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| SCHNEIDER ELECTRIC North America Safety & Environmental Policy | | | | Procedure Number: SE475 PAGE: 1 of 13 DATE EFFECTIVE: 10/18/11 | | | |
| NAME: Personal Protective Equipment (PPE) | | | | SUPERSEDES: New | | | |
| PURPOSE: The purpose of this procedure is written to assure that PPE is selected to the task and known hazards in our work environments and those employees are trained in the correct selection, use and maintenance of the PPE. This policy and procedure covers the requirements for Personal Protective Equipment with the exception of PPE used for electrical safety, hearing conservation and respiratory protection or PPE required for hazardous material response to spills or releases, which are covered under separate programs. | | | | Reference Regulatory: None | | | |
| | | | | Reference Mgt. System: | | | |
| Issued by: Erick Walberth Director, Safety and Environmental SENA | | | | Approved by: Rich Widdowson VP GSC Global Safety & SERE NA | | | |
| Review Date: | | | | | | | |

Attachments

Sample- [Att A](#) – Hazard Analysis form

1) Scope

Personal Protective Equipment is the last line of defense to prevent injuries. Each organization shall follow the key methods listed prior to selecting PPE as the solution to prevent injuries; Eliminate the hazard, Substitution, Engineering Controls, and Administrative Controls. When such controls are not practical or applicable, personal protective equipment shall be employed to reduce the risk of injuries or eliminate personnel exposure to hazards. Personal protective equipment (PPE) will be provided, used, and maintained when it has been determined that its use is required and that such use will lessen the likelihood of occupational injuries and/or illnesses. The use of PPE is determined by hazard assessments as shown in Attachment A.

2) References

- a) Electrical Safety SE425
- b) Machine Guarding SE465
- c) ANSI Z81, Z87
- d) Refer to your federal, provincial, state and local authorities for applicable PPE legal standards.
- e) Facilities shall maintain procedures for the following;
 - i) Sample ATT A-Hazard Analysis

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3) Definitions

a) **Affected Employee** – An employee whose job requires him/her to operate or use a machine, tool, product or equipment on which servicing, manufacturing or maintenance is being performed which requires the use of PPE.

b) **PPE** – Personal Protective Equipment

4) Communication & Responsibility

a) Management

- i) Conduct hazard assessments to identify specific PPE for all tasks
- ii) Coordinate or facilitate training for employees in the selection, use, inspection, storage, cleaning, and limitations of selected PPE
- iii) Responsible for ensuring that worker's wear the correct and required PPE
- iv) Take corrective action as necessary to enforce the requirements.

b) Supervisors or their Designees

- i) Monitor use of PPE
- ii) Provide PPE and replace as needed
- iii) Identify any new hazards that would require the use of PPE
- iv) Assess periodically the inspection of PPE from employees in order to confirm the status.

c) Employees

- i) Properly use and care for assigned PPE
- ii) Immediately inform supervisor if PPE is damaged or not effective
- iii) Identify any new hazards that would require the use of PPE.

d) Safety Manager or Designee

- i) Identify the need for PPE in the facility through the use of a Hazard assessment tool.
- ii) PPE must be approved by the Safety Department prior to use.
- iii) Communicate the facilities reimbursement plan to employees at the site.

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- iv) Coordinate, facilitate or perform annual training on PPE as part of the Safety and Environmental training plan.
- v) Identify any new hazards that would require the use of PPE.

5) PROCEDURE

a. Materials & Clothing

All personal protective clothing and equipment will be of safe design and construction for the work to be performed.

- i) Only those items of protective clothing and equipment deemed appropriate based on respective federal, provincial, state or local standard will be procured or accepted for use specific to each facilities operation.

Suitable clothing shall be worn to protect from lacerations, abrasions, sharp edges, etc. Appropriate dress meets the following criteria:

- i) Covered with clothing from the upper chest area to the waist, without skin exposed at the midriff area when arms are at sides while standing, short sleeves are acceptable, except in areas that may require additional protections. See Hazard Assessment Attachment A.
- ii) Tank tops, sleeveless or muscle shirts, oversize, and loose fitting shirts shall not be worn in the workplace.
- iii) Covered with clothing from the waist to ankles. Loose fitting or oversized pants are not allowed.
- iv) Where the potential for chemical exposure or thermal burns exists, the arms, legs and torso must be adequately protected through the use of tyvek suits, aprons, etc.

Jewelry requirements for Manufacturing Areas are as follows:

- i) Loose fitting bracelets or watches are not acceptable.
- ii) No necklace may be exposed below the shoulder line.
- iii) Conductive articles such as jewelry (including wedding bands) is prohibited when working on or near (within 4 ft) of any exposed

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energized parts >50 volts. Refer to Electrical Safety Procedure SE425.

- iv) Jewelry should not be worn around any type of rotating machinery.

Each location may have specific requirements above and beyond the list shown.

b Hazard Assessment and Equipment Selection

Hazard analysis procedures shall be used to assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the following actions will be taken:

- i) Select, and have each affected employee use the proper PPE
- ii) Communicate selection decisions to each affected employee
- iii) Select PPE that properly fits each affected employee.

c) Defective and Damaged Equipment

Defective or damaged personal protective equipment shall not be used and shall be removed from service immediately and labeled accordingly.

d) Training

All employees who are required to use PPE shall be trained to know at least the following:

- i) When PPE is necessary;
- ii) What PPE is necessary;
- iii) How to properly select, remove, adjust to fit, and wear PPE;
- iv) The limitations of the PPE;
- v) The proper care, maintenance, useful life and disposal of the PPE.

Each affected employee shall demonstrate an understanding of the training and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

Training for PPE is required and shall be accomplished by using a **Hazard Analysis Form (Attachment A)** to verify the hazard and each affected employee.

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Furthermore, each affected employee shall receive and understand the hazard and the required PPE to protect against the hazard. By following this process and meeting the requirements listed in this procedure will assure that affected employee is adequately trained.

e) PPE Selection

i) Controlling Hazards

PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with substitution, engineering controls, and administrative controls along with guards, and sound manufacturing practices that each employee has been trained to follow.

ii) Selection Guidelines

The general procedure for selection of protective equipment is to:

- 1) become familiar with the potential hazards and the type of protective equipment that is available, and what it can do; i.e., splash protection, impact protection, etc.;
- 2) compare the hazards associated with the environment; i.e., impact velocities, masses, projectile shape, radiation intensities, with the capabilities of the available protective equipment;
- 3) select the protective equipment which ensures a level of protection greater than the minimum required to protect employees from the hazards;
- 4) fit the user with the protective device and give instructions on care and use of the PPE. *(It is very important that end users be made aware of all warning labels for and limitations of their PPE.)*

iii) Fitting the Device

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

iv) Devices with Adjustable Features

Adjustments should be made on an individual basis for a comfortable fit that will maintain the protective device in the proper position. Where manufacturer's instructions are available, they should be followed carefully.

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f) Eye and Face Protection

- i)** The majority of occupational eye injuries can be prevented by the use of suitable/ approved safety spectacles, goggles, or shields. Approved eye and face protection shall be worn when there is a reasonable possibility of personal injury.

 1. Each employee shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.
 2. Each employee shall use eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors are acceptable.
 3. Each employee who wears prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses. Safety glasses or prescription eyewear and side shields must meet the ANSI Z87.1 standard for impact.
 4. Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.
 5. Each employee shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation.
 6. The use of tinted lenses including photochromatic (transition light to dark tints) lenses for safety glasses for inside work is not allowed. It has been determined the variable tint lenses would cause temporary vision impairment when the light changes from dim or vice verse in the work area.
- ii) Typical hazards that can cause eye and face injury are:**

 1. Splashes of toxic or corrosive chemicals, hot liquids, and molten metals;
 2. Flying objects, such as chips of wood, metal, and stone dust;
 3. Fumes, gases, and mists of toxic or corrosive chemicals; and

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4. Aerosols of biological substances.

Prevention of eye injuries requires that all persons who may be in eye hazard areas wear protective eyewear. This includes employees, visitors, contractors, or others passing through an identified eye-hazard area. To provide protection for these personnel, a sufficient quantity of goggles and/or plastic eye protectors which afford the maximum amount of protection possible shall be maintained for distribution. If personnel wear personal glasses that are not rated for the potential hazard, they shall be provided with a suitable eye protector to wear over their personal glasses.

iii) Eye / Face Protection Specifications

Eye and face protectors procured, issued to, and used by employees, contractors and visitors must conform to the following design and performance standards:

1. Provide adequate protection against the particular hazards for which they are designed
2. Fit properly and offer the least possible resistance to movement and cause minimal discomfort while in use.
3. Be durable.
4. Be easily cleaned or disinfected for or by the wearer.
5. Be clearly marked to identify the manufacturer.
6. Persons who require corrective lenses for normal vision, and who are required to wear eye protection, must wear goggles or spectacles of one of the following types:
 - a. Spectacles with protective lenses which provide optical correction.
 - b. Goggles or safety glasses that can be worn over spectacles without disturbing the adjustment of the corrective lenses.
 - c. Goggles that incorporate corrective lenses mounted behind the protective lenses.

iv) Eye & Face Protector Use

1. Safety Spectacles - Protective eye glasses are marked with the ANSI Z87 and made with safety frames, tempered glass and or plastic lenses, temples and side shields which provide eye protection from moderate

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impact and particles encountered in job tasks such as carpentry, woodworking, grinding, scaling, etc.

2. Single Lens Goggles - Vinyl framed goggles of soft pliable body design provide adequate eye protection from many hazards. These goggles are available with clear or tinted lenses, perforated, port vented, or non-vented frames. Single lens goggles provide similar protection to spectacles and may be worn in combination with spectacles or corrective lenses to ensure protection along with proper vision.
3. Welders/Chippers Goggles - These goggles are available in rigid and soft frames to accommodate single or two-eye-piece lenses.
 - a. Welders goggles provide protection from sparking, scaling or splashing metals and harmful light rays. Lenses are impact resistant and are available in graduated shades of filtration.
 - b. Chippers/Grinders goggles provide eye protection from flying particles. The dual protective eye cups house impact-resistant clear lenses with individual cover plates.
4. Face Shields - These normally consist of an adjustable headgear and face shield of tinted/transparent acetate or polycarbonate materials, or wire screen. Face shields are available in various sizes, tensile strength, impact/heat resistance and light ray filtering capacity. Face shields will be used in operations when the entire face needs protection and should be worn to protect eyes and face against flying particles, metal sparks, and chemical/ biological splash.
5. Welding Shields - These shield assemblies consist of vulcanized fiber or glass fiber body, a ratchet/button type adjustable headgear or cap attachment and a filter and cover plate holder. These shields will be provided to protect workers' eyes and face from infrared or radiant light burns, flying sparks, metal spatter and slag chips encountered during welding, brazing, soldering, resistance welding, bare or shielded electric arc welding and oxyacetylene welding and cutting operations.

| <i>Filter Lenses for Protection Against Radiant Energy</i> | | | |
|---|-------------------------------|--------------------|-------------------------|
| Operations | Electrode Size 1/32 in | Arc Current | Protective Shade |
| Shielded metal arc welding | Less than 3 | Less than 60 | 7 |
| | 3-5 | 60-160 | 8 |
| | 5-8 | 160-250 | 10 |
| | More than 8 | 250-550 | 11 |

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| Torch brazing | | | 3 |
| Torch soldering | | | 2 |
| <p>Note: As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade that gives sufficient view of the weld zone without going below the minimum. In oxy-fuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.</p> | | | |

| Selection Chart Guidelines for Eye and Face Protection | | |
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| The following chart provides general guidance for the proper selection of eye and face protection to protect against hazards associated with the listed hazard "source" operations. | | |
| Source | Hazard | Protection |
| IMPACT - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding | Flying fragments, objects, large chips, particles, sand, dirt, etc. | Spectacles with side protection, goggles or face shield. For severe exposure use face shield. |
| HEAT -Furnace operation and/or arc welding | Hot sparks | Face shields and spectacles with side-shields. For severe exposure use face shield and/or welding helmet with appropriate lenses. |
| CHEMICALS -Acid and chemical handling, degreasing, plating | Splash | Goggles, eyecup and cover types. For severe exposure, use face shield. |
| DUST - Woodworking, buffing, general dusty conditions. | Nuisance dust | Goggles; eye cup and cover type. |

v) Head Protection

Hats and caps have been designed and manufactured to provide workers protection from impact, heat, electrical and fire hazards. These protectors consist of the shell and the suspension combined as a protective system. Safety hats and caps will be of nonconductive, fire-and-water-resistant materials. Bump caps or skull guards are constructed of lightweight materials and are designed to provide minimal protection against hazards when working in congested areas.

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Head protection will be furnished to, and used by, all employees and contractors engaged in construction and other miscellaneous work in head-hazard areas. Head protection will also be required to be worn by engineers, inspectors, and visitors at construction sites. Bump caps/skull guards will be issued to and worn for protection against scalp lacerations from contact with sharp objects. They will not be worn as substitutes for safety caps/hats because they do not afford protection from high-impact forces or penetration by falling objects.

Selection guidelines for head protection

All head protection is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn. See Procedure on Electrical Safety SE425.

Where falling object hazards are present, helmets must be worn. Some examples include: working below other workers who are using tools and materials which could fall; working around or under conveyor belts which are carrying parts or materials; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors.

vi) Foot Protection

1. General Requirements

Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where employee's feet are exposed to electrical hazards.

2. Selection Guidelines for Foot Protection

Safety shoes and boots provide both impact and compression protection. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal protection should be provided, and in other special situations electrical conductive or insulating safety shoes would be appropriate. Each location is to complete a hazard assessment to determine the appropriate use of protective footwear. **Safety shoes or boots with compression protection shall be required** for work activities around and involving Powered Industrial Trucks and around heavy loads which could potentially roll over or fall on an employee's feet. Safety shoes or boots with puncture protection would be required where sharp objects such as nails, tacks, screws, large staples, scrap metal etc., could be stepped on by employees, causing a foot injury.

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vi) Hand Protection

1. General Requirements

Hand protection is required when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; cuts or lacerations; abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

Skin contact is a potential source of exposure to toxic materials. It is important that the proper steps be taken to prevent such contact. 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.

Most accidents involving hands and arms can be classified under four main hazard categories: chemicals, abrasions, cutting, and heat. There are gloves available that can protect workers from any of these individual hazards or combination of hazards.

Gloves should be replaced periodically, depending on frequency of use and permeability to the substance(s) handled. Gloves overtly contaminated should be rinsed and then carefully removed after use.

Gloves should also be worn whenever it is necessary to handle rough or sharp-edged objects, and very hot or very cold materials. The types of glove materials to be used in these situations include leather, welder's gloves, aluminum-backed gloves, and other types of insulated glove materials.

Careful attention must be given to protecting your hands when working with tools and machinery. Power tools and machinery must have guards installed or incorporated into their design that prevent the hands from contacting the point of operation, power train, or other moving parts. To protect the hands from injury due to contact with moving parts, it is important to:

- a. Ensure that guards are always in place and used.
- b. Always lock out machines or tools and disconnect the power before making repairs.
- c. Treat a machine without a guard as inoperative; Refer to SE465 Machine Guarding Procedure.
- d. Do not wear gloves around moving machinery, such as drill presses, mills, lathes, and grinders.

2. Selection Guidelines for Hand Protection

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Selection of hand PPE shall be based on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified. Gloves are often relied upon to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure. There is no glove that provides protection against all potential hand hazards, and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn, and whether it can be reused. It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated, e.g., chemical hazards, cut hazards, flame hazards, etc. Before purchasing gloves, request documentation from the manufacturer that the gloves meet the appropriate test standard(s) for the hazard(s) anticipated. Other factors to be considered for glove selection in general include the degree of dexterity required, the duration, frequency, and degree of exposure of the hazard, and the physical stresses that will be applied.

3. Selection of Gloves for Chemical Hazards

The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Read instructions and warnings on chemical container labels and MSDS's before working with any chemical. Recommended glove types are often listed in the section for personal protective equipment.

Gloves are eventually permeated by chemicals. However, they can be used safely for limited time periods if specific use and glove characteristics (i.e., thickness and permeation rate and time) are known. S&E shall assist in determining the specific type of glove material that should be worn for a particular chemical.

- a. The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects.
- b. Generally, any "chemical resistant" glove can be used for dry powders;
- c. For mixtures and formulated products (unless specific test data are available), a glove should be selected on the basis of the chemical

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component with the shortest breakthrough time, since it is possible for solvents to carry active ingredients through polymeric materials.

- d. Employees must be able to remove the gloves in such a manner as to prevent skin contamination.

6) Revisions

It is the responsibility of the Schneider Electric North America – Safety & Environmental department to review this policy and initiate revisions when necessary. It shall be reviewed no less than every three years.

7) REVISION CONTROL

| Revision Level | Date Issued | Reason for Change |
|-----------------------|--------------------|---|
| New | 10/18/11 | Updated the format using the SE180A template and standardized the procedure for use throughout North America for the Safety and Environmental Team. |
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