

2018

# PERSONAL PROTECTIVE EQUIPMENT

## Pottawattamie County

### Safety & Health Program

#### Section B 11

It is the policy of Pottawattamie County to provide a safe and healthful workplace for employees. It is the intent of this policy to comply with OSHA requirements listed in 29 CFR 1910.252; all local, state, and federal laws.

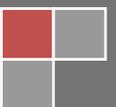
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Approved by the Board of Supervisors  
October 30, 2018



# PERSONAL PROTECTIVE EQUIPMENT

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### MODEL FORMS

- PPE Hazard Assessment Form
- Job Safety Analysis (JSA) Development Worksheet

## **I. Objective**

The purpose of this policy is to protect employees from exposure to work place hazards and the risk of injury through the use of personal protective equipment (PPE).

## **II. Scope and Applicability**

This policy applies to all Pottawattamie County employees including elected officials, and volunteers where PPE is required based on the employees job duties and requirements.

## **III. Authority & Responsibility**

### **A. Risk Management is responsible for:**

1. Developing policies and procedures for personal protective equipment (PPE) and revising the as appropriate.
2. Assisting the departments with conducting job hazard analysis to determine PPE required for respective job classifications.
3. Assisting the departments with the selection of appropriate PPE to protect employees from work place hazards.
4. Conduct inspections of county facilities and work areas to ensure that proper PPE is being utilized and worn as required.
5. Conduct safety training on personal protective equipment.

### **B. Departments and Supervisors are responsible for:**

1. Conducting job hazard analysis to determine PPE required for all job classifications under their supervision.
2. Selecting and providing employees with PPE that adequately protects employees against work place hazards.
3. Ensuring employees are aware of work place hazards that may exist in their day to day activities and operations.

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4. Leading by example. Always demonstrate the importance of safety in the workplace and always wear required PPE.
5. Ensuring employees are provided with and use appropriate personal protective equipment and materials.
6. Training employees in the proper donning, use, care and maintenance of PPE.
7. Assisting employees with the inspection of PPE to ensure proper working order.
8. Ensuring the proper maintenance and care of PPE and replacing as needed. Supervisors are responsible for taking PPE out of service if it has been damaged or is no longer providing adequate protection for the employee.
9. Recognizing employees that consistently adhere to PPE policies and disciplining employees for not utilizing PPE required for the safe performance of job duties. Retraining employees as needed.

**C. Employees are responsible for:**

1. Conducting a job hazard analysis of daily job duties. Understanding the existing hazards in your work area and wearing PPE if required to safely perform job duties.
2. Informing your employer if you are unsure of the proper use and donning of PPE.
3. Maintaining PPE in proper working order. Cleaning PPE as required or as needed and storing in designated areas and according to policy and procedures.
4. Leading by example. Always demonstrate the importance of safety in the workplace and always wear required PPE.
5. Employees are required to report employees that do not wear required PPE on a job site. Providing a safe working environment is everyone's responsibility. Failure to report unsafe work practices can lead to disciplinary action.
6. Inspecting PPE on a regular basis and reporting any damage, faults or problems with PPE to their supervisor.
7. Reporting unsafe working conditions or environment. Never engage in work activities if you feel it is an unsafe working condition or work environment. Report the condition to your supervisor, department head or Risk Management immediately so that corrective action may be taken.

## IV. Hazard Assessment for Personal Protective Equipment

### A. Controlling Hazards

Personal Protective Equipment (PPE) devices alone should not be relied upon to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound manufacturing practices.

### B. Hazard Assessment

It is necessary to consider certain general guidelines for assessing the foot, head, eye and face, and hand hazard situations that exist in an occupational or educational operation or process, and to match the protective devices to the particular hazard.

Assessment guidelines - In order to assess the need for PPE, the following steps should be taken:

1. Survey: Conduct a walk-through survey of the work area to identify sources of hazards to employees. Consideration should be given to the basic hazard categories:
  - a. Impact
  - b. Penetration
  - c. Compression (roll-over)
  - d. Chemical
  - e. Heat
  - f. Harmful dust
  - g. Light (optical) radiation
2. Sources: During the walk-through survey the following items should be observed in order to properly identify hazards.
  - a. Sources of motion; i.e. machinery or processes where any movement of tools, machine elements or particles could exist, or movement of personnel that could result in collision with stationary objects
  - b. Sources of high temperatures that could result in burns, eye injury or ignition of protective equipment, etc.
  - c. Types of chemical exposures
  - d. Sources of harmful dust
  - e. Sources of light radiation, i.e., welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc.
  - f. Sources of falling objects or potential for dropping objects
  - g. Sources of sharp objects which might pierce the feet or cut the hands
  - h. Sources of rolling or pinching objects which could crush the feet
  - i. layout of workplace and location of co-workers

- j. Any electrical hazards
  - k. In addition, injury/accident data should be reviewed to help identify problem areas.
3. Organize data: Following the walk-through survey, it is necessary to organize the data and information for use in the assessment of hazards. The objective is to prepare for an analysis of the hazards in the environment to enable proper selection of protective equipment.
  4. Analyze data: After data has been gathered and organized on a workplace, an estimate of the potential for injuries should be made. Each of the basic hazards identified should be reviewed and a determination made as to the type, level of risk, and seriousness of potential injury from each of the hazards found in the area. The possibility of exposure to several hazards simultaneously should be considered.

### **C. Guidelines for Selecting PPE**

1. The general procedure for selection of protective equipment is as follows:
  - a. Become familiar with the potential hazards and type of protective equipment that is available, and what it can do; i.e., splash protection, impact protection, etc.
  - b. Compare the hazards associated with the environment (i.e., impact velocities, masses, projectile shape, etc) with the capabilities of the available protective equipment.
  - c. Select the protective equipment which ensures a level of protection greater than the minimum required to protect employees from the hazards.
  - d. 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.
2. **Fitting the PPE Device**

Careful consideration must be given to comfort and fit of PPE. PPE that fits poorly will not afford the necessary protection.

- a. Continued wearing of the device is more likely if it fits the wearer comfortably.
- b. Protective devices are generally available in a variety of sizes.
- c. Care should be taken to ensure that the right size is selected.

### **3. PPE 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.

- a. Particular care should be taken in fitting devices for eye protection against dust and chemical splash to ensure that the devices are sealed to the face.
- b. Proper fitting of helmets is important to ensure that it will not fall off during work operations. In some cases a chin strap may be necessary to keep the helmet on an employee's head (chin straps should break at a reasonably low force, however so as to prevent a strangulation hazard).
- c. If manufacturer's instructions are available, they should be followed carefully.

### **D. Reassessment of Hazards**

It is the responsibility of management to reassess the workplace hazard situation as necessary, by identifying and evaluating new equipment and processes, reviewing accident records, and reevaluating the suitability of previously selected PPE.

## **V. Selection Guidelines for Eye and Face Protection**

- A. County employees fall in a number of occupations for which eye protection should be routinely considered. Those occupations (not a complete list) include:
  1. Carpenters
  2. Electricians
  3. Machinists
  4. Mechanics and repairers
  5. Millwrights
  6. Plumbers and pipe fitters
  7. Sheet metal workers and tinsmiths
  8. Assemblers
  9. Sanders
  10. Grinding machine operators
  11. Lathe and milling machine operators
  12. Sawyers
  13. Welders
  14. Laborers
  15. Chemical process operators and handlers
  16. Timber cutting and logging workers

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- B. Departments and employees should keep the following in mind with regard to eye and face protection selection:
1. Care should be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards should be provided. Protective devices do not provide unlimited protection.
  2. Operations involving heat may also involve light radiation. As required by the standard, protection from both hazards must be provided.
  3. Face shields should only be worn over primary eye protection (spectacles or goggles).
  4. Filter lenses must meet the requirements for shade designations. Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.
  5. As required by the standard, persons whose vision requires the use of prescription (Rx) lenses or protective devices designed to be worn over regular prescription (Rx) eyewear.
  6. Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment. It should be recognized that dusty and/or chemical environments may represent an additional hazard to contact lens wearers.
  7. Caution should be exercised in the use of metal frame protective devices in electrical hazard areas.
  8. Atmospheric conditions and the restricted ventilation of the protector can cause lenses to fog. Frequent cleansing may be necessary.
  9. Welding helmets or face shields should be used only over primary eye protection (spectacles or goggles).
  10. Non-side shield spectacles are available for frontal protection only, but are not acceptable eye protection for the sources and operations listed for "impact".
  11. Ventilation should be adequate, but well protected from splash entry. Eye and face protection should be designed and used so that it provides both adequate ventilation and protects the wearer from splash entry.
  12. Protection from light radiation is directly related to filter lens density. Select the darkest shade that allows task performance.

## VI. Selection Guidelines for Head Protection

- A. County employees fall in a number of occupations for which Head protection should be routinely considered. Those occupations (not a complete list) include:
1. Carpenters
  2. Electricians
  3. Linemen
  4. Mechanics and repairers
  5. Plumbers and pipe fitters
  6. Assemblers
  7. Packers
  8. Wrappers
  9. Sawyers
  10. Welders
  11. Laborers
  12. Freight handler
  13. Timber cutting and logging
  14. Stock handlers
  15. Warehouse laborers
- B. All head protection (such as a helmet) 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 burns.
- C. When selecting head protection, knowledge of potential electrical hazards is important.
1. Class A helmets, in addition to impact and penetration resistance, provide electrical protection from low-voltage conductors (they are proof tested to 2,200 volts).
  2. Class B helmets, in addition to impact and penetration resistance, provide electrical protection from high-voltage conductors (they are proof tested to 20,000 volts).
  3. Class C helmets provide impact and penetration resistance (they are usually made of aluminum which conducts electricity), and should not be used around electrical hazards.
- D. Where falling object hazards are present, helmets must be worn. Some examples include:
1. Working below other workers who are using tools and materials which could fall.
  2. Working around or under conveyor belts which are carrying parts or materials.
  3. Working below machinery or processes which might cause material or objects to fall.
  4. Working on exposed energized conductors.

## VII. Selection Guidelines for Foot Protection

- A. County employees fall in a number of occupations for which Foot protection should be routinely considered. Those occupations (not a complete list) include:
1. Shipping and receiving clerks
  2. Stock clerks
  3. Carpenters
  4. Electricians
  5. Machinists
  6. Mechanics and repairers
  7. Plumbers and pipe fitters
  8. Structural metal workers
  9. Assemblers
  10. Drywall installers and lathers
  11. Packers
  12. Wrappers
  13. Craters
  14. Punch and stamping press operators
  15. Sawyers
  16. Welders
  17. Laborers
  18. Freight handlers
  19. Gardeners and grounds-keepers
  20. Timber cutting and logging workers
  21. Stock handlers
  22. Warehouse laborers
- B. Safety shoes and boots which meet the current ANSI Z41 Standard provide both impact and compression protection.
- C. 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.
- D. Safety shoes or boots with impact protection would be required for carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped; and, for other activities where objects might fall onto the feet.
- E. Safety shoes or boots with compression protection would be required for work activities involving skid trucks (manual material handling carts) around bulk rolls (such as paper rolls) and around heavy pipes, all of which could potentially roll over an employee's feet.
- F. Safety shoes or boots with puncture protection are required where sharp objects such as nails, wire, tacks, screws, large staples, scrap metal, etc. exist that could cause an injury if stepped on.

## VIII. Selection Guidelines for Hand Protection

- A. 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.
- B. OSHA is unaware of any gloves that provide 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.
- C. 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. These performance characteristics should be assessed by using standard test procedures. Before purchasing gloves, the employer should request documentation from the manufacturer that the gloves meet the appropriate test standard(s) for the hazard(s) anticipated.
- D. Other factors to be considered for glove selection in general include:
  1. As long as the performance characteristics are acceptable, in certain circumstances, it may be more cost effective to regularly change cheaper gloves than to reuse more expensive types.
  2. The work activities of the employee should be studied to determine the degree of dexterity required, the duration, frequency, and degree of exposure of the hazard, and the physical stresses that will be applied.
  3. With respect to selection of gloves for protection against chemical hazards:
    - 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 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.

## **IX. Cleaning and Maintenance of PPE**

- A. It is important that all PPE be kept clean and properly maintained in accordance with manufacturer instructions, if applicable.
- B. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision.
- C. PPE should be inspected, cleaned, and maintained at regular intervals so that the PPE provides the necessary protection.
- D. It is also important to ensure that contaminated PPE which cannot be decontaminated is disposed of in a manner that protects employees from exposure to hazards.
- E. PPE shall be stored in designated areas as determined by the Department.

# MODEL FORMS

Model forms for this program are located on the following pages. Departments may modify or develop their own forms based on the specific needs of their department.

Modified forms are subject to  
review and approval of Risk Management