

## Health & Safety: Worker Protection

# Worker Protection Overview

How Can I Protect My Workers? Once the hazards in the workplace have been identified and categorized by type, location and degree, appropriate preventive and protective steps should be taken to deal with the hazards. Although Worker Protection is commonly equated to Personal Protective Equipment (PPE), PPE should actually be the last line of defense in the effort to protect workers.

### Worker Protection should be addressed in the following order:

1. Elimination of hazard
2. Implementation of proper engineering controls
3. Creation and dissemination of procedural controls
4. Correct utilization of PPE

### Hazard Elimination

Whenever possible hazards should be eliminated from the workplace or substituted with a less hazardous option.

### Engineering Controls

The first line of defense against those hazards which cannot be eliminated is a well-designed workspace. Engineering controls include the design of adequate infrastructure, facilities and operational systems.

### Examples of Engineering Controls

#### Infrastructure should:

- be structurally sound
- provide adequate protection against the elements naturally occurring in that region
- provide adequate protection against fire
- contain the appropriate number of emergency exits
- comply with all local laws and regulations

## **Facilities should:**

- contain the types and quantities of detection and alarm systems as necessitated by the nature of activities to be conducted in the facility
- contain appropriate emergency equipment such as fire extinguishers and sprinkler systems
- contain signage that clearly identifies emergency exits, even in power outages
- provide adequate emergency lighting
- provide adequate lighting for the tasks to be performed inside
- provide adequate ventilation and circulation of clean air
- maintain an appropriate temperature
- provide safety measures, such as hand railings and floor traction, where necessary
- provide adequate toilet and washing facilities
- provide adequate access to clean drinking water
- contain adequate first aid supplies
- comply with all local laws and regulations

## **Operational Systems should provide adequate protection against hazards associated with production-related tasks:**

- Chemical hazard control examples
- Exhaust ventilation
- Dilution ventilation
- Partitioned workspaces
- Dust and solvent containment systems
- Vacuum systems

## **Physical hazard control examples:**

- Guards
- Splash shields
- Screens
- Temperature insulation
- Sound insulation
- Electrical insulation Steam vents
- Pressure release valves
- Maintenance panels that are accessible without removing protective controls
- Machine lifts and other mechanical assists
- Ergonomic controls
- Adequate space to conduct necessary tasks
- Clean and clutter-free workspaces
- HEPA filtration systems
- Equipment maintenance and replacement

- Worker rotation
- Time limits on certain activities Mandatory breaks

### **Biological hazard control examples:**

- HEPA filtration systems—High Efficiency Particulate Arresting filters
- Ventilation systems
- Partitioned workspaces
- Remote handling devices

### **Procedural Controls**

Simply having the appropriate Engineering Controls in place will not ensure the protection of workers. The creation and dissemination of operational safety procedures are an integral part of Worker Protection. These Procedural Controls should thoroughly explain the Engineering Controls and how to properly use them. They should be revised periodically and all efforts should be made to ensure that workers understand and comply with the procedures.

### **Examples of PPE**

PPE should be the last line of defense against workplace hazards. Using PPE as a substitute for the above controls is unacceptable and poses a serious risk to a company and its workers.

- Helmets
- Face shields
- Visors
- Goggles
- Safety glasses
- Ear plugs
- Ear muffs
- Ear pads
- Facemasks
- Respirators
- Gloves
- Boots
- Booties
- Back supports
- Coveralls
- Insulated clothing