazards when performing work on a surface with an unprotected side or edge that is 4 feet or more above a lower level, or 10 feet or more on scaffolds. Fall protection may also be required when using vehicle man lifts, elevated platforms, tree trimming, performing work on poles, roofs, or fixed ladders.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Fall hazard ☐		

NOISE HAZARDS: Personnel may be exposed to noise hazards when working in mechanical rooms; machining; grinding; sanding; cage washing; dish washing; working around pneumatic equipment, grounds equipment, generators, chillers, motors, saws, jackhammers, or similar equipment.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Noise hazard ☐		

RESPIRATORY HAZARDS: Personnel may be exposed to respiratory hazards that require the use of respirators: during emergency response, when using certain chemicals outside of a chemical fume hood; when working with hazardous powders; when entering fume hood plenums, when working with animals; when applying paints or chemicals in confined spaces; when welding, cutting, or brazing on certain metals; and when disturbing asbestos, lead, silica, or other particulate hazards.

Check the appropriate box for each hazard:	*Description of hazard(s):*	*Required PPE*
Chemical exposure ☐		
Particulate exposure ☐		
Other:		

I certify that the above hazard assessment was performed to the best of my knowledge and ability, based on the hazards present on this date.

_____ (signature)