

# ***ACCIDENT PREVENTION PROGRAM***

## ***SITE HANDBOOK***



Revised 08/14

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## FOREWORD

I often refer to our schools and support places as "safe and nurturing places to learn and to work." This district has long emphasized safety for students, staff and all who use our facilities. You deserve much credit for your role in remembering, "No job is so important; no service so urgent, that I cannot take time to do it safely."

The district's Safety and Health Program's role is to effectively manage the processes of occupational injury and illness prevention, and to aggressively eliminate the occurrence of unsafe conditions and at-risk behaviors.

Each must recognize our individual safety responsibilities and understand that accident prevention is as much an obligation as any other phase of our work. Complying with all safety rules is required for each of us. I also encourage you be watchful for ways safety can be improved for all of us.

By using the right safety equipment, looking out for coworkers, following safety instructions, attending training classes and reporting, preventing or eliminating unsafe conditions or practices before someone is injured, you help us keep our schools and school facilities safe places to learn and to work.

Thanks for all you do on behalf of students each day -and for caring about the safety and well-being of your co-workers.



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Superintendent

## **PROGRAM OVERVIEW**

This accident prevention program was developed in order to fully implement the district's safety and health policy. The elements of this program cover a broad spectrum of areas and are designed to prevent accidents and injuries. Taken individually, the program elements have minimal effect. As an integrated program, and with the support of employees at all levels, the Accident Prevention Program can reduce the number and severity of job related injuries to district employees.

## **RESPONSIBILITIES**

### **A.    Administration**

Each administrator is responsible for implementing safety and health procedures within their area of responsibility. Other responsibilities include:

1.     Delegating authority to supervisors and holding them accountable for accident prevention and reporting procedures as specified herein.
2.     Ensure that safety orientation training, as well as ongoing safety training, is accomplished within their divisions.
3.     Ensure that an ongoing program of vehicle safety is implemented within their divisions.
4.     Ensure compliance with WAC 296-800-32005, to promptly report fatalities or multiple hospitalization accidents.
5.     Provide personal protective equipment required to safely accomplish tasks.

### **B.    Supervisors**

The safety and health of the employees they supervise is a serious responsibility of each supervisor. To meet this obligation, supervisors shall:

1.     Ensure that all safety and health rules, standards, and procedures are observed.
2.     Orient and train employees in safe and efficient work methods, and see that they are practiced.
3.     Follow-up and act upon suggestions made by employees and the safety committee.
4.     Conduct monthly inspections of work areas and practices to eliminate potentially hazardous conditions. Submit corrective action reports to the safety committee.
5.     Conduct an investigation of all accidents, regardless of severity. Send a properly completed copy of the "Supervisors Report of Investigation" with preventive suggestions to the safety committee and the claims coordinator. These reports shall be forwarded within 24 hours, or the next working day, after the supervisor first learns of the accident.
6.     Ensure that personal protective equipment is worn when task dictates.
7.     Conduct a Job Safety Analysis when needed.

**C.     All Employees**

Employees are required to:

1.     Attend the initial safety orientation/job specific safety training.
2.     Know and comply with all safety rules and procedures.
3.     Cooperate with co-workers, supervisors and the safety committee to assist in eliminating accidents.
4.     Identify and report potential hazards.
5.     Immediately report all accidents to immediate supervisors regardless of severity or type. (Note: Failure to report an industrial injury, occupational illness, vehicle accident or equipment damage, as prescribed, may be grounds for disciplinary action.)
6.     Complete an accident report and submit it to the supervisor within 24 hours or the next working day.
7.     Serve on safety committees when elected or selected.
8.     Maintain all personal protective equipment in a safe and usable condition, and to wear such equipment when tasks dictate.
9.     Participate in provided safety training.
10.    Perform all assigned tasks in a safe manner to avoid endangering themselves or their co-workers.

## **SAFETY & HEALTH COMMITTEE**

1. The Safety Committee will be composed of employer-selected and employee-elected members (WAC 296-800-13020).
  - (a) The term of employee-elected members is a maximum of one year. Should a vacancy occur on the committee, a new member will be elected prior to the next scheduled meeting.
  - (b) The number of employer-selected members will not exceed the number of employee-elected members.
2. The safety committee will have an elected chairperson.
3. The safety committee is responsible for determining the frequency of Committee meetings (minimum quarterly.)
  - (a) The committee is responsible for determining the date, hour and location of the meeting.
  - (b) The length of each meeting will not exceed one hour except by majority vote of the committee.
4. Minutes of each committee meeting will be prepared and filed for a period of at least one year and shall be made available for review by noncompliance personnel of the Division of Industrial Safety and Health.
5. Safety and health committee meetings will address the following:
  - (a) A review of the safety and health inspection reports to assist in correction of identified unsafe conditions or practices.
  - (b) An evaluation of the accident investigations conducted since the last meeting to determine if the cause of the unsafe acts or unsafe condition involved was properly identified and corrected. Review and investigate any hazard reports received either orally or in writing.
  - (c) Periodic evaluation of the accident and illness prevention program, as implemented, and make recommendations for improvements.
  - (d) Evaluate employee safety suggestions.
  - (e) Attendance shall be documented.
  - (f) All items discussed will be documented.
6. Meeting minutes will be distributed to each location for posting on the Safety Bulletin Board.

## **SAFETY BULLETIN BOARD**

- A. Purpose: The bulletin board is designed to increase the employees' awareness of safety and health issues and to communicate management's safety message.
- B. Procedure: In order to have an effective bulletin board, the following issues should be considered:
- a. A specific safety bulletin board or portion of an existing board should be designated and that spot reserved **EXCLUSIVELY** for safety material.
  - b. Postings should be attractively arranged.
  - c. Posters, safety committee minutes, and other information that becomes dated or worn should be changed periodically.
  - d. Placed in a location where there is greatest employee exposure (lunchroom, break room, near time clock, etc.).
  - e. Each site is responsible to maintain each bulletin board, as recommended above.
- C. The following publications will be posted:
- 1. Job Safety and Health Law (F416-081-909)
  - 2. Notice to Employees Self-Insured (F207-037-909)
  - 3. Your Rights as a Worker (F700-074-909)
  - 4. Citation and Notice (as appropriate)
  - 5. A list of all valid first aid cardholders and location(s) of first aid kit(s)
  - 6. Most current safety committee meeting minutes
  - 7. Hazard reporting form

\*You are not required to post the Spanish version of these publications unless a majority of your employees speak Spanish.



## **SAFETY ORIENTATION**

- Purpose:** Orientation of new employees, re-hires, part-time employees, substitutes, temporaries and those transferred from another department within the district will occur the first day of employment on the new job. This program will provide an introduction of district policies and rules and will include reviewing the district's written safety and claims management procedures. The orientation should include a tour of the facilities to acquaint the employee with the entire operation. The employee will also be advised of their job performance acceptability level.
- Procedure:** The immediate supervisor of the employee will provide job specific safety training, covering all aspects of the safety program as it relates to each employee and their assigned duties. This training will be annotated on a "Safety Orientation" checklist. Both employee and supervisor will sign, indicating that orientation was conducted. The original sign-off sheet will be sent to the personnel office for file placement and supervisors will retain a copy for their desk files.

## ACCIDENT INVESTIGATION AND REPORTING

- A. Purpose: Since every accident includes a sequence of contributing causes, it is possible to prevent a recurrence by recognizing and eliminating those causes. The removal of a single cause can prevent a recurrence of an accident/incident. During the supervisor's investigation, they must determine the possible consequences that could take place if the situation is not corrected and take appropriate action based upon those findings (i.e., investigate, report, correct, etc.).
- B. Medical Emergency Procedure: An aid car will be called in the event that the employee needs immediate medical attention. The telephone number is **9-911**. If a family member is not available, a district official will accompany the employee to the doctor or hospital.
- C. Documentation Procedures:
1. All accidents/incidents involving minor injuries and “near-misses” are to be reported to the immediate supervisor as soon as possible after the accident on the *Report of Accident/Incidents* form. The supervisor will investigate and submit a properly completed *Supervisor's Report of Investigation*.
  2. Minor Injuries: (requiring doctor/outpatient care) After emergency actions are taken following an accident, an investigation of the accident will be conducted by the immediate supervisor, in conjunction with any witnesses to the accident to determine the cause. The findings of the investigation shall be documented on the *Supervisor's Report of Investigation* form. Distribution of the completed form will be as follows:
    - a. Copy to the District Liaison
    - b. Copy to the Safety Committee Chairperson
    - c. Copy to Puget Sound Workers' Compensation Trust

C. Documentation Procedures: (continued)

3. Major Injuries: (fatality or multiple hospitalizations)

- a. The district safety contact and supervisor are to be notified immediately by the person in charge and an investigation under the direction of the district will be conducted. In addition to the district investigator, the inspection party will include the claims manager, supervisor of the injured person(s), a representative from the safety committee (supervisor-staff), and an employee representative.
- b. In the case of a fatality, or if one or more employees are hospitalized, the supervisor will report the accident to the nearest office of the Department of Labor and Industries, phone number **1-800-423-7233** within eight hours of the occurrence of the accident. The report shall relate the circumstances, the number of fatalities and the extent of any injuries. **Note:** Any equipment involved in an accident resulting in an immediate fatality is not to be moved until a representative of the Department of Labor and Industries investigates the accident and authorizes its removal. If, however, it is necessary to move the equipment to prevent additional accidents or to remove the victim, the equipment may be moved as required.

4. "Near Misses": (likelihood of personal injury or property damage) To the greatest extent possible, all "near-miss" accidents shall be investigated by the administrator/supervisor and/or safety committee representative. Documentation will be made on the *Supervisor's Report of Investigation* form. A "near-miss" accident is defined as an unplanned event where damage resulted but there was no personal injury to employees, **or** where damage did not result but the likelihood of personal injury to the employee was great. If the conditions which permitted the "near-miss" or "close-call" to exist are not eliminated, they will continue to be an issue, which may result in future accidents and/or personal injury to the employee(s).

## **SAFETY AND HEALTH EDUCATION TRAINING**

- A. Purpose: On-going safety and health education programs will be provided for all employees in an effort to increase awareness of accident causal factors. This will also improve morale by demonstrating management's concern for the individual employee and to promote acceptance of safety and health regulations by presenting accident prevention as a positive, desirable, and integral part of all activities.
- B. Procedure: The school district will provide a systematic accident prevention-training program for the employee. This program will provide on-the-job training in work areas and will familiarize each employee with the district's safety and health requirements.
- C. General Safety and Health Training:
- |                                   |                               |
|-----------------------------------|-------------------------------|
| Back Injury Prevention            | Bloodborne Pathogens          |
| Slip and Fall Prevention          | Repetitive Trauma/Ergonomics  |
| Fall Protection and Ladder Safety | Personal Protective Equipment |
| Eye Safety/Hand Safety            | Respiratory Protection        |
| Hearing Conservation              | Machinery                     |
| Sprain/Strain Prevention          | Hazardous Chemical Safety     |
| Confined Space                    | Lockout/Tagout                |
- D. Specific Safety and Health Training:
- AHERA required Designated Person course (8 hours)
  - AHERA Custodial and Maintenance Worker course (2 hours)
  - L & I Asbestos Worker certification course (30 hours)
  - OSHA/WISHA Forklift Operator course
  - DOE Hazardous Material Handler course
  - WISHA Hazard Communication Standard and SDS training
  - EPA Pesticide Applicator course
  - Chemical Hygiene Officers training

## **OCCUPATIONAL INJURY AND ILLNESS RECORDKEEPING**

Purpose: Occupational Injury and Illness Logs are maintained and posted in accordance with federal and state standards. They are posted annually to inform employees of the number and type of illnesses and injuries suffered at each place of employment.

Procedure: Educational entities have been granted a partial exemption from the requirement to maintain occupational injury and illness records. The district, however, may be selected to participate in a survey for statistical purposes. In that case, the district will be notified by the U.S. Department of Labor of its selection during the year prior to the survey in order to record data.

## **HAZARD REPORTING**

Purpose: To provide each employee the opportunity to report, without fear of reprisal, any unsafe act, conditions or procedures that they may observe.

Procedure: Employees will report hazards to either their immediate supervisor or to the Safety Committee. Hazards may be submitted in writing or orally and may be submitted anonymously. The supervisor or safety committee will review, validate, and take corrective actions on valid hazards. The originator will be notified of any action planned or implemented for the abatement of the hazard. Action on hazard reports will be covered in the safety committee meeting minutes.

## **HAZARD COMMUNICATIONS PROGRAM**

Purpose: The district Hazard Communication Program was developed to ensure that employees are informed of the chemical hazards associated with products used in their work areas.

Procedure: All employees will be provided training on the district Hazard Communications Program during the initial orientation/job safety training conducted by their supervisor. Employees will be informed of any hazard which may exist in relation to the products they will use in the performance of their jobs. The Safety Data Sheets (SDSs) will be used to show potential health hazards, first aid treatment, required personal protective equipment and actions to take in the event of a spill. Whenever a new product is introduced into the work area, the above training items will be covered with all affected personnel. Copies of SDSs for all products used in a work location will be maintained in that location.

## **Hazard Communication Program (HAZCOM)**

This district is committed to the prevention of exposures that result in injury and/or illness; and to comply with all applicable state health and safety rules. To make sure that employees know about information concerning the dangers of all hazardous chemicals used by the district, the following hazardous chemical communication program has been established.

### **List of hazardous chemicals**

A list of all hazardous chemicals is kept in the front of the SDS binder at each site. There must be enough information on the list to match each chemical to its SDS. The list is updated each year, and old lists are kept on file at the district office. Archived lists for each site will be filed by year or otherwise indicate dates of use of each chemical. Archived lists will be kept for a minimum of 30 years.

### **Safety Data Sheets (SDS)**

An SDS will be obtained for every hazardous chemical at the time the chemical is obtained. No chemical will be stored or used without an SDS.

Copies of SDS for all hazardous chemicals in use will be kept in the site SDS manual and at the district office. If any vehicle regularly carries a hazardous chemical (for maintenance, cleaning, etc.) an SDS will be maintained in the vehicle for the hazardous chemical carried. SDS will be available to all employees during each work shift.

The district office will keep a copy of all SDS for at least thirty years. These records are part of the exposure records. The records, which include the chemical list by year, must detail the chemical, where it was used and when it was in use.

### **Container Labeling**

Labels of containers of hazardous chemicals must be easy to read and in place on every container. Labels must have:

1. the name of the chemical or common name (adequate information for finding the SDS), and
2. general information about the health and physical hazards of the chemical.

Original labeled containers will be used at all times when possible. If the original label becomes difficult to read, it will be promptly replaced.

Whenever a quantity of material is transferred into a non-labeled container for use it shall be only in a quantity that will be used during the shift by the person making the transfer. If the chemical is kept in the container past the end of the shift, it must be labeled.

If quantities of materials are to be used in containers other than the original labeled container they must be clearly labeled.

No containers will be kept without a label accurately describing the contents.



## **Employee information and Training**

The supervisor will make sure that before starting work, each new employee attends a health and safety orientation that includes information and training on the following, and including specific information about specific chemicals the employee may be exposed to on site:

- An overview of the requirements contained in the Hazard Communication Standard;
- Hazardous chemicals present at his or her work places;
- Physical and health risks of the hazardous chemical; The symptoms of overexposure;
- How to determine the presence or release of hazardous chemicals in his or her work area;
- How to reduce or prevent exposure to hazardous chemicals through use of control procedures, work practices, and personal protective equipment;
- Steps the employer has taken to reduce or prevent exposure to hazardous chemicals;
- Procedures to follow if employees are overexposed to hazardous chemicals;
- How to read labels and review SDS to obtain hazard information; and
- The location of the SDS binder and written hazard communication program.

Whenever there is a change in chemicals used, the supervisor will make sure all employees receive information or refresher training.

## **Staff Responsibilities**

### **1. Building Administrators and Supervisors**

- a. Maintain a list of hazardous chemicals used or stored in their work area.
- b. Submit new safety data sheets (SDS) to the SDS manager for database inclusion.
- c. Obtain/maintain copies of (SDS), as required, for each hazardous chemical used or stored I work areas and make the accessible to employees during each work shift.
- d. Review SDS received to make sure it is current and complete. If an SDS appears to be outdated or incomplete, send a letter to the manufacturer requesting a current and complete SDS.
- e. Make this written Hazard Communication Program available, upon request, to all employees.

### **2. Supervisors**

- a. Ensure hazardous chemicals are properly labeled.
- b. Ensure that all new chemicals introduced or used in work areas under their responsibility have SDSs readily accessible and inform employees of these locations.
- c. Ensure that employees under their supervision who work with hazardous chemicals and/or whose work area contains hazardous chemicals receive the general hazard communication training when hired, and receive work area specific training prior to their initial assignment of working with and/or being exposed to hazardous chemical(s) in work area. This includes any new chemical hazards introduced in the work area subsequent to initial training, those

associated with non-routine tasks, and those introduced by non-district personnel (subcontractors, vendors, etc.).

- d. Ensure that employees are training in use of any recommended PPE and they use it as instructed.

### **3. SDS manager**

- a. Maintains a district-wide file of safety data sheets (i.e., the master file) for all hazardous chemicals on each site (see also Subcontractors).
- b. Maintains a list of all hazardous chemicals (i.e., the master list) used and stored on site in a central computer file (see also Subcontractors).
- c. Provides a summary of this Hazard Communication Program to subcontractors who will perform work onsite. This may be accomplished by attachment to the contract or at pre-construction meetings.
- d. Archives the chemical lists and SDS from prior years, so that the district has records, which include the chemical list by year and which detail the chemical, where it was used and when it was in use.

### **4. Human Resources**

- a. Develops and presents general hazard communication training material.
- b. Provides all new employees with general hazard communication training.

### **5. SDS Manager, Building Administrators and Supervisors**

- a. Ensures containers of chemicals received, distributed, or transferred to other containers have the appropriate hazard communication labeling.
- b. Forwards SDSs received with shipments to SDS manager for further distribution.

### **6. Subcontractors**

- a. Because the district uses and stores hazardous chemicals on-site in a way that the employees of other employer(s) may be exposed (for example, employees of a construction subcontractor working on-site), the program manager shall enclose a summary of this Hazard Communication Program in subcontracts involving work on site. Alternatively, this summary may be provided to subcontractors in pre- construction meetings.
- b. Contractors performing work on-site shall include a copy of their hazard communication program in their site safety and health plan if they intend to bring any hazardous chemicals to the premises. SDSs for these hazardous chemicals shall be maintained by the subcontractor and be made available to district staff upon request.

### **7. Science Teachers**

- a. Science teachers shall follow procedures in this policy as it applies to an inventory and SDS for chemicals in their classrooms. In addition, they shall be provided general Hazard Communication and operation specific training if, as a part of their job, they use hazardous chemicals and/or are exposed to hazardous chemicals. Training shall be coordinated by their building administrator.
- b. If applicable, science teachers will comply with the Laboratory Chemical Hygiene Plan.

## **8. All Employees.**

- a. All employees shall attend district Hazard Communication training and become familiar with the program and the location of the chemical list and safety data sheets. Employees will become familiar with the hazards of chemicals they work with and will not use new chemicals until they have reviewed the SDS and reviewed the hazards with their supervisor.

### **Hazard Communication Standard Pictogram**

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

### **HCS Pictograms and Hazards**

#### **Health Hazard**



- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Respiratory Sensitizer
- Target Organ Toxicity
- Aspiration Toxicity

#### **Flame**



- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self-Reactives
- Organic Peroxides

#### **Exclamation Mark**



- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non-Mandatory)

#### **Gas Cylinder**



- Gases Under Pressure

#### **Corrosion**



- Skin Corrosion/Burns
- Eye Damage
- Corrosive to Metals

#### **Exploding Bomb**



- Explosives
- Self-Reactives
- Organic Peroxides

#### **Flame Over Circle**



- Oxidizers

#### **Environment (Non-Mandatory)**



- Aquatic Toxicity

#### **Skull and Crossbones**



- Acute toxicity (fatal or toxic)

## EMERGENCY ACTIONS

Purpose: To inform employees of the proper actions that needs to be taken during various emergency situations.

Procedure: All employees will be provided training on emergency actions during the initial orientation/job safety training conducted by their supervisor. The emergency action plans developed for each location will be used as the training guide.

**Emergency Plan programs are located with the site principal or office manager at each site.**

## **HAZARDOUS ENERGY CONTROL PROGRAM (lockout/tagout)**

Purpose: This program establishes the requirements for the lockout or tagout of energy sources. It is used to ensure that machines or equipment are isolated from all potentially hazardous energy and locked-out or tagged-out before employees perform any servicing or maintenance activities where the unexpected energization, start-up, or release of stored energy could cause injury.

Procedure: All employees will be instructed on the significance of the lockout or tagout procedures during their initial orientation/safety training conducted by their supervisor. Each new or transferred employee, and other employees whose work operations are or may be in the area, shall be instructed on the lockout or tagout procedures.

## Lockout/Tagout Program

Purpose: This Program establishes the requirements for lockout or tagout energy isolating devices. It shall be used to ensure that machines or equipment are isolated from all potentially hazardous energy, and locked-out or tagged-out before employees perform any servicing or maintenance activities where the unexpected energization, start-up or release of stored energy could cause injury.

Responsibility: All employees shall be instructed in the safety significance of the lockout or tagout procedure. Each new or transferred employee and other employees whose work operations are or may be in the area, shall be instructed in the purpose and use of the lockout or tagout procedures.

Preparation for Lockout or Tagout: Conduct a survey to locate and identify all isolating devices to be certain all switches, valves or other energy isolating device(s) that apply to the equipment to be locked or tagged out. More than one energy source (electrical, mechanical or other) may be involved.

### Sequence of Lockout or Tagout Procedure

- Notify all affected employees that a lockout or tagout system is going to be utilized and the reason. The authorized employee(s) shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof. If the machine or equipment is operating, shut it down by the normal stopping procedure.
- Close or shut down all switches, valves and other energy isolating devices so that the equipment is isolated from its energy source(s). Stored energy (springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure) must be dissipated or restrained by a method such as repositioning, blocking, bleeding down, etc.
- Lockout and/or tagout the energy isolating devices with assigned individual locks and tags.
- To ensure that all energy sources have been de-activated, ensure that employees are not exposed, and then operate the push button or other normal operating controls to make certain the equipment will not operate.  
**CAUTION: Return operating controls to neutral or off position after the test.**
- The equipment is now isolated from energy sources.

### Restoring Machines or Equipment to Normal Production

- After the servicing and/or maintenance are complete and equipment is ready for normal production operations, check the area around the machine to ensure that no one is exposed.
- After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all lockout/tagout devices to restore energy to the machine or equipment.

### **Procedure Involving More Than One Person**

In the preceding steps, if more than one individual is required to lockout or tagout equipment, each shall place their own personal lockout device on the energy isolating device(s.) When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use their own lock to secure the box or cabinet. As each person no longer needs to maintain their individual lockout protection, that person will remove their lock from the box or cabinet.

### **Lost Key Procedure**

If a key to a lockout device is lost or misplaced, report it immediately to your supervisor. Each device will have only one key, and a master key which shall be regulated and retained by the appropriate supervisor. Employees providing lock out service shall keep their key on them at all times.

### **Removal of Lockout Tagout Equipment By Others**

- If a person who initially locked out the equipment neglects to remove their padlock before leaving the work site, the following procedure must be adhered to.
- A complete inspection of the work area by the supervisor or management to insure the person(s) who performed initial lock out/tag out procedures is safe and uninjured.
- If necessary, contact the employee's residence to verify their safety and location and determine if they did or did not complete the assigned task and/or if they inadvertently neglected to remove the lock out signs and padlock.
- These two steps need to be completed before the supervisor in charge of the master key may remove the lock out sign and/or padlock(s.)
- A record of this occurrence shall be kept and the lock out/tag out procedures reviewed by the employee. Progressive disciplinary action should be taken if appropriate.

### **Basic Rules For Using Lockout or Tagout System**

All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. **DO NOT ATTEMPT** to operate any switch, valve, or other energy isolating device when it is locked or tagged out.

### **Personnel Authorized to Lockout Tagout**

All Facilities Maintenance personnel with Lockout/Tagout training

**Training**

- All employees involved shall be trained in the correct implementation of this program and its elements.
- A "certification" will be prepared with the names and dates of training.

**Periodic Review**

At least annually, there will be a review and verification of these procedures.



## **PERSONAL PROTECTIVE EQUIPMENT**

Purpose: To provide employees with protective equipment while performing tasks which present a potential for injury.

Procedure: During the initial orientation and safety training, all employees whose position requires the use of personal protective equipment (PPE) will be provided instruction by their supervisor. The instruction will include the issuance of, and the requirement for use, care, and maintenance of personal protective equipment. A survey of the work area will be conducted to assess the need for PPE and a record of the assessment will be kept on file.

## **Personal Protective Equipment (PPE) Program**

Supervisors are required to assess the hazards of each job and determine what PPE is necessary on the job. They must document the hazard assessment for PPE and complete a written certification that includes the name of the site, address, person certifying and date. This must be done when the job starts and whenever there are any changes in conditions, tools or processes. See the Hazard Assessment Certification form. A copy of the certification will be furnished to the employee.

- Employees are required to wear PPE as instructed by their supervisor to safely perform their work.
- All required PPE will be furnished employees at no cost to them.
- Employees are required to maintain PPE in clean working condition according to manufacturer's instructions, test PPE before each use, and to request new PPE as needed.
- It is the supervisor's duty to ensure that appropriate PPE is available to employees, they are trained in its use and care, and that PPE requirements are enforced.

### **Hand Protection - (Glove Policy)**

Gloves are the most common form of PPE.

All employees are furnished one-use disposable nitrile or vinyl gloves in case they should be required to provide first aid or clean up after injury.

Custodial, maintenance, and yard crews are furnished appropriate gloves to protect them from materials they handle and for the protection against chemicals and cleaning compounds which may injure employees' skin.

Kitchen workers are furnished appropriate gloves to protect against cuts when using knives and heat from cooking.

Maintenance staff working on or near energized electrical sources (i.e. testing, troubleshooting), will be furnished rated electrical gloves and protectors. Employees are to follow the Electrical Safety Program.

### **Eye & Face Protection**

Prior to work in any area with potential exposure to hazardous materials/chemicals, the nearest eyewash shall be identified and communicated to all.

Safety glasses (ANSI Z87.1 approved) will be worn at all times while performing tasks where particles could hit eyes. Special eye hazard work areas (such as welding, torch work, lasers etc.) shall be identified and appropriate eye protection provided. ANSI approved eye wear shall be worn over prescription glasses for access to project work areas until permanent protective eyewear can be obtained.

Goggles shall be worn if the potential for fine particles or chemical hazards exist. Visitors invited to our shop areas where eye protection is required, shall be provided approved goggles or glasses.

Face shields shall be worn when grinding and handling acids, other hazardous chemicals, or hot liquids/grease that could splash.

Face shields will be worn when cleaning spills of blood or potentially infectious materials when there is a splash hazard.

### **Head/Scalp**

Hard-hats are to be worn in all construction areas unless otherwise communicated or posted. Hard-hats shall meet ANSI Z.89.1- 1986 and shall be Class A or B.

- Metallic hard-hats are prohibited.
- Bump caps are prohibited as head protection.
- Before each use, hard-hats should be inspected for cracks, signs of impact or rough treatment and wear that might reduce the degree of safety originally provided. If signs of excess wear exist, it should be discarded.
- Hard-hat suspensions shall never be altered. Hard-hats are to be worn with the bill to the front or as provided by the manufacturer; hard-hats shall not be worn backwards or otherwise on the head unless the hard-hat is manufactured to be effective that way.

### **Body Protection**

Where chemical hazards (corrosives, etc.) are present, appropriate protection shall be provided to all personnel. The protection provided shall be chosen to be resistant to the hazards and chemical properties as presented by the work.

### **Legs, Thighs, Knees, Shins, & Ankles**

Custodial and maintenance employees shall wear full length pants and shirts with sleeves at least 4" long. Overalls or pants must not have loose, torn or dragging fabric.

Pointed tools shall not be carried in pockets. A canvas or leather tool sheath hung from the belt is acceptable - Remember: All Points Down. Feet & Toes.

At no time will tennis shoes or those types be accepted for adequate footwear. Tennis shoes, running shoes, light canvas shoes, etc., are not authorized for wear for custodial or maintenance work or construction areas.

### **Hearing Protection**

Any area or operation that exposes employees to noise in excess of 85 dBA shall be posted as "High Noise Area" or "Hearing Protection Required".

In areas posted "Hearing Protection Required" or "High Noise Area", hearing protection (ear muffs or ear plugs) shall be provided and worn at all times.

General rule of thumb: If background noise is loud enough to require speaking with a raised voice above background noise at 3 feet, the noise level is probably above 85 dBA. If a shout is required, the noise level is probably in the range of 90 dBA or greater.

Employees operating equipment are required to wear either foam ear plugs or ear muffs as provided by the district when exposed to noise levels equal to or over 90 dBA as determined by instrumental monitoring or the general rule listed above or when recommended by equipment manufacturer.

### **Respirators**

If a project plan or exposure monitoring determines that the use of a respirator is required to adequately safeguard employees, all employees shall be trained, medically evaluated, fitted and supplied with the appropriate respirator for the job. At no time will an employee be allowed to purchase or furnish his or her own respirator.

Respirators shall not be shared. Each employee requiring protection shall be issued equipment.

Anyone wearing a respirator shall be clean-shaven to ensure a secure face/respirator seal.

**All personnel required to use a respirator shall be trained and training records will be available upon request.**

### **HAZMAT Exposures**

Qualified employees with current training and certification will assist in the choice of PPE whenever entry or work in a hazardous site is required. They will select the PPE in accordance with the manufacturer's recommendations, as stated in the SDS for the chemical exposure that has been identified, or called for by their training. This may include, but is not limited to, protective eyewear, clothing, gloves, or respirators. (Use of a respirator requires proper training, fitting, and medical monitoring.)

**No entry into areas with HAZMAT exposures will be undertaken without appropriate risk assessment and testing. Procedures for decontamination and cleaning or disposal will be considered.**

## FIRST AID

A. **Purpose:** To ensure that each district employee is afforded quick and effective first aid treatment in the event of an on-the-job injury.

B. **Procedure:**

1. First Aid Training

A sufficient number of employees will be trained to ensure that a first aid certified individual is present at or near any location where employees are working. Other school employees required to have first aid training include:

All PE and health teachers must have a first aid card per OSPI.

All lab science teachers must have a first aid card per WISHA/DOSH.

All school bus drivers must have a first aid card per OSPI.

All day care workers must have a first aid card per Department of Health.

All coaches must have a valid first aid card per WIAA.

It is the employee's responsibility to attend first aid certification training if selected by the supervisor.

2. First Aid Kits

First aid kits will be maintained at each facility and their locations will be posted on the Safety Bulletin Board and shown to each employee during the safety orientation. If first aid kits are not clearly visible, a sign shall be posted indicating their location. All kits shall be readily accessible.

Except in those instances where some other person is designated, the building principal or building supervisor is designated to ensure that the first aid kits are properly maintained and stocked.

Emergency phone numbers and emergency procedures will be strategically located, such as on the first aid kit, at telephones, on the safety bulletin board and at other areas where appropriate.

WAC 296-800-150 First-aid kit guidance

***SAMPLE: First-aid Kit Contents***

- (a) 1 absorbent compress, 4x8 inches
- (b) 16 adhesive bandages, 1x3 inches
- (c) 1 adhesive tape, 5 yards long
- (d) 10 antiseptic single-use packages, 0.5g application
- (e) 6 burn treatment single-use packages, 0.5g application
- (f) 1 eye covering (for two eyes)
- (g) 1 eye wash, 1 fluid ounce
- (h) 4 sterile pads, 3x3 inches
- (i) 2 pair of medical exam gloves
- (j) 1 triangular bandage, 39x39x55 inches
- (k) Disposable rubber (vinyl) gloves
- (l) CPR Micro-shield (sterile, disposable)

Optional First-aid Kit Contents

- (a) Bandage compresses, 2x2 inches, 3x3 inches and 5x5 inches
- (b) Self-activating cold packs, 4x5 inches
- (c) Roller bandages, 6 yards long
- (d) Mouth-to-mouth barrier for CPR

Note: ASTM (American Society for Testing and Materials) and ANSI (American National Standards Institute) or other consensus national standard kits will meet these requirements. **Employers should consider the type of hazards at each work site (physical, chemical, biological, number of employees, and local emergency response providers to determine the quantities of first aid supplies.**

A CPR Micro-shield (sterile, disposable) and a supply of disposable rubber (vinyl) gloves are additional items which should be included in every first aid kit. Disposable gloves should be readily available to every school employee at all times to provide basic barrier protection from bodily fluids; e.g., blood, urine, vomit, mucus, vaginal discharge, etc.

Gloves should be provided to playground supervisors, crossing guards, bus drivers, coaches, club advisors and others who may need to assist a student at a location away from a first aid kit. First aid should not be administered without protection provided by gloves. Other barrier protection devices, such as aprons and eye splash protection, should be available and used whenever circumstances dictate their use (e.g., day care workers, bus drivers and handicapped student instructors and aides).

School administrators should remember that these requirements apply to employees only.

## **HEARING CONSERVATION PROGRAM**

Purpose: To provide protection to all employees from hazardous noise levels and the accompanying potential for permanent hearing loss. This program will apply to those employees who, due to their assignments, are exposed to hazardous noise levels as defined by OSHA and the Washington State Department of Industrial Safety and Health.

Procedure: An initial survey of all district facilities/occupations will be conducted to identify any area or occupation that may exceed either the time weighted average (TWA) of 85 dBA, a noise level above 115 dBA or an impulsive or impact noise measured above 140 dB for further action as required by WAC 296-62 Part K.

## **Hearing Conservation Program**

Exposure to noise over a period of time in excess of recognized standards can cause harm and damage the ability to hear. Our policy is to identify areas where the noise exceeds regulatory standards and to take engineering and administrative steps where practical to reduce the exposure to below action levels. Where engineering and administrative controls do not reduce the level adequately, personal protective equipment (hearing protection) will be provided and its wearing required.

### **Job Hazard Assessment and Sound Level Surveys**

Supervisors are to assess the hazards in work areas and make recommendations for correction. In areas or for tasks where noise levels are high, (where you would need to raise your voice to be heard at a 3 foot distance) they are to use a sound level meter and conduct a survey and record the findings. Depending upon the survey results employees will be enrolled in the hearing conservation program and audiometric testing performed.

Employees are to be notified when the surveys are going to be conducted in their area and provided an opportunity to witness. Survey results will be provided to the employee within 5 days of receiving results.

If the survey indicates the work environment has continuous noise levels of above 85 dBA TWA8, 115 dBA slow response, or impulse noise of 140 dBA the area will be posted and employees required to wear hearing protection. The affected employees will be enrolled in the hearing conservation program.

### **Employees**

Employees are to report areas and activities which produce high noise levels and to wear PPE when as instructed by their supervisor.

### **Preventing Hearing Loss**

Hearing loss caused by continuous exposure to noise can be prevented. In situations where the sound levels equal or exceed 85 dBA, an effective hearing conservation program will be administered.

### **Engineering Controls**

When employees are subjected to sound levels equal to or exceeding 85 dBA, administrative controls are utilized when possible. These include:

- Maintenance of machinery to reduce noise level.
- Modification of equipment.
- Substitution of equipment.
- isolation from the noise source.
- installation of acoustical material to absorb noise.

If these measures do not reduce the noise level, personal protective equipment and/or administrative controls will be provided and used.



### **Administrative Controls**

When employees are subject to sound levels equal to or exceeding 85 dBA, administrative controls are utilized. These include:

- Rotation of employees.
- Limitation of time for exposure to operation.
- Restricted area of work operation.

### **Types of Hearing Protection**

There are several types of hearing protection available:

- Disposable ear plugs.
- Reusable ear plugs, custom fit.
- Ear canals.
- Ear muffs.

The purpose of these devices is not to eliminate all sound, but to prevent overloading the ears with loud, unnecessary noise. Speech and warning signals are more easily understood if the total intensity of all noise is reduced. The type of hearing protection used is determined by working conditions and personal preference. To effectively protect hearing, the devices of choice must be worn properly and continuously.

When employees work on multiple sites or equipment with varying degrees of noise, two types of hearing protection must be kept on hand at all times.

- Disposable foam ear plugs.
- Ear muffs.

With two levels of hearing protection available, the employee can wear only the foam plugs, only the ear muffs, or, when in the presence of very loud noise, can wear both the plugs and the ear muffs. This provides employees working with differing noise levels a broad range of hearing protection.

### **Hearing Protection Training and Record Keeping**

Employees who are exposed to noise at or above the 8-hour time-weighted average (TWAB) of 85 dBA shall participate in our hearing conservation program and receive training regarding hearing protection.

The training will be presented periodically to all affected employees and repeated annually.

The training will include the following:

1. The effects of noise on hearing and noise control principles.
2. The purpose of hearing protection, the advantages, and disadvantages.
3. The attenuation of various types of hearing protection.
4. instruction on selection, fitting, use and care of hearing protection.
5. The purpose of audiometric testing and an explanation of the test procedures.
6. The rights of employees to access records on sound measurements and audiometric testing.

All training and educational materials, as well as the Noise/Hearing Protection Standard, shall be available to the employee or his/her representative upon request

to the Workers' Compensation Specialist. Audiogram and noise exposure records will be maintained as a part of the employee's permanent record in the Human Resource Department and shall be available to the employee or his/her representative.

Records of Noise Surveys/Monitoring, results of special noise studies, and records of special actions or engineering controls installed to control noise exposure will be maintained indefinitely.

### **Audiometric Testing and Oversight**

This district will provide audiometric testing and program review by a licensed audiologist, otolaryngologist, or other qualified physician for all employees in the hearing conservation program. All audiograms will be conducted by one of these licensed healthcare providers or a technician certified by the Council of Accreditation in Occupational Hearing Conservation (CAOHC) and responsible to a qualified reviewer.

## **CONFINED SPACE PROGRAM**

Purpose: This program is established to protect the safety and health of all school district employees and others who enter confined spaces for purposes of maintenance, repairs and other reasons.

Confined space entry guidelines are governed by Washington Administrative Code, WAC 296-62 Part M, and are intended to provide standards for acceptable conditions for entry into confined spaces and to establish procedures for safe entry, work and egress.

Confined spaces are identified and classified as either “permit-required,” “controlled hazards only” or “non-permit-required” confined space.

Procedures: District personnel responsible for supervising, planning, entering or participating in confined space entries will be trained in their duties prior to assignment(s).

## **Confined Space Program**

This district will identify and mark with appropriate warning signs all confined spaces on school district property.

Attached as part of this policy is a list of the identified permit-required confined spaces located on district property along with any known hazards related to each confined space.

### **Definitions**

A confined space is an enclosed space that:

- is large enough for an employee to enter;
- has limited or restricted means of entry or exit (for example, tanks, vaults, wells, tunnels, pits, manholes, catch basins); and
- is not designed for continuous human occupancy.

A permit-required confined space (PRCS) is a confined space that:

- contains or has the potential to contain a hazardous atmosphere;
- contains a material that has the potential for engulfing an entrant;
- has an inside configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or a floor which slopes downward and tapers to a smaller cross-section;
- contains any other recognized serious hazards.

Entry is the action by which a person passes through an opening into a permit required confined space.

An entry permit is the written or printed document that is provided to allow and control entry into a permit space.

Engulfment is the surrounding, capturing, or both, of an entrant by divided particulate matter or liquid.

A hazardous atmosphere is one that may expose employees to risk of death or incapacitation, injury or illness by reason of oxygen deficiency or enrichment (less than 19.5o/o or greater than 23o/o oxygen by volume), flammability, explosive, or toxicity.

A non-permit confined space is a space which, by configuration meets the definition of a confined space but which after evaluation is found not to contain or with respect to atmospheric hazards, does not have the potential to contain any hazard capable of causing death or serious physical harm.

### **All Supervisors and employees will follow these rules:**

- Supervisors shall ensure that all employees who may enter or work around confined spaces have confined space awareness training
- Prior to any entry of a permit or non-permit confined space a hazards assessment will be made and the space classified.
- To conduct an evaluation of the space identify hazards, consider the scope of hazard exposure; magnitude of hazard; likelihood and consequences of

hazard occurrence; changing conditions/activities; impact on the need for emergency response; testing will be conducted in the presence of entrants.

- Based on the evaluation of hazards, classify and list confined spaces as either permit-required or non-permit confined spaces.
- If a permit is required; complete in detail the Confined Space Entry Permit.
- Expired and completed permits will be saved for 1 year and used to evaluate the confined space programs effectiveness.

### **Periodic Evaluation of Hazards**

Periodic re-evaluation of the hazards will be performed based on possible changes in activities in the confined space or other physical or environmental conditions which could affect the space adversely shall be conducted. Information from expired and completed Confined Space Entry Permits will be used.

### **Marking of Confined Spaces**

Signs shall be posted or other warnings shall be used to alert employees of the danger of the particular confined space. "Danger. Permit-Required Confined Space. Do Not Enter" signs or barriers or other means to keep unauthorized persons out of the permit space may be used.

### **Entry into Confined Spaces**

#### **EXCEPT UNDER APPROVED PERMIT, NO EMPLOYEE WILL BE ALLOWED TO ENTER A PRCS.**

Entry into a permit-required confined space (PRCS) will be in accordance with the instructions of the Entry Supervisor and the Confined Space Entry Permit.

- The permit will be available at the confined space, have been reviewed by all involved and procedures on the permit followed.
- Periodic testing of the atmosphere will be conducted and the results noted on the permit.
- Any change in conditions from acceptable entry conditions will require immediate evacuation from the confined space and the permit will be canceled and a new permit required before reentry.
- After the work is finished the issuing Director of Maintenance/Operations must be notified.

Proper traffic control, warning devices and guards will be set in accordance with Roadway and Traffic Design Standards and other Safety Standards which may be adopted to warn the public passing through the areas.

If the Entry Supervisor has determined that the only hazard in the identified confined space is atmospheric and ventilation alone can control the hazard, entry into the confined space may be authorized. In such a case, the requirements for alternative protection procedures shall be followed.

No open flame, torch or lighted smoking material shall be brought near an open manhole, cable vault, or sewer nor taken into any of these areas, even though tests indicate the atmosphere inside is free of combustible gases, vapors, or fumes. No

employee will enter these even momentarily, until it has been tested properly with detecting devices for explosive gases, oxygen deficiency and hydrogen sulfide.

### **Use of Safety Harness and Life Lines**

Employees who are required to enter manholes, cable vaults, sewers or pits shall wear a safety harness and a life line. The lifeline will be attached to an appropriate rescue retrieval device which allows recovery without entry into the space. Hard hats shall be worn in all such structures that are over four feet deep. A trained attendant will remain outside the entrance to tend the line and provide emergency non-entry assistance if needed during the entire time anyone is inside the underground facility.

Those persons tending the life line will have available communication devices or be capable of communications with the entrants and reaching rescue services and calling for help.

### **Manhole Covers and Grates**

Equipment to use - two tools may be used for unseating and moving covers and grates. They were devised specifically for these operations.

- Manhole cover hook - 28" long, four pounds, made of 5/8" octagonal, plated tool steel and hardened to prevent bending.
- Manhole cover lifter - 42 y2" L-shaped lever with handle, foot and swing-out hook with the same details as that of the "cover hook".

The instructions that follow are written for removal and replacement with these tools.

### **Freeing**

When a cover or grate is stuck in its frame, remove any encrustation with a cold chisel. Then, place a block of wood on the cover near the rim, and hit the block with a heavy hammer. Do this at different points until the cover is loosened. Try to avoid causing sparks by any of your activities. Use a railroad pick to complete the freeing operation.

### **Unseating**

Lift with a tool that provides adequate handhold and a positive hold on the cover. On a round manhole cover, engage the circumferential bib before lifting. Unseat the grate or cover about four inches by pulling and lifting with the leg and arm muscles.

**NEVER place the fingers or hands under a cover. Spider bites or mashing can result.**

### **Removing**

Use a helper when available.

- Clear the area of any hazards to footing.
- With your feet spread and footing secure, pull the cover, clear of the frame and keep pulling until the cover or grate is in a non-hazardous location. Pull with the arm and leg muscles.

- Pull parallel to any traffic so you do not tumble into the path of a vehicle if your hook slips. Also, do not pull toward precipices (steep slopes) or other hazards that are near the manhole.

### **Replacing A Round cover or Grate**

- Stand parallel to the desired direction of travel with the toes in the clear.
- Place the point of the hook under the edge of the cover nearest you. Lift slightly and swing the cover toward the structure.
- Move to the opposite side and repeat the lifting and swinging.
- Continue this alternate lifting and swinging until the cover is partially over the structure's opening. With the hook, lift the edge that is farthest from the opening. Lift until the cover or grate slips into the frame of the structure.
- If a helper is available with another hook, stand on opposite sides of the cover and parallel to the direction of travel, securely hook under the cover and slide it to the frame.

### **Rectangular Covers and Grates**

- Follow the first 4 items above
- Use a helper. Single grates weigh up to 326 pounds.
- When pulling the cover clear of the frame, be sure you pull in line with the frame so the cover cannot fall into the opening.
- When replacing, be sure you pull straight into the frame so the cover or grate cannot fall into the opening.

## **FALL PROTECTION PROGRAM**

Purpose: To help reduce or eliminate fall hazards and protect employees, the school district has established a Fall Protection Program. This program applies to all employees involved in construction, alteration, repair, or maintenance and everyone who is assigned to perform tasks where fall hazards of ten feet or more exist.

“Fall Restraint and Fall Arrest” general standards are set forth in Washington Administrative Code, WAC 296-155-245, and Part C-1. This program involves establishing a fall protection work plan, system, or a combination of prevention and protection measures.

Procedures: All employees who work ten feet or more above the ground or other work surfaces shall be trained in the primary elements of the district’s Fall Protection Program and job-site plans in accordance with WISHA requirements.



## **Fall Protection Program**

The district's Fall Protection program is administered by Facilities and Operations.

This district will take all practical measures possible to prevent employees from being injured by falls from heights. We will take necessary steps to eliminate, prevent, and control fall hazards. Protective measures will be taken to protect employees from falling from a height of 4 or more feet.

When there is a potential for personnel to fall from heights of at least 10 feet, the supervisor will develop a site specific fall protection work plan. First consideration will be given to the elimination of fall hazards. If a fall hazard cannot be eliminated, effective fall protection will be planned, implemented, and monitored to control the risks of injury due to falling.

All personnel exposed to potential falls from heights will be trained to minimize the exposures. Fall protection equipment will be provided and its use required by all employees. Supervisors will be responsible for continued training and enforcement of the fall protection program.

### **Fall Protection Required Regardless of Height:**

Floor holes, into which persons can accidentally walk, shall be guarded by either a standard railing with standard toe board on all exposed sides, or a floor hole cover of standard strength and construction that is secured against accidental displacement. While the cover is not in place, the floor hole shall be protected by a standard railing.

Regardless of height, open sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, such as material handling equipment, and similar hazards shall be guarded with a railing and toe board.

### **Fall Protection Required at 4 Feet or More:**

Every open sided walking working surface or platform 4 feet or more above adjacent floor or ground level shall be guarded by one of the following fall protection systems. Examples of such raised walking surfaces are wall openings, excavations, holes, ramps, runways, walkways, scaffolding, low slope roofs, and there may be many others.

1. A standard railing, or the equivalent, on all open sides, except where there is entrance to a ramp, stairway, or fixed ladder. The railing shall be provided with a standard toe board wherever, beneath the open sides, persons can pass, or there is moving machinery, or there is equipment with which falling materials could create a hazard.
  - When employees are elevated and working next to the standard railing and could fall over the top rail, the height of the standard railing shall be increased an amount equal to the height where the employee is working
  - When employees are elevated above the standard railing, but not working next to the standard railing, where there is still a potential for the employee to fall over the top rail, the height of the railing shall be

increased. To account for the arc of travel in a free fall and ensure the standard railing meets the employee above their center of gravity the railing shall be increased to a height so that the measurement taken from the outer edge of the elevated surface, where the employee is working to the top of the standard railing must be equal to or greater than 39 inches. The measurement must be taken on 45 degree or greater angle from the horizontal.

2. A fall restraint system;
3. A personal fall arrest system;
4. A safety net system;
5. A catch platform; or
6. Warning lines.

**Fall Protection Required at 10 Feet or More:**

The district will develop and implement a site specific plan including each area of the workplace where employees are assigned and where fall hazards of 10 feet or more exist.

The work plan will identify all fall hazards in the work area; describe the method of fall arrest or fall restraint to be provided; describe the procedures for the assembly, maintenance, inspection, and disassembly of the fall protection system to be used; describe the proper procedures for the handling, storage, and securing of tools and materials; describe the method of providing overhead protection for workers who may be in, or pass through the area below the work site; describe the method for prompt, safe removal of injured workers; and be posted or available on site.

Prior to permitting employees into areas where fall hazards exist, the supervisor will insure that employees have received training in the site fall protection work plan and that all fall protection restraint and fall arrest systems have been inspected and comply with the work plan.

**Fall Protection Systems**

Guardrail Systems: Guardrail systems must meet the following criteria. The top edge height of top rails, or (equivalent) guardrails must be 42 inches plus or minus 3 inches, above the walking/working level.

The guardrail system must be capable of withstanding a force of at least 200 pounds applied within 2 inches of the top edge in any outward or downward direction. Mid rails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding a force of at least 150 pounds applied in any downward or outward direction at any point along the mid rail or other member.

**Note:** A safety warning line system may be used in place of the guardrail system. The warning line must erected 15 feet back from the unprotected edge. Caution or danger tape is acceptable for a warning line. WISHA will accept it as equivalent to a flagged rope or chain warning line.

**Fall Arrest Systems:** These consist of an anchorage, connectors, and a body harness and may include a deceleration device, lifeline, or suitable combinations. If a personal fall arrest system is used for fall protection, it must do the following:

- Limit maximum arresting force on an employee to 1,800 pounds;
- Be rigged so that an employee can neither free fall more than 6 feet nor contact any lower level;
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet; and
- Have sufficient strength to withstand twice the potential impact energy of an employee free-falling a distance of 6 feet or the free fall distance permitted by the system, whichever is less.
- All personal fall arrest systems shall comply with ANSI 2359.1-1992.

**The use of body belts for fall arrest is prohibited.** A full body harness is required.

Personal fall arrest systems must be inspected prior to each use for wear damage, and other deterioration. Defective components must be removed from service.

**Safety Net Systems:** Safety nets must be installed as close as practicable under the walking/working surface on which employees are working and never more than 30 feet below such levels. Defective nets shall not be used. Safety nets shall be inspected at least once a week for wear, damage, and other deterioration. Safety nets shall be installed with sufficient clearance underneath to prevent contact with the surface or structure below.

Items that have fallen into safety nets including-but not restricted to, materials, equipment, and tools-must be removed as soon as possible and at least before the next work shift.

**Fall Restraint Systems:** Full body harnesses (no safety belts) will be used as a means of fall restraint.

Each employee assigned to work at elevated heights has the responsibility of thoroughly inspecting the personal fall protection system prior to use. If the harness or lanyard is seriously worn or damaged it shall be promptly removed from service, and returned to the site supervisor. Damage includes but is not limited to frayed or broken fibers, pulled or torn stitching, abrasions, mold, burns, and discoloration of original fibers. Oil soaked harness should also be promptly removed from service.

If a fall occurs, the fall protection equipment that was being used at the time (full body safety harness, the lanyard) must be retrieved, and turned over to the site supervisor. Any falls will be fully investigated by the job site supervisor/safety coordinator and new fall protection equipment will be provided to the employee.

Harness and lanyards must only be used as personal equipment. Should any of these items be subject to actual loading or impact force as developed in arresting a fall or otherwise, they must be removed from service and destroyed.

Lanyards must be secured at a level not lower than the user's waist, when practical, at a level which is the highest possible point above the work location. The lanyard should limit the fall distance to a maximum of 4 feet. In addition, all lanyards must be secured to a substantial structure.

When attaching the lanyard, keep in mind what hazards are directly below work area, should you happen to fall.

Any questions concerning the type of personal fall protection systems best suited for a particular job as well as system installation should be directed to the supervisor or safety coordinator/safety department.

The full body harness must be worn as designed, and as intended by the manufacturer. Full body safety harnesses, lanyard, and hardware must meet the specifications set forth in ANSI Standard A10. 14 -1975; Requirements for use in the Construction and industrial Areas.

**The use of body belts for fall restraint is prohibited.** A full body harness is required.

**Safety Watch System:** When one employee is conducting any repair work or servicing equipment on a roof that has a pitch no greater than four in twelve, employers are allowed to use a safety watch system.

- Ensure the safety watch system meets the following requirements:
  - There can only be two people on the roof while the safety watch system is being used: The one employee acting as the safety watch and the one employee engaged in the repair work or servicing equipment.
  - The employee performing the task must comply promptly with fall hazard warnings from the safety watch.
  - The safety watch system cannot be used when weather conditions create additional hazards.
  - The employee acting as the safety watch must meet the definition of a competent person as defined in WAC 296-155-24603, has full control over the work as it relates to fall protection, has a clear, obstructed view of the worker, is able to maintain normal voice communication; and performs no other duties while acting as the safety watch.

## **Training**

All employees exposed to falls will be trained in the Fall Protection Program. General fall protection training is a requirement for all maintenance/facilities employees as of new employee orientation.

Site-specific training will be provided for site-specific fall protection work plans prior to the employee commencing work in the area. Site-specific training documentation will be maintained at the work site, with a signed training receipt for each employee filed with the employee's safety training records.

Retraining will be provided whenever there is a change of procedure or equipment, a change on job task assignments, or when deficiencies in training are noted by the supervisor.

## **RESPIRATORY PROTECTION PROGRAM**

Purpose: This program is established to ensure that employees who are exposed or potentially exposed to harmful airborne contaminants are properly protected.

WAC 296-62, Part E, governs respiratory protection guidelines and are intended to establish work practices to prevent employees from breathing air contaminated with harmful dusts, fumes, mists, gases, smoke, sprays, vapors, or aerosols.

Control methods include preventing atmospheric contamination through effective engineering and substitution of less toxic materials.

Procedures: No school district employee will work in atmospheres that are classified as immediately dangerous to life and health. Those employees whose use of respirators involves only the voluntary use of filtering face pieces (e.g., dust masks) are not required to be included in a written respiratory protection program.

## RESPIRATORY PROTECTION PROGRAM

Purpose: To help reduce the incidence of employee injuries and illness from airborne contaminants, the school district has established this Respiratory Protection Program. Through this program, the district will ensure that employees are aware of the respiratory hazards that they are exposed to when working, and protective measures that are employed to prevent adverse health effects from occurring.

In the control of occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, vapors, or aerosols, the first goal is to prevent atmospheric contamination through effective engineering control measures. (These include enclosure or confinement of the operation, general or local exhaust ventilation, and substitutes of less toxic materials.) Some schools choose to use more environmentally-friendly products. If neither is feasible, respiratory protection will be used to protect employees.

To protect the health of the employee against recognized respiratory hazards, the school district will provide, at no cost to the employee, a suitable NIOSH-certified respirator which is clean, sanitary, and in good condition. The district will also provide required training, medical evaluation, and fit testing, and ensure that employees use respirators where required.

## RESPIRATORY PROTECTION STANDARDS

WISHA's respiratory protection standards are set forth in WAC 296-62, Part E, "Respiratory Protection." A Respiratory Protection Program is required in any workplace where respiratory hazards are present and respirators are necessary.

### **Required program elements** (see WAC 296-62-07111)

These standards require a written respiratory protection program that must include the following:

1. Procedures for **selecting respirators** for use in the workplace and a list identifying the proper type of respirator for each respiratory hazard (WAC 296-62-07130 - 07133 and Appendix E);
2. **Medical evaluation** of employees required to use respirators (WAC 296-62-07150 - 07156 and Appendices C & D);
3. **Fit testing** procedures for tight-fitting respirators (WAC 296-62-07160 - 07162 and Appendices A-1, A-2, and A-3);
4. Procedures for **proper use of respirators** in routine tasks, non-routine tasks, reasonably foreseeable emergency and rescue situations (WAC 296-62-07170 - 07172);
5. Procedures for **issuing the proper type of respirator** based on the respiratory hazards for each employee;

6. Procedures and schedules for **cleaning, disinfecting, storing, inspecting, repairing, discarding and otherwise maintaining respirators** (WAC 296-62-07175 - 07179 and Appendix B-2);
7. Procedures to make sure **adequate air quality, quantity, and flow** of breathing air for atmosphere-supplying respirators (WAC 296-62-07182);
8. **Training of employees in the respiratory hazards** to which they are potentially exposed during routine, non-routine, and unforeseeable emergency and rescue situations (WAC 296-62-07186 -07188);
9. **Training of employees in the proper use of respirators**, including putting on and removing them, any limitations on their use, and their maintenance (WAC 296-62-07186 - 07188);
10. Procedures for **regularly evaluating the effectiveness** of the program (WAC 296-62-07192).

This plan is a summary of the WISHA requirements; users should refer to the standard for specific details of its implementation.

**B. Designation of a Program Administrator** (see WAC 296-62-07113)

A Program Administrator is a trained individual responsible (1) to oversee the respiratory protection program and (2) to conduct the required evaluations of the program's effectiveness. S/he is charged with implementation of, and adherence to, the provisions of the respiratory protection program, and assuring that the respiratory protection measures outlined in this practice are appropriate for each job and are followed. For this school district, the designated Program Administrator is the district's maintenance supervisor/director.

**C. Other related WISHA standards**

There are other WISHA standards that require the use of respiratory protection for employees, including the following: abrasive blasting (WAC 296-24-67507), asbestos containing materials (WAC 296-62-07715), areas containing carcinogens (WAC 296-62-07306), confined spaces (WAC 296-24-71507), exhaust systems (WAC 296-78-71019), fire brigades (WAC 296-24-58617), masonry saws (WAC 296-155-367), mechanical paint removers (WAC 296-304-03005), sanding machines (WAC 296-78-665), spray finishing operations (WAC 296-62-11019), tunnels and shafts (WAC 296-155-730), welding, cutting and heating (hot work; WAC 296-56-60235), and agriculture (WAC 296-307).

**Note:** This standard does not apply to the single-strap, non-approved, filtering face piece disposable dust masks.

## **WHERE RESPIRATORY PROTECTION MAY BE NEEDED IN SCHOOLS**

Examples of maintenance and custodial activities in schools where employees may be exposed to potentially toxic environments, and respiratory protection may be required, include (but are not limited to) the following:

- cleaning, finishing, sanding, or buffing floors
- blowing down heaters or air handlers
- applying pesticides, herbicides, or fertilizers
- spray painting
- welding
- spray application of sealants
- septic work
- remediation work for indoor air quality problems
- performing asbestos abatement activities or working with known or suspected asbestos containing materials

**(Note:** Job descriptions should reflect the potential for certain positions to wear respirators.)

## **ACTIVITIES WHERE RESPIRATORY PROTECTION IS NEEDED**

### **A. Assessing the respiratory risk** (see WAC 296-62-07130)

The first step in determining whether respiratory hazards exist is through the district's Hazard Communication Program, and the hazard information found on the Safety Data Sheets. Employees and supervisors should review the Safety Data Sheets for the substances being used and evaluate work practices to determine if respiratory protection is needed. (This applies to both routine and non-routine tasks.) The "Workplace Respiratory Hazard Assessment" form can be used to assist with this assessment. **(Note:** Respiratory risk can also be found in asbestos-containing materials, which is addressed in a separate program.) If possible before respirators are issued, the supervisor should work to eliminate the need for respiratory protection through effective engineering control measures, such as ventilation.

### **B. Emergency situations** (see WAC 296-62-07133)

An emergency situation, in this context, means any occurrence that may or does result in an uncontrolled significant release of an airborne contaminant. (Causes can include equipment failure, rupture of containers, or failure of control equipment.) In this school district, we anticipate no emergency situations that require respiratory protection. As listed in other plans, in the event of such an emergency, staff and students quickly evacuate the building and do not reenter the hazardous area. No school district employee will attempt an emergency rescue in a potentially dangerous environment. No school district employee will work in atmospheres that are immediately dangerous to life and health.



## SELECTING THE PROPER TYPE OF RESPIRATOR

### A. Types of respirators

(see WAC 296-62-07267)

A **respirator** is a device designed to protect the wearer from breathing harmful vapors. There are two primary kinds of respirators - air-purifying respirators and atmosphere-supplying respirators.

**Air-purifying respirator** means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element. They do not supply oxygen, so they should not be used in an oxygen deficient atmosphere. Three types are available: particulate-removing, gas- and vapor-removing, and combination particulate- and either gas- or vapor-removing.

- **Canister or cartridge** means a container with a filter, sorbent, or catalyst, or any combination of these materials, which removes specific contaminants from air drawn through it.
- **Mechanical filter** respirators can protect the wearer from both solid and liquid particles, including dusts, mists, fumes, smokes and aerosols. This can be a disposable type made with laminated filter (a dust mask), or a face piece with a filter holder. Mechanical filters do not protect wearers from gases or vapors.
- **Chemical cartridge** (or canister) respirators are designed to protect the wearer from hazardous substances such as acid gases, organic vapors, ammonia, formaldehyde, and certain pesticides. Cartridges usually contain activated or chemically treated charcoal. (There are many organic chemicals for which there are no NIOSH approved chemical cartridges.) Cartridges are color coded to designate the atmospheric contaminants to be protected against (i.e. - acid gases - white; organic vapors - black); this is also written on the cartridge.
- **Combination** respirator combines both mechanical and cartridge elements to protect against multiple contaminants.

**Atmosphere-supplying respirator** means a respirator that supplies the user with breathing air from an uncontaminated source, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA). They supply air that is independent of the air surrounding the wearer. Four types are available: supplied-air or airline; combination supplied-air and air-purifying; combination supplied-air with auxiliary self-contained air supply; and self-contained breathing apparatus.

- **Self-contained breathing apparatus (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user (traditionally in a tank carried on the user's back). This

type protects against a wide variety of contaminants at almost any concentration.

- **Supplied-air respirator (SAR) or airline respirator** means an atmosphere-supplying respirator for which the source of breathing air is drawn from a separate, stationary system or an uncontaminated environment. These respirators are not acceptable in atmospheres that are immediately dangerous to life and health.

A **half face piece** respirator covers the wearer's nose and mouth; a **full face piece** respirator covers the wearer's nose, mouth and eyes. These types of respirators traditionally come in three sizes: small, medium, and large.

**B. Choosing the best respirator for the job** (see WAC 296-62-07130)

Respiratory hazards are classified into several categories: oxygen deficient; physical properties (gas, vapor, biological aerosols, and particulate contaminants); physiological effects on the body (asphyxiate, carcinogenic, toxic); concentration of toxic material or radioactivity level; established exposure limits; and established immediately dangerous to life or health concentrations. An employee exposure is a worker's exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

Determining the type of respirator that is appropriate for each task is essential. The wrong kind of respirator may not protect the worker. The proper type of respirator should be chosen based on the respiratory hazards of the job, the configuration of the job, and the relevant factors pertaining to the workplace and respiratory user that affects respirator performance. It should be appropriate for the chemical state and physical form of the contaminant, and correctly fit the user.

The respiratory hazard job assessment will be completed or reviewed by the Program Administrator (named in section II). This assessment will be documented on the "Workplace Respiratory Hazard Assessment" form or similar document.

If there are questions about which type of respirator to use, review the Safety Data Sheet(s) or product label, talk to the respirator manufacturer or distributor, the Program Administrator, or a WISHA consultant. For more detailed information on how to choose a respirator, see Appendix E of the WISHA standard, "Additional Information Regarding Respirator Selection." (**Note:** When using pesticides, be sure to follow the label requirements for respirator selection and use.)

Respirators used must be selected from those approved by the National Institute for Occupational Safety and Health (NIOSH) that are applicable and suitable for the purpose intended. A NIOSH-approved respirator contains the following: an assigned identification number associated with each unit; a label identifying the type of hazard the respirator is designed to protect

against; and additional information on the label which indicates limitations and identifies the component parts approved for use with the basic unit.

In most cases, the respirator should be reserved for the exclusive use of a single individual. The respirator must correctly fit the user.

A list of respirators issued to every employee will be maintained by the Program Administrator in one location. Copies of the completed "Workplace Respiratory Hazard Assessment" forms and "Respiratory Protection Training Records" will fulfill this requirement.

## **ENSURING THAT AN EMPLOYEE CAN WEAR A RESPIRATOR**

### **A. Medical Evaluations and Approval** (see WAC 296-62-07150)

All respiratory protection devices impose some kind of physiological stress on the user. Air-purifying respirators, for example, make breathing more difficult. Persons with heart or lung diseases or other health problems may be harmed by wearing a respirator. Many physicians counsel pregnant workers against wearing respirators.

Only those individuals who are medically able to wear respiratory protective equipment shall be issued a respirator. Before being issued a respirator, and as often as medically indicated, an employee will receive pertinent tests to evaluate medical and physical conditions. (These can include: physical exams, blood chemistry, pulmonary function, chest x-ray, EKG, etc.) The employee's physician visits will be at no cost to the employee and will occur as part of his/her regular workday. Each potential respirator wearer should be individually evaluated to determine the employee's ability to use a respirator. This is a joint effort by the district, employee, and designated licensed health care provider. Duties are as follows:

#### **District's duties:**

- Identify a PLHCP (physician or other licensed healthcare provider) to perform medical evaluations.
- Provide a copy of the following documents to the PLHCP: the school district's written respiratory protection program, the district's fit testing procedures, the WISHA Respiratory Standard (WAC 296-62, Part E).
- Provide specific respiratory hazard and respirator information to the PLHCP (see WAC 296-62-07152); the completed *Workplace Respiratory Hazard Assessment* form can be used for this.
- Administer the *WISHA Respiratory Medical Evaluation Questionnaire* confidentially to the employee and send it to the PLHCP.
- Respond appropriately to written recommendations from the PLHCP.
- Provide additional medical evaluations as indicated by the PLHCP.

In this school district, the Program Administrator will give the blank *WISHA Respiratory Medical Evaluation Questionnaire* to the employee and ask him/her to complete it and take it with him/her to the PLHCP.

**PLHCP's (physician or other licensed healthcare provider's) duties:**

- Review specific respiratory hazard and protection information and determine what additional questions to ask.
- Review and evaluate the completed *WISHA Respiratory Medical Evaluation Questionnaire*.
- Arrange for any necessary medical testing (this may include: a pulmonary function test, chest x-ray, or electrocardiogram).
- Complete any follow-up evaluations with employee.
- Complete the written recommendations for respirator use and send to both the employee and district.

The employee will cooperate with all of the above, and provide input on respirator selection and use when requested.

Medical evaluation forms are found at the end of the WISHA standard in Appendix C - "WISHA Respiratory Medical Evaluation Questionnaire" and Appendix D - "Health Care Provider Respirator Recommendation Form".

**B. Types of Fit Testing for Tight-Fitting Respirators**

**Fit test** means the use of an accepted protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See Appendix A-1, "General Fit Testing Requirements for Respiratory Protection" for requirements and additional information on fit testing.) Fit tests must be administered using WISHA-accepted protocols.

**Qualitative fit test (QLFT)** means a pass/fail test that relies on the individual's response to the test agent to assess the adequacy of respirator fit for an individual. WISHA-accepted QLFTs include: (1) isoamyl acetate (banana oil), (2) saccharin solution aerosol (taste response), (3) Bitrex (denatonium benzoate) solution aerosol (taste response), and (4) irritant smoke (stannic chloride). See Appendix A-2, "Qualitative Fit Testing (QLFT) Protocols for Respiratory Protection" for details of this testing.

**Quantitative fit test (QNFT)** means an assessment of the adequacy of respirator fit for an individual by numerically measuring the amount of leakage into the respirator. WISHA-accepted QNFT's include: (1) generated aerosol protocol, (2) ambient aerosol condensation nuclei protocol, (3) portacount fit testing procedures, and (4) controlled negative pressure fit testing. See Appendix A-3, "Quantitative Fit Testing (QNFT) Protocols for Respiratory Protection" for details of this testing.

In this school district, the banana oil or irritant smoke qualitative fit tests will be used for fit testing tight-fitting respirators.

In order to assure that the respirator will seal properly, all employees required to wear a respirator must be and remain clean-shaven. (Clean-shaven means that the employee has no beard or shadow that will prevent the respirator from making a smooth seal with the face. Moustaches that do not extend below the lower lip and do not interfere with the respirator fit may be worn.) In addition, corrective glasses, goggles or other personal protective equipment may not interfere with the face-to-face piece seal or valve function.

### C. Frequency of Testing

The purpose of the fit test is to ensure that the tight-fitting mask fits securely and does not allow vapors, fumes, etc. to enter and be inhaled. This test will be performed by a qualified fit tester using WISHA-approved protocols. The current qualified fit tester is the maintenance supervisor/director.

Once an employee has passed the medical exam, a fit test must be conducted for tight-fitting respirators **before the initial respirator use**, when a different respirator is used, when there are changes in the employee's physical condition that could affect respirator use, and annually thereafter. (AHERA regulations require fit testing every six months.) A record of the initial or most current fit test for each employee who uses a respirator will be kept on file by the Program Administrator.

In addition to the required formal fit testing by a qualified person, the snug fit of the mask on tight-fitting respirators should be checked by the wearer before each use. See Appendix B-1 of the WISHA standard, "User Seal Check Procedures," for this protocol.

## ENSURING EFFECTIVE RESPIRATOR OPERATION

Follow the manufacturer's written recommendations for respirator selection, use, inspection, maintenance, filter replacement, cleaning, and storage.

### A. Inspecting the Respirator

Respirators and their components shall be **inspected by the wearer prior to each use and during cleaning**. Respirators shall be removed from service if their function has been adversely affected. Items removed from service should be tagged as defective and should not be returned to use until repaired or adjusted properly and deemed safe by a trained individual.

Employees should never alter or repair a respirator. Only NIOSH-approved replacement parts from the respirator's manufacturer can be used. Repairs should be made according to the manufacturer's specifications.

The face piece, mask, head straps, filters/canisters/cartridges, housing, hoses and valves should be checked for any deterioration or damage including:

- Dirt
- Corrosion
- Cracks, tears, breaks, or holes
- Distortion from improper storage
- Cracked, scratched or loose fitting lens
- Broken or missing mounting clips, buckles or attachments
- Loss of elasticity/pliability
- Excessively worn head straps that might let the face piece slip
- Deterioration of rubber straps, hoses, nose clips, etc.
- Inhalation/exhalation valve damage
- Detergent residue, dust or dirt on the valve seat
- Cracks, tears or distortion in the valve
- Missing or defective valve cover
- Proper type of filter for the job and contaminants
- Missing or worn gaskets
- Worn threads
- Cracks or dents in the housing
- Spent, dirty, used filters
- Expired cartridges or contaminated prefilters for cartridges

**Note:** Cartridges usually are considered spent after eight hour of consecutive use, after two weeks (even without much use), or when break-through is detected by the wearer - whichever comes first. Follow the manufacturer's guidelines for replacement of the pre-filter, filter, cartridge and canister.

## **B. Ensuring adequate air supply**

Before each use of an atmosphere-supplying respirators (SCBA or SAP), the user should also check to make sure that the air tank is fully charged (SCBA) or the air line is correctly connected and functioning (SAP), and the regulator and warning devices function properly. More detailed requirements for ensuring proper breathing air quality are found in WAC 296-62-07182.

## **C. Cleaning and disinfecting the respirator**

Periodically, respirators should be cleaned and disinfected. If the respirator is used by more than one person (which is not the norm in a school district), the respirator should be cleaned and disinfected after each use.

Most respirators can be washed in a detergent solution and immersed in a sanitary solution. However, rubber and plastic can be damaged by strong cleaning agents, alcohol, lacquer/paint thinner, etc. Check the manufacturer's recommendations concerning cleaning. See also Appendix B-2, "Respiratory Cleaning Procedures," for this protocol.

#### **D. Storing the respirator**

After the respirator has been removed and cleaned or wiped, it should be placed in a plastic bag provided by the supervisor and stored in a secure location (dedicated lockers or cabinets are traditionally used) near the worksite. The respirator should be protected from damage, contamination, dust, light, heat, cold, moisture, or chemicals. Respirators should be packed to prevent deformation of the face piece and valve.

#### **E. Employee complaints or problems with respirators**

When there is a change in work area conditions, or degree of employee exposure, or stress that may affect respirator effectiveness, the district must reevaluate the continued effectiveness of the respirator. If health problems or respiratory hazards are suspected, contact the job supervisor or Program Administrator. Symptoms which may indicate problems with respirator use include: eye or skin irritation, changes in breathing resistance, severe discomfort in wearing the respirator, sensations of dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever and chills.

### **EMPLOYEE TRAINING**

(see WAC 296-62-07186)

Each employee who engages in work with an associated respiratory hazard, and his/her supervisor, must be trained in the proper use of the respiratory protection appropriate for that job **before** being required to wear a respirator. The training session should be conducted by a qualified individual, and overseen by the Program Administrator. Employees must be retrained if they change or add to the types of equipment they use, if circumstances change significantly, or problems are identified. Retraining must be completed annually.

Training must ensure the employee understands the following:

1. Why the respirator is necessary and how improper fit, use or maintenance can compromise the protective effect of the respirator.
2. What the respirator is capable of doing and what its limitations are.
3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
4. How to inspect, put on and remove, use, and check the seals of the respirator.
5. The procedure for maintaining and storing the respirator.
6. How to recognize medical signs and symptoms that may limit or prevent the effective use of the respirator.
7. The general requirements of the Respiratory Protection standard, chapter 296-62 WAC, Part E.

A record of the training must be kept. The attached form, "Respiratory Protection Training Record," can be used for this purpose.

If inappropriate respirator use is noted during routine job surveillance or periodic program evaluation, the employee should be retrained.

## **EVALUATING THE RESPIRATORY PROGRAM'S EFFECTIVENESS**

(see WAC 296-62-07192)

At least annually the district will consider the effectiveness of the respiratory protection program. The Program Administrator will coordinate this evaluation and report its status to district's safety committee.

Evaluation should include periodic visits to the workplace by the Program Administrator to (1) make sure that the requirements of the current written program are being effectively carried out and respirators are being worn, and (2) solicit comments from employees required to use respirators about the program's effectiveness and any problems with respirator use. Plans for updating training and fit testing should also be done annually. The written program should be updated as necessary.

## **RECORD KEEPING**

The following written records should be kept by the Program Administrator:

- The current written Respiratory Protection Program.
- Program evaluations and monitoring.

For each respirator user:

- Written recommendations from the PLHCP.
- The most recent fit testing noted on the "Respirator Fit Test Record".
- Completed "Workplace Respiratory Hazard Assessment" or equivalent.
- Completed "Respiratory Protection Training Record" or equivalent.

A list of respirators issued to each employee will be maintained by the Program Administrator in one location. Copies of the completed "Workplace Respiratory Hazard Assessment" forms and "Respiratory Protection Training Records" will fulfill this requirement.

## **VOLUNTARY USE OF RESPIRATORS**

(see WAC 296-62-07117)

The district may provide respirators at the request of employees, or permit employees to use their own respirators, if the Program Administrator determines that respirator use will not in itself create a hazard. The district must ensure that any employee using a respirator voluntarily should be medically able to use that respirator, and that the respirator is cleaned, stored and maintained properly. This does not apply to the single-strap, non-approved, filtering face piece disposable dust masks.)

Employees who choose to wear a respirator when not required to should be provided the following information (taken directly from the WISHA standard, WAC 296-62-07117, Figure 1):



## **Important Information About the Voluntary Use of Respirators**

**Note:** "You" and "your" means the employee in the following information.

Respirators protect against airborne contaminants when properly selected and worn. Respirator use is encouraged, even when exposures to contaminants are below the exposure limit(s), to provide an additional level of comfort and protection for the workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to you. Sometimes, workers may wear respirators to avoid exposures, to hazards even if the amount of the hazardous contaminants (chemical and biological) does not exceed the limits set by WISHA standards. If your employer provides respirators for your voluntary use, or if you are allowed to provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and follow all instructions provided by the manufacturer on use, cleaning, and care, and warnings regarding the respirator's limitations.
2. Choose respirators certified for use to protect against the contaminants of concern. NIOSH, the National Institute for Occupational Safety and Health of the U. S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against solvent vapor or smoke (since smoke particles are much smaller than dust particles).
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

## **BLOODBORNE PATHOGENS PROGRAM**

Purpose: To provide a safe environment for all employees who may be potentially exposed to blood or body fluids in the performance of their duties, resulting in an occupational exposure to Bloodborne pathogens.

Procedures: All employees shall receive training on the district's initial Exposure Control Plan and will be updated whenever the introduction of new or modified tasks or procedures warrants it.

## **BLOODBORNE PATHOGENS PROGRAM**

### **UNIVERSAL PRECAUTIONS**

The term "universal precautions" refers to a method of infection control in which all human blood and other potentially infectious materials are treated as if known to be infectious for HIV and HBV. Universal precautions do not apply to feces, nasal secretions, sputum, sweat, tears, urine, or vomits unless they contain visible blood.

### **PERSONAL PROTECTION**

#### **AVOID:**

- Rubbing or touching eyes.
- Use of jewelry during work hours.

#### **REFRAIN:**

- From kissing or being kissed by students.

#### **USE:**

- Own personal care items - don't share drinking glasses, etc.

### **HANDWASHING**

#### **BEFORE:**

- Drinking, eating, or smoking.
- Handling clean utensils, equipment or food.

#### **BEFORE AND AFTER:**

- Going to the bathroom.

#### **AFTER:**

- Contact with any body secretions.
- Handling soiled diapers, garments or equipment.
- Caring for children, especially those with discharges.
- Removing disposable gloves.
- Removing lab coat or smock.

### **GLOVES**

#### **WHEN:**

- If care provider has an open lesion on his/her hands.
- Handling contaminated disposable items (tissues, diapers, etc.)
- Direct hand contact with body fluids is anticipated.
- Cleaning up body fluid spills.
- Diapering.

#### **TYPE:**

- Non-sterile latex or vinyl (intact) disposable - dispose after each student contact.
- General purpose utility gloves (e.g. rubber) - household gloves for housekeeping chores may be decontaminated and reused.

**NOTE:** Dispose of disposables in plastic lined waste baskets - empty daily.

**EXPOSURE DETERMINATION**

Examples of occupational groups in schools considered at risk are listed below; however, individual job duties must be considered when determining those employees at risk.

1. Health Room Providers (Nurses, Health Services Assistants, Office Managers and Secretaries caring for children in the Health Room).
2. Occupational Therapists, Physical Therapists and Speech and Language Pathologists.
3. Coaches and their hired assistants.
4. Custodians.
5. Teachers and paraeducators working in classrooms serving students that may present an increased risk of exposure to Bloodborne pathogens (e.g. students requiring diapering or other personal care; students with difficulty controlling secretions; students prone to behaviors such as biting).
6. Bus drivers and assistants transporting above students.
7. Security personnel.
8. Employees who are required by their job description to administer First Aid as a part of their job (e.g. playground supervisors).

People DO NOT get infected with HIV by:

- Casual contact in schools, at parties, sharing food, in swimming pools, or the place work.
- Hugging, shaking hands, or simply being near a person who is infected with the virus.
- An insect bite.
- Contact with a toilet seat.

**REMINDERS:**

IV drug use (sharing needles) and unprotected sexual intercourse, increase the chances of acquiring other Sexually Transmitted Diseases (STDs), which in themselves can cause sterility, death, and increase susceptibility to HIV.

Being under the influence of a drug (including alcohol) can impair your judgment and increase the possibility of risky behavior, such as IV drug use, or unprotected sexual intercourse.

Pregnant women who are infected with HIV can pass the HIV to their fetus.

HIV carriers may not show any sign of being sick with AIDS for years and in fact, they may even test negative on an antibody test for many weeks or months after they have been infected but they can still spread the disease. If a person has engaged in risky behavior they are at risk of being infected.

Abstinence is 100 percent safe. Proper latex condom use and limiting partners significantly reduces, but does not eliminate the risk of HIV infection.

## **AIDS**

- A     Acquired - not inherited.  
I     Immune - dealing with the body's defense system.  
D     Deficiency - decreased defense capability.  
S     Syndrome - observable set of clinical diagnosis.

## **HIV**

- H     Human - refers to a virus whose host is a person.  
I     Immunodeficiency - decreasing immune function in a person.  
V     Virus - an organism which infects and destroys human cells.

## **STAGES OF HIV INFECTION**

### **STAGE 1**

Acute infection and seroconversion.

### **STAGE 2**

Asymptomatic infection.

### **STAGE 3**

Persistent generalized lymphadenopathy

\*\*Two or more sites for at least 3 months with no other cause.

### **STAGE 4**

- \*\*Other diseases
- \*\*Constitutional disease
- \*\*Neurological disease
- \*\*Secondary infectious diseases
- \*\*Secondary cancer
- \*\*Other conditions

## **HAZARDOUS WASTE MANAGEMENT & EMERGENCY RESPONSE PLAN**

Purpose: The hazardous waste management and emergency response plan is designed to protect employees from harmful hazards while handling, storing, and removing hazardous waste within the confines of the district. The plan also provides guidelines for chemical spill control.

Procedures: The district will ensure that all employees who handle chemicals will be trained in proper waste handling and emergency procedures.

Program: Please refer to the district's Emergency Response Plan located at each site. This program contains information regarding the district's Hazardous Waste Management Plan procedures.

## **CHEMICAL HYGIENE PLAN**

Purpose: The Chemical Hygiene Plan is a document designed to express the district's policies and procedures relating to the safe operation of the school laboratory and protection of individual employees who may be exposed to hazardous chemicals.

Procedures: The district will ensure that all employees who are assigned to work in a laboratory workplace (instructors and aides) and those that may be required to enter (i.e., maintenance and custodial staff), will receive training in the district's Chemical Hygiene Plan.

## **Chemcial Hygeine Program**

### **Purpose of This Document**

This Chemical Hygiene Plan is a document designed to express the policies and procedures adopted by the district as they relate to the safe operation of school laboratories. The goal of the laboratory standard is to provide a safe laboratory workplace, and it includes requirements on occupational exposures to hazardous chemicals.

The laboratory standard requires that employers protect workers through the development and implementation of a Chemical Hygiene Plan tailored to the individual laboratory workplace. The purpose of this Chemical Hygiene Plan is to protect employees from harm due to exposure to hazardous chemicals while they are working in the laboratory.

Many policies and practices may not be part of the Chemical Hygiene Plan, and yet they are crucial to the planning process that must be part of maintaining a safe environment for employees and students. The number of students per class or teacher and the amount of physical spaces available to each student are examples of policies and practices that affect establishment of a safe environment, but which are not required by WISHA to be included in the Chemical Hygiene Plan.

### **1.1 What Is Covered by the Chemical Hygiene Plan?**

"Laboratories" are defined as facilities where the "laboratory use of hazardous chemicals" in which all of the following conditions are met:

- Chemical manipulations are carried out on a laboratory scale.
- Multiple chemical procedures or chemicals are used.
- The procedures involved are not part of a production process, nor in any way simulate a production process.
- Protective laboratory practices and equipment are available and in common use to minimize the potential for employee exposure to hazardous chemicals.

"Hazardous Chemical" means a chemical for which there is statistically significant evidence, based on at least one scientific study, showing that acute or chronic health effects occur in exposed employees. A chemical prepared for the first time and for which safety data is not available should be treated as a "hazardous chemical" until data is available to show otherwise. The term "health hazard" includes carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, sensitizers, and corrosives.

"Employees" who must abide by this Chemical Hygiene Plan are individuals employed in the workplace that may be exposed to hazardous chemicals in the course of their assignment. Included are employees who work in the laboratory such as instructors and teacher's aides, and other employees of the district who enter the laboratory to perform their assigned responsibilities such as maintenance and janitorial personnel.



"Laboratory scale" means work with substances in which the containers used for reactions, transfers, and other handling of substances are designed to be easily and safely manipulated by one person.

### **1.2 What Is Not Covered by the Chemical Hygiene Plan**

The Chemical Hygiene Plan addresses the protection of employees. Since students are not employees, they are not officially covered by provisions of the Chemical Hygiene Plan. However, since this document contains guidance on generally accepted good laboratory practice, it should be used to establish minimal safety instruction and procedures for students.

The Plan does not cover laboratory uses of hazardous chemicals that provide no potential for employee exposure, including procedures using chemically impregnated test media such as Dip-and-Read tests.

Laboratory visitors, such as sales staff outside repairpersons, and guests are not included in the definition of employee, and are not addressed in the Chemical Hygiene Plan. All such persons should be offered the same protection given to employees and students. At a minimum, visitors will be provided with goggles and other necessary personal protective equipment and be escorted while in the lab area.

### **1.3 Summary of the Chemical Hygiene Plan**

In compliance WAC 296-62, Part Q, FWPS has prepared and implemented the Chemical Hygiene Plan. Adherence to the Plan will assure that employees will be protected from health hazards associated with hazardous chemicals in the laboratory nor exposed to regulated substances at a level that will not exceed the permissible exposure limits.

This Chemical Hygiene Plan is composed of the following sections:

- This introduction stating the goal and basis for the Chemical Hygiene Plan.
- A list of the district personnel responsible for various aspects of the Plan and its implementation.
- General principles that identify the guidelines for working with laboratory chemicals.
- Standard operating procedures for laboratories, the implementation of which will help the chemical hygiene officer and all employees in meeting the goal of the Chemical Hygiene Plan.
- Recordkeeping requirements and procedures for reporting items related to laboratory health and safety.
- Laboratory safety procedures.
- Procedures for inspecting laboratories and reviewing the Chemical Hygiene Plan.
- A description of the situations in which employees must use specific exposure control measures.
- Information regarding training opportunities for employees on emergency response procedures.
- Spill response procedures.
- Useful forms.

## **DISTRICT ORGANIZATION**

Compliance with the district's Chemical Hygiene Plan is the responsibility of all employees involved in the laboratory science program. However, certain employees and entities are specifically charged with the monitoring compliance with the Chemical Hygiene Plan. Specific duties have been assigned to the following District positions:

### **2.1 Superintendent**

The superintendent has the ultimate responsibility for chemical hygiene within the district. The superintendent will, along with other administrators, provide continuing support for district-wide chemical hygiene programs, including the development and enforcement of the Chemical Hygiene Plan.

### **2.2 District Chemical Hygiene Officer**

The district chemical hygiene officer must be qualified by training and experience to provide technical guidance in the development and implementation of the Chemical Hygiene Plan. The district chemical hygiene officer will report to the district's risk manager for duties associated with chemical hygiene officer responsibilities and Plan compliance. The responsibilities of this position require the district hygiene officer to:

- Implement the Chemical Hygiene Plan and conduct the associated training programs.
- Assist the school chemical hygiene officers in the execution of their duties.
- Maintain a list of school chemical hygiene officer(s) to monitor the procurement, use, and disposal of chemicals used in the schools' laboratory and other programs.
- Conduct school lab visits to ensure that inspections of equipment in the laboratory are performed as required and that records of inspections are maintained.
- Assure that the Chemical Hygiene Plan is reviewed annually and revised as needed, so that it is always in compliance with current legal requirements. Site inspections.
- Review requests to use chemicals identified as explosive, carcinogenic, mutagenic, highly toxic, or otherwise represent a high risk for general school laboratories.
- Keep records of employee exposure to hazardous chemicals for a period of 30 years beyond the time of exposure. These records should be filed by the employee, with the school district, in writing, within two weeks of the exposure.
- Assure that medical consultations and examinations are acquired as a result of exposure to hazardous chemical(s).
- Provide training for lab science teachers and staff in chemical hygiene, hazardous material management and lab safety.

### **2.3 School Chemical Hygiene Officer**

The school chemical hygiene officer will serve as the building's contact person for chemical hygiene programs. The district chemical hygiene officer will consult with building principals to facilitate the appointment of school chemical hygiene officers. School chemical hygiene officers are responsible for chemical hygiene training and compliance procedures for that school. In most schools, the chemical hygiene officer duties will be assigned to the science department head, a science department supervisor or a science teacher.

The school chemical hygiene officer will have the responsibilities listed below:

- Ensure that employees receive training in their responsibilities for compliance with the Chemical Hygiene Plan and laboratory safety practices.
- Ensure that employees have access to the Chemical Hygiene Plan, Safety Data Sheets (SDS) and other suitable reference materials. See Appendix B for a selected bibliography.
- Conduct regular, formal chemical hygiene and housekeeping inspections.

### **2.4 School Employees**

All employees working in a laboratory area are responsible for:

- Compliance with the Chemical Hygiene Plan.
- Participating in training programs provided by the school or district.
- Maintaining awareness of health and safety hazards.
- Planning and conducting each operation in accordance with the school district's chemical hygiene procedures.
- Consulting reference materials, including material safety data sheets, related to chemical safety whenever appropriate.
- Reporting accidents, injuries, unsafe practices, and unsafe conditions.

### **2.5 Students**

The District Chemical Hygiene Plan does not specifically cover students as the requirement to have and comply with a Chemical Hygiene Plan is directed at employers for the protection of employees. However, good personal chemical hygiene habits should be taught to all students at every reasonable opportunity, particularly to those who use the laboratory while enrolled in science courses. Students should not be allowed to use school laboratories outside of regular science course classes unless they first obtain permission and are directly supervised by the instructor during their work.

## **GENERAL PRINCIPLES**

The following statements and explanations are general principles for the use of those handling laboratory chemicals. While the list is not complete, these concepts provide the fundamental underpinning for laboratory work in the district.

### **3.1 Be Prepared**

The district will provide training to employees in how to find and use information from SDS's and this Chemical Hygiene Plan. Employees are required to familiarize themselves with the hazards associated with the chemicals they expect to use and must take appropriate steps to minimize their exposure to those chemicals.

### **3.2 Follow the Chemical Hygiene Plan**

Employees are required to follow the practices specified in the Chemical Hygiene Plan to minimize their health and safety risks.

### **3.3 Minimize Exposures to Chemicals**

Laboratory chemicals present hazards of one type or another. Employees will follow general precautions for handling all laboratory chemicals. Specific guidelines for some chemicals, such as those found in the appropriate SDS's, will also be followed.

### **3.4 Consider the Risk**

The decision to use a particular substance will be based on the best available knowledge of each chemical's particular hazard and the availability of proper handling facilities and equipment. Substitutions, either of chemicals or experiments, will be made where appropriate to reduce hazards without sacrificing instructional objectives. When the risk outweighs the benefit and no substitute is available, then the experiment or procedure will not be conducted.

### **3.5 Observe PELs and TLVs**

The permissible exposure limit (PEL) and threshold limit value (TLV) of a typical chemical used in the laboratory are available on the SDS for that chemical. Staff exposure to hazardous chemicals should not exceed those limits.

### **3.6 Adequate Ventilation**

The best way to prevent exposure to airborne substances is to prevent their escape into the laboratory by using hoods or other ventilation devices. Inspection of fume hoods will be conducted quarterly. All inspections will be recorded and a file containing all inspection documentation will be maintained at the school.

### **3.7 Use Safety Data Sheets**

District employees will not accept a chemical from a supplier unless it is accompanied by the corresponding SDS unless the SDS from that supplier for that chemical is already on file. All SDS's must be accessible to employees at all times. Employees will be provided with training in how to use SDSs.

## **STANDARD OPERATING PROCEDURES**

The goal of the Chemical Hygiene Plan is to protect employees and students working in district labs from injury due to hazardous chemicals. This section is written in several parts and is meant as a guide for the district and its employees. The district or school chemical hygiene officer may add additional general or specific safety rules for a particular laboratory as needed.

It is recommended that these same standards be communicated to students, be expected of students and be promoted by the school and laboratory personnel.

#### **4.1 General Rules**

The instructor (and aide, if any) will review laboratory instructions, safety procedures, and reagents prior to each laboratory activity. They should be aware of the following:

- The chemical hazards for each chemical, as determined from the SDS or other appropriate reference.
- Appropriate safeguards for using each chemical, including personal protective equipment.
- Location and proper use of emergency equipment.
- Proper storage of chemicals. . Appropriate personal hygiene practices.
- Correct methods for transporting chemicals within the laboratory facility.
- Appropriate procedures for emergencies, including evacuation routes, spill cleanup procedures, and fire control.
- Proper procedures for the disposal of hazardous substances.
- Procedures for notifying supervisory persons in the case of an accident or injury.
- Whenever chemicals are in the laboratory and not in locked cabinets or storerooms, the unattended laboratory will be locked.

#### **4.2 Working Alone**

Staff should not work alone in a laboratory or chemical storage area unless other employees are in the vicinity and are aware that someone is in the laboratory, in which case periodic checks should be made. Students may not be permitted to work alone in a laboratory or chemical storage area.

#### **4.3 Personal Protective Equipment (PPE)**

Washington State employers are required to have a Personal Protective Equipment Program per WAC 296-180-160. Employers are required to conduct and document assessments for potential hazards within the workplace and use the assessment findings in the selection of appropriate PPE for employees (and students).

Employees (and students) must be provided with training in proper use of PPE. Once trained, employees (and students) are required to use appropriate protective clothing and equipment. Laboratory aprons or coats, eye protection, and non-permeable gloves are considered standard equipment for school laboratory programs.

Selection, purchase and maintenance of PPE will be the responsibility of the school Chemical Hygiene Officer. The District Chemical Hygiene Officer, the District PPE Program and WAC 296-180-160 provide guidance on conducting hazard assessments, selection of appropriate equipment and PPE training and usage.

##### **4.3.1 Eye Protection**

Everyone in a laboratory, including visitors, is required to wear eye protection when working or observing others working with chemicals.

Eye goggles should provide splash and impact protection -will conform to ANSI Standard 287.1-1989. Eyeglasses, even with side shields, are not acceptable protection against chemical splashes.

Each school is required to have and use equipment for cleaning and sterilizing goggles. Sterilizers must be used whenever two or more persons use the same goggles, staff or students.

Contact lenses are not necessarily prohibited in the laboratory. If contact lenses are permitted, chemical splash goggles must also be worn at all times. Because there may be a need to remove contacts quickly, contact lens wearers should inform the appropriate personnel of the contacts before an emergency arises.

Approved standing shields or face shields should be used when there is potential for splashes or when corrosive liquids are used. Goggles should be worn whenever using standing or face shields.

#### **4.3.2 Protective Clothing**

Protective clothing worn in the laboratory must offer protection from splashes and spills, be easy to remove in case of an accident, and be fire resistant. Nonflammable, nonporous rubber or plastic aprons offer the least expensive protection. Aprons are to be long enough to cover from the neck area to the knees. Clean chemical and fire resistant laboratory coats may be worn if they are long-sleeved and long enough to cover the knees. Snap fasteners or Velcro closures are better than buttons, because the laboratory coat is more easily removed in an emergency.

At no time should shorts, cutoffs, or short skirts be allowed in the laboratory. Shoes must have low heels with fully covered "uppers." Open toes or uppers constructed of woven material is inappropriate for laboratory work. Jewelry such as rings or bracelets is to be removed in order to prevent chemical seepage under the jewelry, contact with electric sources, catching on equipment or damage to the jewelry itself.

Laboratory coats, jackets, aprons, or clothes on which chemicals have been spilled must be washed separately.

#### **4.3.3 Respiratory Protection**

The use of is not anticipated for secondary school instruction or incident response. Respiratory protection requires training from and approval by the District Hygiene Officer and the implementation of the program elements of WAC 296-84I

Respirator Program for equipment selection, purchase and maintenance. Where the need for respirators has been established, or the need must be determined through hazard assessments, contact the District Chemical Hygiene Officer or the District Safety Officer for assistance.

#### **4.3.4 Gloves**

There are no current ANSI (American National Standards Institute) standards for gloves. Glove selection must be based on the performance characteristics of the glove in relation to the tasks to be performed.

When gloves are required, it should be remembered that no one kind of glove is suitable for all situations. The SDS for the chemical contains specific instruction in selecting the proper type of gloves to be used. For example, corrosion-resistant gloves should be worn when working with corrosive liquids.

Chemical resistance gloves may be made of rubber, neoprene, polyvinyl alcohol or vinyl, etc. The gloves protect hands from corrosives, oils, and solvents. When selecting chemical resistance gloves, be sure to consult the manufacturers' recommendations, especially if the gloved hand will be immersed in the chemical.

Gloves must be removed before leaving the laboratory or touching doorknobs, telephones, or laboratory notebooks.

Gloves must be checked before each use to ensure the absence of cracks and small holes and should always be worn with the same side out.

#### **4.4 Advance Planning**

Do not rely solely on the textbook or laboratory manual or other instructional material for the safety precautions required for a particular experiment. Consult the SDS's for chemicals and safety references for equipment, particularly when the anticipated experiment is new to the instructor. The instructor or laboratory aide should review potential hazards and specifically describe them to all classes and all students immediately before each experiment. The scale of the procedure should be reduced as much as possible to bring to a minimum the generation of waste chemicals. Use only those chemicals for which the ventilation system is adequate.

#### **4.5 Personal Behavior**

The laboratory will never be left unattended while students are performing an experiment in that laboratory. However, it is recognized that some experimental procedures, such as crystallization or incubation, rate a normal part of some experiments and that such procedures may safely be left while they are in progress. The staff should use the best available information when deciding whether a particular procedure may be left unattended.

Horseplay, pranks, or other acts of mischief should not be tolerated in chemical work areas and laboratories. Additionally, employees or students are prohibited from performing activities using unauthorized chemicals. Students who exhibit inappropriate behavior, i.e. put themselves or others in danger, shall be immediately removed from class. Appropriate District disciplinary policies and procedures shall be applied.

Every precaution must be taken to insure that unauthorized persons never remove chemicals from the laboratory. Unattended chemical storage areas must be locked. Visitors and students are not allowed to access chemical storage areas alone.

#### **4.6 Personal Hygiene**

Staff should use appropriate personal hygiene practices, including the following:

- Wash promptly whenever any hazardous chemical has contacted the skin, except in those few cases in which chemicals will react dangerously with water.
- Always use a bulb or other device for suction. Never pipette by mouth.
- Avoid inhalation of chemicals used for an experiment, including gases, vapors, and aerosols.
- "Wafting" to test chemical odors should only be done with extreme caution and only when specifically directed to do so in the written experimental procedure.
- Wash well with soap and water before leaving the laboratory, even if gloves have been worn.
- Never wash with organic solvents.
- Be aware that tobacco products in opened packages can absorb chemical vapors. Do not apply or store cosmetics in the chemical laboratory.
- Seek immediate and appropriate medical treatment whenever signs or symptoms of exposure to a hazardous chemical are manifested.
- Use proper glove etiquette.

#### **4.7 Housekeeping**

Because many accidents may be attributed to sloppy work areas, all laboratory spaces must be kept clean and contain only those items needed for the task at hand. Cleanup should immediately follow the completion of each operation and at the end of each day.

- Place all wastes in appropriate, segregated receptacles that are correctly labeled.
- Store all equipment and chemicals properly. Chemicals should not be stored in aisles, on the floor, in stairwells, on desks or laboratory tables. Or in open lab.
- Do not leave chemicals overnight on shelves over the workbench.
- Never block access to emergency equipment, showers, eyewashes, or exits.
- Clearly label all chemical containers with the identity of the contents and the hazards those contents present. Refer to Section 6.8 for proper labeling practice.
- Keep all cabinets and drawers closed when not in use to avoid catching and bumping hazards.
- Clean all working surfaces and floors on a regular basis. Keep the floor clear of slipping hazards such as ice, spilled liquids, glass beads, or other small items.
- Clean up all chemical spills as soon as they occur. Chemicals and cleanup materials should be disposed of correctly.

#### **4.8 Food Handling**

No food or beverages should be stored, handled, prepared, or consumed in the laboratory or other areas where chemicals are used or stored. Additionally, laboratory chemicals and laboratory equipment should not be brought into eating areas. Glassware or utensils that have been used for laboratory operations should



never be used to prepare or consume food. Laboratory refrigerators, ice chests, microwave ovens, and cold rooms should not be used for food storage or preparation.

#### **4.9 Glassware**

Careful storage and handling procedures should be used to avoid glassware breakage. In the event of breakage, protection for the hands should be worn when picking up the broken pieces. Use of tongs is encouraged. Small pieces should be swept up with a brush and pan. Broken glass should be separated from other waste by placing it in a special container marked Broken Glass. Broken glass contaminated with chemicals must be treated as hazardous waste.

Use hand protection like heavy gloves or cloth towels when inserting glass tubing into rubber stoppers or corks or when placing rubber tubing on glass hose connections. When inserting glass tubing into a stopper, the hands should be held close together to limit movement of glass, and the glass should be lubricated. Tubing should be fire polished or rounded at the end.

#### **4.10 Flammability Hazards**

Open flames should not be used to heat a flammable liquid or to carry out a distillation under reduced pressure. Before lighting a flame, all flammable substances will be removed from the immediate area of the flame. All containers of flammable substances in the area will be checked to ensure that they are tightly closed.

Flammable materials will be stored in a flammable liquid storage cabinet or other appropriate location. When transferring significant quantities of flammable liquids from one container to another, it is particularly important that they be properly grounded to prevent accidental ignition of flammable vapors and liquids from static electricity or other sources of ignition. Large quantities of flammable chemicals stored outside cabinets should be in flameproof storage cans that conform to NFPA (National Fire Protection Association) guidelines. Current NFPA Standards 30, Flammable and Combustible Liquids Code, and 45, Fire Protection for Laboratories Using Chemicals, and/or the applicable local fire codes should be followed.

#### **4.11 Electrical Hazards**

All electrical outlets should have a grounding connection accommodating a three-prong plug. GFI receptacles are required if located near sinks. Most electrical equipment is wired with a three-prong plug. The grounding post should never be removed from such a plug. Some equipment is designed for safe use with two-prong plugs. All laboratories should have circuit breakers readily accessible. Employees are required to know how to cut off electrical service to the laboratory in case of emergency. Laboratory lighting should be on a separate circuit from electrical outlets so that electric service can be cut off during an emergency. All electrical outlets should be checked for continuity after initial occupancy (upon new construction or when first used by an employee) and whenever electrical maintenance or changes occur.

If electrical equipment shows evidence of improper heating, immediately unplug the device.

#### **4.12 Compressed Gases**

If compressed gas cylinders are used in the laboratory, procedures for their use should be in accordance with guidelines established by the Compressed Gas Association, particularly CGA P-1 919965, Safe Handling of Compressed Gases. Some of the more important considerations in using gas cylinders correctly are the following:

- No cylinder should be moved from one location to another until the protective cap is securely in place.
- Both full and empty cylinders should only be stored where straps, chains, or a suitable stand may securely restrain them.
- All cylinders should be used with a correct regulator, and should be fitted with delivery tubes that do not leak and which are tightly fastened to the cylinder.
- A cylinder should be considered to be empty when there is still a slight positive pressure.
- An empty cylinder should be returned to the supplier as soon as possible after having been emptied, or when it is no longer needed.
- Cylinders should not be exposed to temperatures above 50 °C (122 °F).

#### **4.13 Prior Approval**

Teachers, instructors and aides will obtain prior approval from the school chemical hygiene officer whenever a new laboratory experiment or test is to be carried out. This prior approval is also required for experiments that have not been performed recently or for which the flammable or explosive chemicals are used individually or in combinations. The potential for harm may be affected by a change in the amounts of materials being used, the conditions under which the experiment is to be conducted, or the substitution, deletion, or addition of a chemical.

Prior approval before doing any procedure should be obtained where one or more of the following conditions exist:

- Potential for a rapid rise in temperature.
- Potential for a rapid increase in pressure.
- Substitution of flammable solvent for one less flammable.
- Potential for chemical explosion.
- Potential for spontaneous combustion.
- Potential for the emission of toxic gases that could produce concentrations in the air that exceed toxic limits.
- Change in a procedure, even if the change is quite small.

Prior approval should be obtained before again performing any procedure after there has been a failure of any of the equipment needed for the process, especially of safeguards such as fume hoods. Accidents and equipment failures must be reported to the school chemical hygiene officer.

## **RECORD.KEEPING PROCEDURES**

Specific records are required as a part of program compliance.

### **5.1 Air Concentration Monitoring**

The district requires that records of air concentration monitoring be maintained for at least 30 years and that they are accessible to employees and/or their representatives. Such monitoring should be done as recommended by the chemical hygiene officer and follow generally accepted monitoring techniques.

Regular instrumental monitoring of airborne concentration is not usually justified or practical in school laboratories. Monitoring may be appropriate when toxic materials are used or stored, or when ventilation devices are tested or redesigned. It is required after each documented incident of exposure to toxic chemicals.

### **5.2 Training Records**

The district is required to maintain records of employee training for at least 30 years. All training attended, both "in-district" and "external" must be documented and included in employee training records. Attendance will be recorded at "in-district" training. Employees are required to submit copies of certificates of attendance or completion from external training attended. Training records are to be maintained at the school level and be made available to employees and/or their representatives when requested.

### **5.3 Safety Data Sheets (SDSs)**

The district is required to maintain a file of manufacturers' SDSs and is also required to make them accessible to employees in the laboratory. If a SDS is not available when a new chemical is received, that chemical should not be used until a SDS is obtained. Copies of MSDS for chemicals in the lab should be maintained outside of the chemical storage area. The main office is the most suitable location for duplicate SDS binders. This duplication, while time consuming, facilitates more efficient and comprehensive responses in emergency situations.

### **5.4 Exposure Testing Records**

Records of exposure assessments will be maintained for at least 30 years, and they will be made available to employees and/or their representatives upon request. Exposure testing procedures and results of that testing will be forwarded to the district chemical hygiene officer, who is responsible for maintaining these records. An accurate record of any measurements taken to monitor employee exposures must be kept, transferred, and made accessible to each employee. Employees will be notified of any monitoring results within 15 working days after receipt of the results, either individual; in writing, or by posting the results in an appropriate location that is accessible to employees.

### **5.5 Medical Records**

The district requires the records of medical consultations, medical examination, and all reports derived from such consultations and examinations be maintained for at least 30 years. These records must be accessible to employees and/or their representatives upon request.

### **5.6 Prior Approval**

Laboratory employees will be informed of those laboratory procedures and operations that require prior approval from the chemical hygiene officer, so that these activities can be carefully monitored for adherence to the Chemical Hygiene Plan. Request for approval must be made in writing, using the form provided in Appendix B.

### **5.7 Incident Reports**

Each incidence of an accident of injury or "near miss" will be reported to the school chemical hygiene officer and the district chemical hygiene officer in writing in accordance with Worker's Compensation rules. If staff or students were witnesses to the accident of injury they will complete the appropriate form found in Appendix C. The District will keep records for 30 years from the time of the occurrence. Near miss reports are very useful in determining what areas require specific attention during the annual required review of procedures.

### **5.8 Chemical Inventory Records**

Each school is required to maintain a chemical inventory list, which will be updated annually. Copies of the chemical inventory list will be kept at the local school and the original will be provided to the district chemical hygiene officer. If this record-keeping requirement is completed via a computer-based inventory program, both the school and district chemical hygiene officers will provide for backup copies to be maintained in a separate location.

### **5.9 Waste Disposal Records**

The district should maintain records of waste chemicals and products from reactions or processes that are transferred to an authorized and/or certified chemical disposal agent, and chemicals that are transported to a new site. These records should conform to requirements of the Environmental Protection Agency and Department of Transportation, either of which may have jurisdiction over these types of transfers. The records should also conform to state requirements.

### **5.10 Safety Inspections and Recommendations**

The district will keep records of safety inspections, including the date of the inspection and the person conducting the inspection. Examples of equipment to be inspected are fire extinguishers, drench showers, eye wash fountains, and fire blankets. The district will maintain records showing dates of needed repairs and regular maintenance for control systems.

The district will keep a record of safety suggestions from employees, including the date the suggestion was submitted, the name of the person submitting the suggestion, the disposition of the suggestion, and the reasoning for the action taken.

## **LABORATORY SAFETY PROCEDURES**

### **6.1 Employee Exposure Protections and Monitoring**

If there is reason to believe that exposure levels for a regulated substance have exceeded the action level or permissible exposure limit, the school chemical hygiene officer will immediately take steps to ensure that employee exposure to that substance is measured.

Factors that may raise the possibility of overexposure and therefore warrant an initial measurement of employee exposure include:

- The manner in which the chemical procedures or operations involving the particular substance are conducted.
- The existence of historical monitoring data that shows elevated exposures to the particular substance for similar operations.
- The use of a procedure involving significant quantities or is performed frequently or over an extended period of time.
- There is reason to believe that an exposure limit may be exceeded.
- Signs or symptoms of exposure (e.g., skin or eye irritation, shortness of breath, nausea, or headache), which are experienced by employees. (Some of these symptoms are very general and can be due to many other causes including emotional stress or hysteria.)

If the initial exposure determination described above indicates employee exposure over the action level for a particular substance, the District will immediately comply with the exposure-monitoring requirements for that substance.

### **6.2 Laboratory Facilities**

The type and scale of work conducted in a laboratory must be appropriate to the physical facilities available and to the quality of the ventilation system. A laboratory should include, where appropriate:

- An adequate general ventilation system with air intakes and exhausts located so as to avoid intake of contaminated air and vent lab air directly to the exterior of the building.
- On-demand ventilated stockrooms and storerooms that vent air directly outside. Proper chemical storage for specific hazardous materials such as flammables, corrosives, carcinogens, and highly toxic chemicals, so far as they are likely used.
- Adequate laboratory hoods and sinks.
- Emergency equipment, including proper fire extinguishers, spill kits, alarms, access to a telephone with an outside line, eyewash, safety shower, and fire blanket
- First aid equipment including first aid kits.
- Arrangements for proper waste storage and disposal.

### **6.3 Laboratory Ventilation**

Laboratory fume hoods are not meant for either storage or disposal of chemicals. If a hood must be used for storage, in order to provide adequate ventilation for flammable chemicals, for example, it must not be used for laboratory experiments or transfer of chemicals. In that event, it must be used only for storage.

General laboratory ventilation should not be relied on for protection from exposure to hazardous chemicals. A rate of 8-12 room air changes per hour is the accepted standard when local exhaust systems such as hoods are used as the primary method of control. Laboratory airflow should not be turbulent and should flow continuously throughout the laboratory.

A laboratory hood with a minimum of 2-3 linear feet of hood space per person should be provided for every two students if they spend most of their time working with chemicals. Airflow into and within the hood should not be excessively turbulent. Excessive turbulence may be produced when a hood face velocity exceeds 125 linear feet per minute. Fume hoods should provide adequate airflow at about 60-100 linear feet per minute. The airflow should be measured and recorded regularly by the instructor or school chemical hygiene officer.

Cabinets and rooms that store hazardous chemicals are required to be separately ventilated.

The quality and quantity of ventilation must be evaluated when installed, regularly monitored, and reevaluated whenever a change in ventilation devices is made, or the ventilation system is repaired. Section K, Lab Safety of the most recent edition of the Department of Health and OSPI K-12 Health and Safety Guide will be used to determine the required frequency of inspection.

#### **6.4 Medical Consultations and Medical Examinations**

Employees who work with hazardous chemicals will be provided with an opportunity to receive medical attention when overexposure to a hazardous chemical is reasonably suspected.

##### **Cause for Consultation or Examination**

In relation to the exposure of hazardous chemicals, medical attention will be provided to an employee under the following circumstances:

- Whenever an employee develops signs or symptoms of exposure to a hazardous chemical to which the employee may have been exposed in the laboratory.
- Whenever exposure monitoring reveals an exposure level above the action level or permissible exposure level for an OSHA-regulated substance.
- Whenever an event such as a spill, leak, or explosion, takes place in a laboratory that may result in exposure to a hazardous substance.

##### **Type of Medical Attention**

All medical examinations and consultations should be performed under the direct supervision of a licensed physician and should be provided without cost to the employee, without loss of pay, and at a reasonable time and place. All questions regarding medical consultations and examinations should be directed to the district chemical hygiene officer, who should arrange for consultation with the Puget Sound Workers' Compensation Trust.

## **Information for the Physician**

The following information should be provided to the physician conducting medical consultations and examinations:

- The identity of hazardous chemicals to which the employee may have been exposed.
- A copy of the material safety data sheet for the chemical.
- A description of the conditions under which the exposure occurred, including quantitative exposure data.
- A description of the signs and symptoms of exposure that the employee is experiencing.

## **Physician's Report**

A written opinion from the examining physician for any consultations or examinations performed under this standard should include any recommendation for further medical attention, the results of the medical examination and any associated tests, any medical condition revealed during the examination which might compromise employee safety during, or as a result of, exposure to hazardous chemicals found in the workplace, and a statement that the employee has been informed by the physician of the results of the consultation or examination and any medical condition that may require further examination or treatment. The written opinion should not reveal specific diagnoses unrelated to occupational exposure, except as noted above.

## **6.5 Chemical Purchase and Procurement**

The purchase of chemicals will be guided by the maxim that less is better. The lower the chemical inventory, the fewer the problems associated with storage, and the less likely that accidents or exposures would occur. Quantities in excess to the needs of the instruction will result in the school and/or the district incurring excessive costs to dispose of outdated or surplus chemicals.

- Chemicals will be ordered in quantities that are likely to be consumed in two years or less.
- Chemicals will be purchased only when needed for specific experiments or research projects. The chemicals will be purchased only in the quantity sufficient for the declared use.
- A chemical will not be accepted or used without being accompanied by the material safety data sheet.
- The container will be marked with the date at the time it is received and the date it is opened.
- Chemicals will not be accepted if the original container has been broken, opened, or has been compromised in some other way.
- The chemical inventory list will be updated each time a chemical is received. . Employees will not accept donated chemicals.

## **6.6 Storage and Distribution**

- All chemicals shall be in tightly closed, sturdy, and appropriate containers.
- If the chemical has been transferred to a secondary container, the new container will be appropriately labeled, including all of the hazard information. Specifications for labeling follow in Section 6.8.
- Chemicals should be stored based on the reactive nature of the chemical. Storage patterns should never be based solely on the alphabetical arrangement of chemicals.
- The district chemical hygiene officer is responsible for establishing a classification system to be used for the storage of chemicals. School chemical hygiene officers will implement the storage system and the storage system will be displayed in storage areas.
- Large containers and containers with reactive chemicals, such as acids and bases, will be stored on lower shelves. No chemical should be stored on top of a storage shelf or cabinet.
- All shelves on which chemicals are stored are required to have a lip of approximately 3/4" or greater in order to prevent bottles from sliding off the shelf.
- Flammable chemicals will be stored in approved storage cans or approved flammable chemical storage cabinets.
- Combustible packaging material will not be stored near flammable chemical storage cabinets.
- Employees will securely lock all storage areas when not in use. Storage and preparation areas are to be accessible only to those persons authorized to use the chemicals and be restricted to personnel that have had proper training in the handling and use of the chemicals. Visitors and students are not permitted to have access to chemical storage areas. Students must be directly supervised by a trained employee in prep areas.
- Use or storage of chemicals classified as acute poisons is discouraged. If stored, these chemicals will be kept in a separate, locked location, which has been appropriately labeled.
- Chemicals presenting a fire hazard will be stored in quantities less than 500 ml, unless metal safety cans are used, or the container is stored in a suitable flammable storage cabinet.
- If approved metal safety cans are used, the spring-loaded closure will not be disabled, the flame-arrestor screen will be kept in place, the arrestor screen will be replaced if punctured or damaged, and the arrestor will never be immersed in the flammable liquid.
- Chemicals may not be distributed to other persons or to other areas of the school without prior approval of the school chemical hygiene officer. Chemicals may not be transferred to another location without the simultaneous transfer of a copy of the appropriate safety data sheet, nor will they be transferred without the person receiving the chemicals having had appropriate training in their use, storage, and disposal.



### **6.7 Inventory Control**

- The chemical inventory list must be updated each time a chemical is received or consumed. The school chemical hygiene officer will audit the list for accuracy on an annual basis.
- The Chemical Inventory List will contain the following information about each chemical found in storage:
  - The chemical name.
  - The date purchased.
  - The amount present.
  - The Chemical Abstracts Registry (CAS) number.
  - Risk classification-hazard identification.
  - The examination date for possible disposal.
- Every area in which chemicals are used or stored must also have an up-to-date inventory.
- The school chemical hygiene officer and the district chemical hygiene officer will keep a printed copy of the most recent inventory.

### **6.8 Hazard Identification and Labels**

- Laboratory chemicals should be properly labeled to identify any hazards associated with them for the employees' information and protection.
- If a chemical is stored in its original bottle, it should have the manufacturer's original label identifying potential hazards, and the date of purchase, the date opened, and the initials of the person who opened the container.
- If a chemical has been transferred to a secondary container, the new container should be appropriately labeled with the chemical name, formula, concentration (if in solution), solvent (if in solution), hazard warnings, and name or initials of the person responsible for the transfer.
- Unlabeled bottles should not be opened, and such materials should be disposed of promptly, as outlined in the section on disposal procedures.

### **6.9 Safety Data Sheets (SDSs)**

- The safety data sheets for each chemical used in the laboratory contain recommended limits or OSHA-mandated limits, or both, as guidelines to exposure limits. Typical limits are expressed as threshold limit values (TLVs), permissible exposure limits (PELs), or action levels. When such limits are stated, that limit, along with any other information about the hazardous characteristics of the chemical, should be used to set laboratory guidelines. These laboratory guidelines may be used by the district or school chemical hygiene officer and the teacher in determining the safety precautions, control measures, and personal protective equipment that apply when working with that toxic chemical.
- Each SDS received with incoming shipments of chemicals should be maintained and made readily available to laboratory employees and to students.
- A safety data sheet for each compound on the chemical inventory list is required.

- Chemical manufacturers and suppliers are required to supply one copy of a safety data sheet the first time the chemical is purchased by the school or institution.
- All laboratory employees will be trained to read and understand the SDS's.

### **6.10 Waste Disposal**

The district and school chemical hygiene officers will ensure that laboratory chemicals are disposed in compliance with appropriate regulations and in a manner that minimizes damage to human health and the environment.

Every process that uses chemicals has the potential for producing hazardous waste. The purchaser or producer of chemicals will take into consideration the waste that will be produced and the cost of waste disposal. The product of a reaction or process only becomes hazardous waste when it is removed from the reaction system and called waste and it is hazardous material.

Treatment of hazardous waste must be done by a licensed facility. If a process generates a hazardous waste, either that waste will be collected for treatment outside the school or the experimental procedure will be altered to avoid production of the waste.

The following are specific guidelines for hazardous waste disposal:

- Chemicals will be ordered in quantities that are likely to be consumed in two years or less.
- Potential waste materials are surplus, old, and/or unnecessary chemicals. Every attempt must be made to avoid accumulating such chemicals.
- No flammable, combustible, or water-insoluble material will be poured down the drain.
- Separate waste containers will be provided for heavy metal compounds, chlorinated hydrocarbons, and non-chlorinated hydrocarbons. Separation of wastes in this manner will make disposal less costly.
- Acids and bases may be neutralized before disposal down the drain. Hazardous waste will never be placed in the common solid trash container(s).
- Waste chemicals will be stored in appropriately labeled containers, inside secondary containment.
- The products of projects, experiments, or other chemical procedures will be recycled and/or decontaminated whenever possible.
- All waste containers will have an up-to-date log of the material that is in the container. Each entry for an addition to the container will be dated and initialed by the instructor, or person who puts the waste in the container. The entry will provide the correct chemical name and amount of chemical added.
- When feasible and safe, a large container of a given waste will be used instead of several small containers of the same material for financial reasons.
- Waste materials will not be allowed to accumulate in laboratories or preparation rooms. The sealed containers will be removed to the designated waste storage location. There are regulatory limits depending on quantity that need to be verified with local officials.

- Waste materials will be identified using a chemical identification form and/or label ensuring sufficient information for their safe transportation, treatment, storage, and disposal.
- The disposal of hazardous wastes will follow the guidelines established by the appropriate local, state, and federal regulations.

## **PROCEDURES FOR INSPECTIONS**

All employees will be alert to unsafe conditions and should inform the school chemical hygiene officer in writing, when an unsafe condition occurs.

### **7.1 Laboratory Equipment**

The presence of necessary safety equipment, in proper working condition, a list of which is provided in Appendix D, will be verified and maintained in each school and laboratory area at least quarterly by the chemical hygiene officer. The following general standards will apply:

- Each hood will have a face velocity of 60-100 linear feet per minute.
- Each shower will be capable of supplying a continuous flow of tepid, potable water. (ANSI Standard 2358.1-1990) Showers not meeting this standard will be reported to the Facilities Department for repair or removal.
- Every eyewash station will be capable of supplying a continuous gentle flow of aerated, tepid, potable water to both eyes. (ANSI Standard 2358.1-1990) Eye wash stations not meeting this standard will be reported to the Facilities Department for repair or removal.
- Each fire extinguisher will be fully charged and must have a valid annual inspection tag attached.
- Every goggle sanitizer will have its UV bulb and timer operating properly.
- Equipment will be tagged following the inspection, showing the date, inspector, and results.

The chemical hygiene officer will maintain written records of all inspections and the records will be made available to employees upon request.

#### **7.1.1 Safety Inspections**

Safety inspections of the laboratory will be conducted at least twice each year. The school chemical hygiene officer will keep inspection records. A form for conducting these inspections is shown in Appendix F. These general inspections will cover all of the emergency equipment identified above, and also include the following:

- All gas cylinders are firmly secured.
- Chemicals are not being stored in hoods in which experiments are performed.
- Egress routes are not obstructed.
- Chemicals are not stored on top of cabinets or on shelves that do not have lips.
- Electrical cords are in good condition.
- Rubber hoses are not cracked and are otherwise in good condition.
- Other items will be listed on the "safety audit, or inspection," sheet.

## **SPECIFIC EXPOSURE CONTROL MEASURES**

This section addresses criteria that would invoke the use of specific exposure control measures, which are more stringent than those procedures specified as standard operating procedures or general laboratory safety rules. These specific exposure control measures are designed to reduce the exposure of instructors, aides, students, and other employees to especially hazardous chemicals. Employees will read and understand these practices before commencing a procedure using one or more of these chemicals.

### **8.1 Toxic Chemicals**

The SDS' and labels for many of the chemicals used in the laboratory recommend specific limits for exposure. Other limitations may be specified by OSHA-mandated limits. Typical limits are threshold limit values (TLVs), permissible exposure limits (PELs), and action levels. When such limits are stated, they will be used to assist the chemical hygiene officer(s) and the teacher in determining the safety precautions, control measures, and safety apparel.

When a TLV or PEL value is less than 50 PPM or 1mg/m<sup>3</sup> or lower, the user will only use it in an operating fume hood, glove box, vacuum line, or other device equipped with appropriate traps. If none are available, no work will be performed using that chemical.

If a TLV, PEL, or comparable value is not available, no work should be performed using that chemical.

Whenever laboratory handling of toxic substances with moderate or greater vapor pressures is likely to exceed air concentration limits, work with such liquids and solids should be conducted in a fume hood, glove box, vacuum line, or similar device equipped with appropriate traps. If none are available, no work will be performed using that chemical.

Use of most toxic chemicals with low TLV's, PEL's or action levels is considered high risk for secondary school lab instruction.

### **8.2 Flammable Chemicals**

In general, the flammability of a chemical is determined by its flash point, the lowest temperature at which an ignition source can cause the chemical to ignite momentarily under certain controlled conditions.

Chemicals with a flash point below 200°F (93.3°C) should be considered "fire-hazard chemicals". Any chemical whose SDS or label states "Flammable" is in this category.

OSHA standards and the National Fire Protection Association (I.F.P.A) guidelines or local fire regulations should be consulted on the proper use of flammable chemicals in the laboratory. Specific references are found in Appendix B.

Fire-hazard chemicals in excess of 500 ml should be stored in a flammable solvent storage area, safety cans, or in storage cabinets designed for flammable materials.

### **8.3 Reactive Chemicals**

Reactivity information may be given in manufacturers' SDS and on labels. The most complete and reliable reference on chemical reactivity is the current edition of Bretherick's Handbook of Reactive Chemical Hazards, edited by P.G. Urban, published by Butterworths. Other useful references are cited in Appendix G.

A reactive chemical is one that:

- Is described as such on the label, in the SDS, or by Bretherick.
- Is ranked by the NFPA as 3 or 4 for reactivity.
- Is identified by the Department of Transportation (DOT) as an oxidizer, an organic peroxide, or an explosive (Class A, B, or C).
- Fits the Environmental Protection Agency (EPA) definition of reactive in 40 CFR 261.23.
- Is known or found to be reactive with other substances.

Reactive chemicals must be handled with all proper safety precautions, including segregation in storage and prohibition of mixing even small quantities with other chemicals without prior approval and appropriate personal protection and precautions.

Use of most reactive chemicals is considered high risk for secondary school lab instruction.

### **8.4 Corrosive Chemicals and Contact-Hazard Chemicals**

Corrosives, allergen, and sensitizer information is provided in manufacturers' SDS's and on labels. Other guidelines on which chemicals are determined to be corrosive can be found in the publications cited in Appendix G.

A corrosive chemical is one that:

- Fits the OSHA definition of corrosive in 29 CFR 1910.1450 or 29 CFR 1910.1200.
- Fits the EPA definition of corrosive in 40 CFR 262.22 (has a pH greater than 12 or less than 2.5).
- Is known to be reactive to living tissue, causing visible destruction of or irreversible alterations of, tissue at the site of contact.

A contact-hazard chemical is an allergen or sensitizer that:

- Is so identified or described in the SDS or on the label.
- Is so identified or described in medical or industrial hygiene literature.
- Is known to be an allergen or sensitizer.

Corrosive and contact-hazard chemicals will be handled with all proper safety precautions, including wearing safety goggles, gloves tested for the absence of pinholes and known to be resistant to permeation or penetration by the chemical, and a laboratory apron or laboratory coat.

Use of most corrosive chemicals at concentrations above 1 m. are considered high risk for secondary school lab instruction.

### **8.5 Reproductive Toxins**

A reproductive toxin is a compound that:

- Is described as such in the applicable SDS or label, or
- Is identified as such by the Oak Ridge Toxicology Information Resource Center (TIRC), (615) 576-1746.

No reproductive toxins will be used or stored in school laboratories without written authorization from the district chemical hygiene officer.

If such chemicals are used, they should be handled only in a hood and when satisfactory performance of the hood has been confirmed. Using gloves and wearing protective apparel aides in the avoidance of skin contact. Persons using such substances should always wash hands and arms immediately after working with these materials. Unbreakable containers of these substances should be stored in a well-ventilated area and will be labeled properly.

### **8.6 Select Carcinogens**

All work with these substances should be conducted in a Designated Area, such as a fume hood, glove box, or portion of a laboratory designated for use of chronically toxic substances. Such a Designated Area will be clearly marked with warning and restricted access signs.

Any procedure that may result in a generation of aerosols or vapors will be performed in a hood whose performance has been verified as satisfactory.

Use gloves and other protective equipment to avoid skin contact. Any protective clothing should be removed before leaving the Designated Area and placed in a labeled container. Hands, arms, face, and neck should be washed after working with these materials.

Select carcinogens must be stored in unbreakable containers in a ventilated area with controlled access. All containers should be labeled with the identity and hazard, of the substance. Immediately upon completion of the project, all unused reproductive toxins should be disposed of following standard hazardous waste disposal procedures.

No select carcinogens are allowed in school laboratories without written authorization from the district chemical hygiene officer.

Use of formaldehyde for storage of biological specimens is no longer considered appropriate for secondary school lab instruction.

### **8.7 Exposure Potential**

The routes of exposure to chemicals are inhalation, ingestion, contact with skin or eyes, or injection.

Inhalation of chemical vapors, aerosols, gases, or dusts can produce poisoning through the mucous membranes of the nose, mouth, throat and lungs. The degree of injury resulting from exposure to these chemicals depends on the toxicity of the material, its solubility in tissue fluids, its concentration, and the duration of exposure.

Ingestion is extremely dangerous. The relative acute toxicity can be evaluated by comparing the LD50, which is defined as the quantity of chemical that will cause the death of 50% of the test animals when ingested. Many chemicals will directly damage the tissue of the mouth, throat, nose, lungs, and gastrointestinal tract.

Contact with skin and eyes can lead to local irritation as well as significant chemical injury. In addition, many chemicals can be absorbed through the skin and may cause systemic poisoning. Alkaline materials, phenols, and strong acids can cause permanent loss of vision upon contact with the eye.

Injection of chemicals can occur through mechanical injection from glass or other materials contaminated with chemicals.

### **TRAINING OPPORTUNITIES**

The district will provide training opportunities for all employees. Development, delivery and verification of training for employees are the responsibility of the district and school chemical hygiene officers.

These training opportunities will include the transfer of information about the hazards of chemicals present in the laboratory and about sources of information. In particular, the training program will cover information found in the Laboratory Standard, manufacturers safety data sheets, this Chemical Hygiene Plan, as well as the expected responsibilities of the district and the employee.

Staff will receive training on the potential chemical hazards in the employees' work areas and on appropriate sections of the Chemical Hygiene Plan. This training will be provided to all employees who actually work in the laboratory as well as to other employees whose assignments may require that they enter a laboratory where exposure to hazardous chemicals might occur. Employees who are responsible for receiving and handling shipments of new chemicals or chemical wastes must also be informed of the potential hazards and appropriate protective measures for chemicals they may receive.

Employees will receive information and training at the time of their initial assignment to a laboratory and before assignments involving new exposure situations. Opportunities to refresh their working knowledge will be provided at least once a year. Training of laboratory personnel should be documented and made a part of the permanent record.

### **9.1 Information Program**

Laboratory employees will be informed of at least the following information:

- The contents of appropriate governing standards, as shown in Appendix A.
- The location and availability of the Chemical Hygiene Plan.

- The location and availability of known reference materials on the hazards, safe handling, storage, and disposal of hazardous chemicals found in the laboratory.
- The use and location of safety data sheets.

### **9.2 Employee Training Program**

Laboratory employees should be trained on the applicable details of the Chemical Hygiene Plan, including a review of the general rules for laboratory safety. The training program should describe appropriate sections of the standard operating procedures, particularly those procedures that require prior approval of the chemical hygiene officer. Employees should be informed as to the responsibilities of the chemical hygiene officer responsible for the laboratory in which they work. Emergency procedures adopted by the school district, including response to spills, fires, explosion, evacuation, and decontamination, should be described. Employees should be trained in measures they may take to protect themselves from exposure to hazardous chemicals, including the location and proper use or protective apparel and emergency equipment. In addition, the training must also include inventory procedures to be followed, proper storage and ordering rules, and district hazardous waste disposal procedures.

### **9.3 Training of Students**

The district requires that instruction in laboratory safety practices be provided to all students involved in laboratory studies. Such training must be appropriate to their level of chemical handling and potential exposure to hazardous chemicals. The extent of training should be based on the grade level, course of study, the laboratory facility, and the Chemical Hygiene Plan. The education of students is particularly important, because they are near the beginning of their experience with science, chemicals, and chemical safety. Instruction in safety will include the importance of the label and the SDS as important reference sources. As appropriate, the student will also be introduced to other sources of chemical safety information.

## **EMERGENCY PREVENTION AND RESPONSE**

### **10.1 Standard Emergency Procedures**

Emergency procedures will be specific response actions for a failure in the ventilation systems, evacuation, fire and spill response, or the failure of other procedures to limit exposure of employees to hazardous chemicals. Once emergency procedures are established, drills will be conducted and the procedures will be posted in classrooms and labs. These procedures will include the routes of egress from the laboratory procedures by which to notify appropriate individuals, a method of accounting for staff and students after evacuation. Each classroom and lab must post instructions on how to call for emergency services by calling the office or 9-1-1. Staff and students will not re-enter the building until directed to do so by emergency response authorities. (Fire Department)

### **10.2 Specific Emergency Response Procedures**

When helping another person, employees should evaluate the potential danger to themselves before taking action. Do not move any injured persons unless they are in immediate danger from chemical exposure or fire. Call the main office or 9-1-1 if



necessary and report the nature and location of the emergency. The chemical hygiene officer must be notified as soon as possible.

The employee should follow the facility's emergency response procedures. These procedures have been established, documented, and practiced.

### **10.3 First Aid**

Suitable first aid equipment should be available in the laboratory area, including a blanket, a general first aid kit, and small bandages for minor cuts and abrasions. The school should have personnel trained in first aid available during working hours to render assistance until medical help can be obtained. Personal injury beyond the purely superficial requires professional medical treatment. Additional information may be obtained from the district health services director, or the Red Cross—references in Appendix G.

### **10.4 Emergency Equipment**

The school and district chemical hygiene officers should ensure that adequate emergency equipment is available in the laboratory and inspected periodically to ensure that it is functioning properly. All personnel should be properly trained in the use of each item. It is recommended that students also be trained to use the fire blanket, eye wash fountain, safety drench shower, and telephone for safety purposes.

Equipment items that should be available in the laboratory include:

- Eye wash fountain.
- Fire extinguisher of an appropriate type.
- Safety drench shower.
- Telephone, with access to an outside line, for emergency response.
- Fire blanket
- Identification signs.

Refer to the Safety Inspection Report in Appendix E.

### **10.5 Fire Prevention**

The best way to fight a fire is to prevent it. Fires can be prevented or their severity considerably reduced by proper housekeeping and by thoughtful reflection about what is being done. This includes the prompt removal of waste, separation of flammable liquids from combustible material, storage of only limited quantities of flammable material, and the maintenance of unobstructed aisles and exits.

### **10.6 Dealing with a Fire**

In preparation for dealing with a fire, a copy of the current chemical inventory list should be available outside the work area. Laboratories should be posted with the National Fire Protection Association (NFPA) diamond, which provides much emergency information. The information on the NFPA warning must be current. Since fires involving laboratory chemicals increase the possibility of explosions, special care should be taken to keep fire or excessive heat from volatile solvents, compressed gas cylinders, reactive metals, and explosive compounds.

If a fire occurs, the following actions should be followed, depending on its severity:

- A fire contained in a small vessel should be suffocated by covering the vessel. The vessel should not be picked up, nor covered with dry towels or cloths.
- Nearby flammable materials should be removed to avoid spread of the fire.
- If a fire burns over a larger area, all persons should evacuate the area.
- Only trained people should use the fire extinguisher, and only from a position from which escape is possible. Stairs, not elevators, should be used to leave the area of the fire.
- The fire alarm should be activated and the main office and 9-1-1 called.
- Firefighters should be informed of what chemicals are directly involved and a copy of the chemical storage list must be available if requested.

All extinguishers that were used should be recharged or replaced with full extinguishers.

### **10.7 Personal Injuries Involving Fires**

Persons whose clothing is ablaze should STOP-DROP-and-ROLL. If a safety shower is immediately available, the individual may be doused with water. Once the fire is out, the individual should be wrapped to avoid shock and exposure. The individual should be kept warm, and medical attention must be promptly sought.

If a fire blanket is available, it should be used to smother the fire. The person should not be wrapped to avoid the chimney effect with the fire blanket.

### **10.8 Chemical Spills on Personnel**

For spills covering small amounts of skin, the area will be washed immediately with flowing water for 15 minutes. To facilitate cleaning, jewelry should be removed. Medical attention will be obtained by calling the main office and 9-1-1. The SDS should be consulted to determine if any delayed effects should be expected. Depending on the information from the SDS, follow-up medical attention may be necessary.

For larger spills, the same procedures apply, except that it may be appropriate to use the safety drench shower to assure thorough and complete washing. It may be necessary to use a shower away from the immediate spill area, due to potential airborne or contact exposure to others.

Clothing and shoes, as well as jewelry should be removed as quickly as possible to facilitate washing. The safety drench shower should be used for 15 minutes or until an EMT arrives and any affected skin should be thoroughly flooded for 15 minutes. The washing should be resumed if pain continues. No creams, salves, or lotions should be placed on the affected area, and medical attention should be sought as soon as possible.

Special care should be taken to prevent chemicals from entering the eyes. Contaminated clothes should be washed separately from other personal clothing.

### **10.9 Splashes in the Eyes**

Whenever potentially harmful chemicals enter the eye(s), 9-1-1 should be called and the eye(s) should be immediately flushed with tempered potable water from a gently flowing source for at least 15 minutes or until an EMT arrives. The eyelids should be held away from the eyeball, while the eyeball is moved up, down and sideways to wash behind the eyelid(s). Assistance is absolutely necessary at this time. If contact lenses are worn, they should be removed as soon as possible to allow complete rinsing of the eye(s). Procedures need to include how to contain water from showers in the absence of direct drainage at the shower and eyewash station.

### **10.10 Dealing with Medical Help**

Medical personnel will be provided with information about the chemical involved in the spill and the circumstances of the spill. Whenever possible a safety data sheet will be provided to the medical person providing assistance.

### **10.11 Other Accidents Involving Personal Injury**

Anyone overcome with smoke or fumes will be removed to uncontaminated air and treated for shock. Potential rescuers should evaluate the possibility of harm to themselves before entering or remaining in a toxic environment.

If hazardous chemicals are ingested, the first aid treatment shown on the label or in the safety data sheet should be undertaken.

If an injured person is not breathing, the rescuer should initiate CPR.

Compressing the wound with a clean cloth or other appropriate compress should control bleeding. However, because of the possibility of infection with one or more bloodborne pathogens, personal protection should be used. The injury should be elevated above the level of the heart. After bleeding is controlled, the injured person should be covered to avoid shock. Medical attention must be summoned as soon as possible.

If a person is in contact with a live electrical circuit, the power should be shut off at the most convenient switch or breaker panel. The person should not be touched until the power has been disconnected.

### **10.12 General Chemical Spills**

School Chemical Hygiene Officers, supported by the district chemical hygiene officer, will develop specific response procedures and ensure that spill response resources are available. Spill response procedures will be posted in classrooms, labs and storage areas. Containment of spilled chemicals minimizes the danger and facilitates clean up. Absorbent materials must be included in spill response kits. After the spill has been contained, it must be cleaned up with appropriate tools, including commercial spill control kits. If the spilled material is a hazardous chemical, that chemical and all the cleanup material must be treated as chemical waste and properly disposed.

### **10.13 Accident Reports**

All accidents and near accidents should be carefully investigated. The results of that investigation and recommendations for the prevention of similar occurrences should be forwarded to the principal and the district chemical hygiene officer. Accident reports should be kept on file, as indicated in the record-keeping section of this document.

## **SPILL RESPONSE PROCEDURES**

### **11.1 Personal Injury**

In the event of a spill, the first response should be to determine if anyone has come in contact with the spilled chemical. All persons who have been splashed should be assisted to the deluge shower. A minimum 15-minute rinse is indicated. Remember if clothing is splashed, it must all be removed, since the rinse is designed to remove chemicals only from the skin. Any suggestion of splash in the eyes requires a 15-minute rinse at the eyewash. Hold the eyelids open and allow the water to rinse the eye surface. If contact lenses are worn, they should be removed as soon as possible to allow a complete rinsing of the eye.

### **11.2 Identification of the Spill**

If the spill appears to be organic solvents, ammonia, or other volatile reagents, evacuate the area as soon as possible. Initiate fire/exit drill procedures and ventilate the area. Be aware of the possibility of sparks from electrical switches, open flames, or other sources of ignition. The school chemical hygiene officer will be contacted to determine if the size and type of spill will require outside assistance prior to beginning clean-up activities.

### **11.3 Containment of the Spill**

If there is no immediate danger to personnel, containment should be accomplished by use of spill pillows, towels, rolls, or other devices that will keep it from spreading.

If practical, a dam to contain the spill may be formed using coarse vermiculite, kitty litter, or another absorbent material.

Another inexpensive absorbent can be made from a mixture of sand and sodium carbonate. This is particularly effective with corrosives because the soda will neutralize acids, and the sand improves the footing and minimizes the possibility of slipping and falling into the spill. The use of sodium bicarbonate is also effective, and it will neutralize caustic spills.

### **11.4 Cleanup**

If hazardous vapors are suspected, the building must be evacuated and re-entry prevented. Only emergency response (Fire) may authorize re-entry.

Cleanup can proceed once the area is vented and the spill is contained. A mop, shovels, scoops, and buckets can be used in the usual manner.

Once the spill is thoroughly absorbed, the waste should be collected in heavy plastic bags, clearly labeled, and isolated for disposal.

After all hazardous material has been removed; cleanup can be completed using standard custodial cleaning procedures.

### **11.5 Protective Equipment**

Minimum protective equipment to be used in the cleanup process includes chemical splash goggles, face shields, gloves appropriate to the chemical, coveralls or aprons or lab coats, and either rubber boots or plastic over-the-shoe protectors.

In no case should someone not HAZWOPER trained undertake the cleanup of a major spill. No one employee will work on clean up activities alone. The buddy system is essential to protect the workers. Further, the cleanup team may not begin work prior to consulting with the chemical hygiene officer or other appropriate emergency response authorities.

### **11.6 Training Requirements**

The district chemical hygiene officer will facilitate employee spill response training, including a determination of the need for both school clean-up teams and an additional district team.

To undertake the cleanup of a major or extremely hazardous spill, all responders must have Hazardous Waste Operations and Emergency Response (HAZWOPER) training. This training is available at various levels:

#### **11.6.1 First Responder at the Awareness Level (Level 1)**

The "First Responder at the Awareness Level" must understand the nature of hazardous materials and the associated risks, recognize the presence of hazardous materials in an emergency, and understand the first responder's role in the school's emergency response plan, which is to determine risk, assist injured, evacuate, and call for assistance.

#### **11.6.2 First Responder at the Operating Level (Level 2)**

The "First Responder at the Operating Level" will know the basic hazard and risk assessment techniques and terms, will select and use proper personal protective equipment, will perform basic control, containment, and/or confinement operations using the capabilities available within the school, will implement basic decontamination procedures, and will understand the relevant standard operating procedures and termination procedures. The chemical hygiene officer will serve as the on-scene-incident commander for a second-level response, and a trained cleanup team will carry out the cleanup. The chemical hygiene officer will determine if additional assistance is required.

#### **11.6.3 HAZWOPER Third and Fourth Level Response**

"HAZWOPER Third and Fourth Level Response" requires a trained HAZMAT team, i.e., the fire department.

### **11.7 Disposal**

If the spilled material was a hazardous chemical, all of the materials involved in the cleanup will usually be considered hazardous waste and must be disposed of as such. In those few instances in which the cleanup transformed the material to a

non-hazardous form, the cleanup residue may be disposed of in a local sanitary landfill. Check with local landfill authorities before attempting to do this.

### **11.8 Record-Keeping**

Complete records of the incident, including injuries, witnesses, response and cleanup procedures, waste disposal, additional assistance, and final evaluation will be collected by the School and district chemical hygiene officers. Documentation will be provided to the risk management office for further action and record retention.

**Reminder:** All spills, accidents and near misses will be reported to the school and district chemical hygiene officers.

## **LABORATORY SAFETY EQUIPMENT RECOMMENDATIONS**

### **Personal Clothing and Equipment**

### **Recommendations**

Aprons, rubber or plastic

Extends to or below the knees.

Gloves

The material from which the glove is made must be carefully chosen so that the glove is not permeable to the liquids or vapors anticipated for the experiment.

Chemical splash goggles

Meets ANSI Standard Z87.1 for chemical splash proof goggles.  
Indirect ventilation

Face shield

Used with goggles.

Laboratory coat

Tyvek or Dacron and cotton or cotton; has long sleeves; has Velcro or snap fasteners. Extends to or below the knees.

Drench shower

Ceiling and wall-mounted showers operated by chain pull valves.  
Required to deliver tepid, potable water for at least 15 minutes without need to hold valve.

Fire blanket, wool

Most useful to keep a victim warm while waiting for medical attention. A blanket should be available but not on a roller. The purpose of the fire blanket is to cover the victim, not encircle.

Fire blanket, wool

Wrapping a burning victim may cause additional burns to neck and face due to the chimney effect.

Fire extinguisher

Should be suitable for Class A, B & C fires.

First aid kit

Any good, general-purpose first aid kit is suitable.

Flammable storage cabinet

May be made of wood or metal. Should be vented directly to the outside. Check local fire Codes. Self closing door is required.

Fume Hood	Should have a face velocity of 60-100 linear feet per minute. Should be vented to the outside. May have a vertical or horizontal sash. Should be kept clean and uncluttered.
Safety cans	Some occasions demand the volatile, flammable or combustible solvents be stored in safety cans. Each can should have a flame arrestor in good working order. Check Local fire codes and NFPA standards 30 and 45.
Signs	Signs are required for designating the location of safety equipment, means of ingress and egress, etc. Signs will be chosen to conform with state guidelines and recommendations.
Smoke alarm	Check local fire codes.
Spills – acid	Best treated with sodium bicarbonate, which may be mixed with kitty litter and/or sand.
Spills – base	Best treated with sodium bisulfate, which may be mixed with kitty litter and/or sand.
Spills – halogen	Best treated with sodium thiosulfate, which may be mixed with kitty litter and/or sand.
Spills protection in the laboratory	A general-purpose adsorbent, such as a mixture of kitty litter, sand, and vermiculite is suitable for containing many chemical spills.



## SAFETY EQUIPMENT INSPECTION REPORT

Facility Inspected: \_\_\_\_\_ Date: \_\_\_\_\_

LAB AREA	YES	NO
<b>A. Evacuation Plan Posted?</b>		
<b>B. General Housekeeping (Comments):</b>		
1. Equipment will be tagged following the inspection, showing the date, inspection, and results.		
2. General Housekeeping Satisfactory?		
<b>C. Storage Area (Comments):</b>		
1. Flammable storage cabinet vented to outside?		
2. General shelving incorporates ¾ inch lip to prevent spillage in the event of earthquake or other shaking event?		
3. No Chemicals stored above eye level (except those in a secure cabinet with a door)?		
4. Shelves secured to walls?		
5. Storages Areas Satisfactory?		
<b>D. Fume hoods (Comments):</b>		
1. Vertical or horizontal sash?		
2. Clean and uncluttered?		
3. Face velocity of 60-100LFPM?		
4. Vented to facility exterior and chemicals not stored in hood"		
5. Date of last inspection:		
6. Fume Hoods Satisfactory?		
<b>E. Moveable Furniture (Comments):</b>		
1. Moveable Furniture Satisfactory?		

<b>SAFETY EQUIPMENT AND PERSONAL PROTECTION</b>	<b>YES</b>	<b>NO</b>
<b>A. Chemical Splash Goggles (Comments):</b>		
1. Every goggle sanitizer UV bulb and timer operating properly?		
2. Chemical Splash Boggles Satisfactory”		
<b>B. Face Shields (Comments):</b>		
1. Face Shields Satisfactory?		
<b>C. Protective Clothing (Aprons, Lab Coats, Gloves, Etc.) (Comments):</b>		
1. Do aprons (rubber or plastic) extend to or below the knees for lab students and instructors?		
2. Adequate number of clean aprons available for all who need them?		
3. Are laboratory coats made of Tyvek or Dacron and cotton or cotton with long sleeves and Velcro or snap fasteners that extend to or below the knees?		
4. Protective Clothing (Aprons, Lab Coats, Gloves, Etc.) Satisfactory?		
<b>D. Fire Extinguishers (Comments):</b>		
List all Extinguishers:		
<div style="display: flex; justify-content: space-between;"> <span>Type</span> <span>Quantity</span> <span>Date of Last Inspection</span> </div>		
1. Suitable for Class A, B, and C fires?		
2. All staff trained in use?		
3. Each fire extinguisher fully charges?		
4. Each extinguisher checked and shaken monthly?		
5. Fire Extinguishers Satisfactory?		

<b>SAFETY EQUIPMENT AND PERSONAL PROTECTION (Continued)</b>	<b>YES</b>	<b>NO</b>
<b>E. Signage (Comments):</b>		
1. Signs are useful for designating the location of safety equipment, means of ingress and egress, etc.?		
2. Signs in conformity with state guidelines and recommendations?		
3. Signage Satisfactory:		
<b>F. Eye Wash Station(s) (Comments):</b>		
1. Delivers tepid, potable water to both eyes?		
2. Provides steady, gentle flow for a minimum of 15 minutes without need to hold valve?		
3. Tested monthly to assure proper working conditions?		
4. Date last tested:		
5. Path to station is free of obstruction?		
6. Eye Wash Station(s) Satisfactory/		
<b>G. Safety shower (Comments):</b>		
1. Mounted on wall or ceiling and operated by chain pull valve?		
2. Delivers tepid, potable water for at least 15 minutes without the need to hold the valve"		
3. Tested monthly to assure proper working condition?		
4. Date last tested:		
5. Safety Shower Satisfactory/		
<b>H. Fire Blanket(s) (Comments):</b>		
1. Wool blanket in good, clean condition?		
2. Storage allows for unobstructed access to blanket?		
3. For B;amlets Satisfactory?		

<b>SAFETY EQUIPMENT AND PERSONAL PROTECTION (Continued)</b>	<b>YES</b>	<b>NO</b>
<b>I. First Aid Kit(s) (Comments):</b>		
1. Kits clearly marked and easily accessible?		
2. Kit is in good condition containing general-purpose first aid materials?		
3. First Aid Kit(s) satisfactory?		
<b>UTILITIES</b>		
A. Electrical Outlets Satisfactory?		
B. Cords Satisfactory?		
C. Breaker Box/master Cut-Off(s) Satisfactory?		
D. Emergency Lighting Satisfactory?		
E. Water and Drains Satisfactory?		
F. Telephone Access/Intercom Satisfactory?		
G. Tagout/Lockout Cards/Cords Satisfactory?		
H. Smoke Alarm(s) Satisfactory?		
<b>CHEMICAL STORAGE</b>		
A. Inventory list posted?		
1. Last Updated:		
B. Safety Data Sheets Posted?		
1. Last Updated:		
C. Compressed Gas Cylinders <b>(Comments):</b>		
1. Securely fastened to wall?		
2. Pressure gauges unobstructed and readable?		
3. Properly placarded?		
4. All cylinders used with a correct regulator?		
5. All cylinders fitted with deliver tubes that do not leak and which are tightly fastened to the cylinder?		
6. A cylinder should be considered to be empty when there is still a slight positive pressure.		
7. Compressed Gas Cylinders Satisfactory?		
D. Security <b>(Comments):</b>		
1. Security Satisfactory?		
E. Appropriate Organization <b>(Comments):</b>		
1. Appropriate Organization Satisfactory?		

<b>CHEMICAL STORAGE (CONTINUED)</b>	<b>YES</b>	<b>NO</b>
<b>F. Labeling (Comments):</b>		
1. Labeling Satisfactory?		
<b>G. General housekeeping (Comments):</b>		
1. General housekeeping Satisfactory?		
<b>H. Hazardous Waste Storage (Comments):</b>		
1. Hazardous Waste Storage Satisfactory?		
<b>I. Laboratory Spill Protection (Comments):</b>		
1. Is a general-purpose absorbent, such as a mixture of kitty litter, sand, and vermiculite available and clearly marked for containing chemical spills?		
2. Is sodium bicarbonate available and clearly marked for acid spills?		
3. Is sodium bisulfate (mixed with kitty litter and/or sand) available for base spills?		
4. Is sodium thrisulfate available for halogen spills?		
5. Laboratory Spill Protection Satisfactory?		

**Person Performing Inspection:** \_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name
Date

**Chemical Hygiene Officer:** \_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name
Date

**Principal:** \_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name
Date

**RECORD OF CHEMICAL TRAINING**

Employee Name: \_\_\_\_\_ District ID # \_\_\_\_\_

Job Assignment: \_\_\_\_\_ Job Location: \_\_\_\_\_

The above-named employee has received training, as specified in the applicable Chemical Hygiene Plan, in the following areas:

<u>Training Topic</u>	<u>Date</u>	<u>Location</u>	<u>Trainer's Name/initials</u>
Federal & state chemical hygiene standards	_____	_____	_____
Location/content of the District Chemical Hygiene Plan	_____	_____	_____
Hazards of chemical in the workplace	_____	_____	_____
Proper procedures of requesting authorization to obtain and use chemicals considered too hazardous for general school laboratories	_____	_____	_____
Labeling and storing practices and information to interpret labels	_____	_____	_____
Location and content of SDS's	_____	_____	_____
Location of safety references	_____	_____	_____
Location and proper use of protective apparel and equipment	_____	_____	_____
Appropriate first aid techniques	_____	_____	_____
Procedures for responding to chemical exposures	_____	_____	_____
Procedures for reporting accidents	_____	_____	_____
Detecting presence of release of hazardous chemicals	_____	_____	_____
Proper operation of fire extinguisher	_____	_____	_____

## OUTDOOR HEAT EXPOSURE PREVENTION PLAN

**Purpose:** The purpose of this program is to ensure compliance with the Outdoor Heat Exposure rule, WAC 296-62-095, for employees who are exposed to temperatures at or above Table 1 of the regulation. Employees with only incidental exposure as defined in the rule are not covered.

**Scope:** The following requirements are only in effect during the months of May through September each year for the following job categories or positions having outdoor heat exposure:

*(List job categories that may have outdoor exposures greater than incidental exposures.)*

**[Note:** There are WAC rules that address drinking water, first aid, accident prevention programs and training requirements for other months of the year and for employees who are not at the action temperatures May through September.]

### **Training**

Each year prior to the month of May, all employees working in the categories listed above will be provided training on signs and symptoms of outdoor heat exposure and on the company policies to prevent heat-related illness. Additional training will be scheduled for a make-up class as needed. When new employees are hired during the summer months, training will be provided prior to the new employee working in the outdoor environment.

**Employee Training Content:** Training on the following topics will be provided to all employees who may be exposed to outdoor heat at or above the temperatures listed in WAC 296-62-09510(2) Table 1:

- (a) The environmental factors that contribute to the risk of heat-related illness;
- (b) General awareness of personal factors that may increase susceptibility to heat-related illness including, but not limited to, an individual's age, degree of acclimatization, medical conditions, drinking water consumption, alcohol use, caffeine use, nicotine use, and use of medications that affect the body's responses to heat. This information is for the employee's personal use;
- (c) The importance of removing heat-retaining personal protective equipment such as non-breathable chemical resistant clothing during all breaks;
- (d) The importance of frequent consumption of small quantities of drinking water or other acceptable beverages;
- (e) The importance of acclimatization;
- (f) The different types of heat-related illness, the common signs and symptoms of heat-related illness; and

- (g) The importance of immediately reporting signs or symptoms of heat-related illness in either themselves or in co-workers to the person in charge and the procedures the employee must follow including appropriate emergency response procedures.

**Supervisor Training Content:** Prior to supervising employees working in outdoor environments with heat exposure at or above the temperature levels listed in WAC 296-62-09510(2) Table 1, supervisors will be given training on the following topics:

- (a) The information required to be provided to employees listed in subsection (1) of this section;
- (b) The procedures the supervisor must follow to implement the applicable provisions of WAC 296-62-095 through 296-62-09560;
- (c) The procedures the supervisor must follow if an employee exhibits signs or symptoms consistent with possible heat-related illness, including appropriate emergency response procedures; and
- (d) Procedures for moving or transporting an employee(s) to a place where the employee(s) can be reached by an emergency medical service provider, if necessary.

### **Drinking Water**

On days when the temperature is at or above those listed in Table 1 of the regulation, employees will be provided a sufficient quantity of drinking water which is readily accessible at their work location. The water quantity will be sufficient to allow each employee to drink at least a quart or more of water each hour.

**[Note:** Drinking water packaged as a consumer product and electrolyte-replenishing beverages such as sports drinks that do not contain caffeine are acceptable.]

As the temperature increases through the day, additional water will be made available or replaced. It is the responsibility of this employer to ensure that the supply of available drinking water does not run out.

**[Note:** employers may want to include their procedures for providing and replenishing water supplies.]

### **Responding to Signs and Symptoms**

Time is critical when people are experiencing heat stress/heat stroke. The quicker any employee experiencing symptoms can be removed from the heat and cooled down, the better the chances are for a full recovery. On days when the temperatures will be at or above those listed in Table 1 of the regulation, the company will:

(List practices or procedures adopted to reduce heat exposure or which will be used to help cool affected individuals. Also, describe method to be used for accessing emergency medical services.).

Never leave an employee who is experiencing heat-related problems by themselves; if they do not respond quickly to cooling attempts, immediately call emergency medical services. If a co-worker is experiencing difficulty, do not hesitate to bring it to the attention of the supervisor or lead worker.



## FORMS

### JOB SAFETY ANALYSIS-“sample”

<b>DATE:</b>	<b>JOB:</b>  Vertical Lathe Operation	<b>ANALYSIS BY:</b>
<b>JOB SAFETY ANALYSIS</b>	<b>TITLE OF OPERATOR</b>  Lathe Machinist	<b>REVIEWED BY:</b>
<b>DEPARTMENT</b>	<b>SECTION/UNIT in DEPARTMENT:</b>	<b>APPROVED BY:</b>
<b>REQUIRED OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT:</b> Safety glasses, hand and foot protection		
<b>SEQUENCE OF BASIC JOB STEPS</b>	<b>POTENTIAL ACCIDENTS OR HAZARDS</b>	<b>RECOMMENDED SAFE JOB PROCEDURE</b>
1. Place Raw Stock Blank In Lathe Chuck	1. Sharp edges of stock blank  2. Stock and lathe  3. Lifting raw stock blank  4. Moving parts while rotating blank	1. Wear gloves or protect against sharp edges as required when handling raw stock.  2. Watch position of hands, arms and body to keep clear of pinch point.  3. Use proper lifting procedures. Get help if blank is too large for one worker.  4. Keep hands clear when rotating chuck to position part. Use jogging control to slow speed. Wear short sleeves. Do not wear gloves or rings.  5. Wear foot protection.
2. Fabricate and/or Install Template On Stylus Platen	1. Slips on oily surface at same or different level. Climbing for access to elevated controls of equipment	1. Wipe up oil spills. Apply non-skid material to elevated steps. Use work platform engineered for job, including handrail protection.
3. Select And Install Tool Cutter	1. Falling objects, oily surfaces  2. Sharp tools	1. Keep parts free of oil when handling. Wear foot protection.  2. Be aware of handling sharp objects.
4. Select Machine Mode	1. Electrical controls	1. Be sure machine is properly grounded and all electrical controls are in good repair.
5. Machine Part	1. Metal particles	1. Wear eye protection.
6. Remove Turnings And Chips As Machining Progresses	1. Turnings and chips  2. Turnings	1. Wear eye protection. Use correct tools to clean turnings from table.  2. Break turnings before they become unwieldy. Do not wear long sleeve work clothes.

## JOB SAFETY ANALYSIS

<b>DATE:</b>	<b>JOB:</b>	<b>ANALYSIS BY:</b>
<b>JOB SAFETY ANALYSIS:</b>	<b>TITLE OF OPERATOR:</b>	<b>REVIEWED BY:</b>
<b>DEPARTMENT:</b>	<b>SECTION/UNIT inc. DEPARTMENT:</b>	<b>APPROVED BY:</b>
<b>REQUIRED OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT:</b>		
<b>SEQUENCE OF BASIC JOB STEPS</b>	<b>POTENTIAL ACCIDENTS OR HAZARDS</b>	<b>RECOMMENDED SAFE JOB PROCEDURES</b>

## Accident Prevention Program

### ORIENTATION/JOB SAFETY CHECK LIST-"sample"

Employee's Name _____	Employee's Assignment _____
Supervisor's Name _____	Location _____
Status (Circle One):    New Employee	Transfer                      Rehire

Subject	Employee's Initials	Supervisor's Initials
1. Purpose of Orientation		
2. District Policy		
3. Accident (Injury) Reporting/Investigation		
4. First Aid Requirements		
5. Safety Committee		
6. Emergency Actions		
7. Hazard Reporting		
8. Hazardous Communication Program		
9. Lockout/Tagout Program		
10. Personal Protective Equipment		
11. Safety Rules		
12. Operation of Machinery		
13. Safety Bulletin Boards		
14. Responsibilities		

#### List machinery employee is authorized to operate:

Item	Employee's Initials	Supervisor's Initials

#### Personal Protective Equipment:

Item	√ If Issued	√ If Available In Work Location	Employee's Initials	Supervisor's Initials

**I have instructed the employee on the items initialed above and believe he/she can perform assigned duties in a safe manner.**

\_\_\_\_\_  
Date                                      Supervisor's Signature

**I have received orientation on the items initialed above.**

**I have received training on and understand the items initialed above.**

\_\_\_\_\_  
Date                                      Employee's Signature

Supervisor, make a copy of this form and retain with your files, return original to personnel for entry into employee's file.

## RECORD OF HAZARD OBSERVED-“sample”

Reported By: (Optional) \_\_\_\_\_ Date: \_\_\_\_\_

Reported To: \_\_\_\_\_ Date: \_\_\_\_\_

Nature of Hazard: (Describe-Act, Equipment Situation, etc.)

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Location of Hazard: (Be specific, i.e., custodial closet, West Wing, XYZ Elementary School)

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Action Taken: (By Supervisor)

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Signature \_\_\_\_\_ Date \_\_\_\_\_

**Forward to Safety Committee for review:**

Safety Committee Review \_\_\_\_\_ Date \_\_\_\_\_

Safety Committee Chairperson \_\_\_\_\_ Date \_\_\_\_\_

# Safety Committee Meeting Minutes-“sample”

School District \_\_\_\_\_

Meeting Date	School Building	Chairperson

Elected Employee Members Present	Appointed Management Members Present	Members Absent

(Use additional pages if necessary to describe events fully)

1. Read, approve, and correct minutes from the previous meeting.
  
2. Old business (progress report on items and/or uncorrected hazards from previous meetings.)
  
3. New business (assign someone to research and follow-up, on each hazard and/or item listed.)

(continued on back)

4. Review accident and inspection records and reported hazards.
5. Other business, including student and visitor safety issues (describe.)
6. Items referred to Safety Director/Management with recommendations.
7. Comments on the overall effectiveness of the school district's safety program.

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## REPORT OF ACCIDENT/INCIDENT-“sample”

DISTRICT\_\_\_\_\_SCHOOL\_\_\_\_\_

NAME OF EMPLOYEE\_\_\_\_\_

DATE OF ACCIDENT\_\_\_\_\_TIME OF ACCIDENT\_\_\_\_\_

WHEN REPORTED\_\_\_\_\_

JOB POSITION\_\_\_\_\_DATE OF HIRE\_\_\_\_\_

HOURS USUALLY WORKED PER DAY\_\_\_\_\_PER WEEK\_\_\_\_\_

SPECIFIC BODY PART INJURED\_\_\_\_\_

TYPE OF INJURY (Puncture, sprain, etc.)\_\_\_\_\_

WAS FIRST AID REQUIRED? Y\_\_\_\_N\_\_\_\_

LOST TIME INVOLVED? Y\_\_\_\_N\_\_\_\_

PROPERTY DAMAGE INVOLVED? Y\_\_\_\_N\_\_\_\_ DESCRIBE\_\_\_\_\_

HOW DID ACCIDENT OCCUR? (Object, activity or substance involved?)

\_\_\_\_\_

\_\_\_\_\_

WAS PERSONAL PROTECTIVE EQUIPMENT NEEDED? Y\_\_\_\_N\_\_\_\_ USED? Y\_\_\_\_N\_\_\_\_

IN YOUR OPINION, HOW COULD THIS ACCIDENT HAVE BEEN PREVENTED?

\_\_\_\_\_

\_\_\_\_\_

WHAT UNSAFE CONDITIONS CONTRIBUTED TO THE ACCIDENT?\_\_\_\_\_

\_\_\_\_\_

HAD THIS CONDITION BEEN REPORTED PREVIOUSLY? Y\_\_\_\_N\_\_\_\_NOT SURE\_\_\_\_

IF SO, TO WHOM?\_\_\_\_\_

CORRECTIVE ACTION TO BE TAKEN FOR UNSAFE CONDITION:\_\_\_\_\_

\_\_\_\_\_

WITNESSES? Y\_\_\_\_N\_\_\_\_NAMES\_\_\_\_\_

WITNESS STATEMENT:\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature of Employee\_\_\_\_\_Date\_\_\_\_\_

**\*To be completed within 24 hours and routed to the immediate supervisor  
and District Safety Committee**

**SUPERVISOR'S REPORT OF INVESTIGATION-“sample”**

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## Accident Prevention Program

**SCHOOL DISTRICT** \_\_\_\_\_ **School** \_\_\_\_\_

**WHO**

Person injured/ill \_\_\_\_\_  
Address \_\_\_\_\_ Telephone No. \_\_\_\_\_  
Social Security No. \_\_\_\_\_ Marital Status \_\_\_\_\_ Number of Dependent Children \_\_\_\_\_  
Occupation \_\_\_\_\_ Immediate Supervisor \_\_\_\_\_  
Witnesses \_\_\_\_\_  
Was the injury or exposure caused by someone other than an employee of the district? Y \_\_\_\_\_ N \_\_\_\_\_  
Please identify \_\_\_\_\_

**WHERE**

Exact Location of Incident \_\_\_\_\_  
\_\_\_\_\_

**WHEN**

Time/Date of Incident or Exposure \_\_\_\_\_ Date Investigated \_\_\_\_\_  
Time/Date Reported \_\_\_\_\_ To Whom? \_\_\_\_\_  
Last Day Worked \_\_\_\_\_ Date expected to return to work \_\_\_\_\_

**WHAT**

Describe the event(s) leading up to the incident \_\_\_\_\_  
\_\_\_\_\_  
Describe the type of injury/illness and body parts affected \_\_\_\_\_  
\_\_\_\_\_  
Describe the object/exposure or activity that inflicted injury, illness or damage \_\_\_\_\_  
\_\_\_\_\_  
Describe any personal protective equipment required \_\_\_\_\_ Used? Y\_N \_\_\_\_\_  
Describe any property damage \_\_\_\_\_

**WHY**

(Use guide to identify)

Direct causes \_\_\_\_\_  
Indirect causes \_\_\_\_\_  
Basic causes \_\_\_\_\_  
Explain why causes exist \_\_\_\_\_  
Had this condition/procedure been reported previously? Y \_\_\_\_\_ N \_\_\_\_\_ Not Sure \_\_\_\_\_  
When? \_\_\_\_\_ To Whom? \_\_\_\_\_

**HOW**

Explain action you have taken or recommended to prevent recurrence \_\_\_\_\_  
\_\_\_\_\_  
Identify other departments that may benefit from similar corrective actions \_\_\_\_\_  
\_\_\_\_\_

**SIGN AND DATE**

Immediate Administrator/Supervisor \_\_\_\_\_ Date \_\_\_\_\_  
Employee Representative \_\_\_\_\_ Date \_\_\_\_\_  
Claims Manager \_\_\_\_\_ Date \_\_\_\_\_  
Superintendent \_\_\_\_\_ Date \_\_\_\_\_

White: District Claims Liaison

Yellow: Safety Committee

Pink: Puget Sound Workers' Compensation Trust



## ACCIDENT CAUSATION GUIDE

### DIRECT CAUSES OF ACCIDENTS

#### Energy Sources

1. Mechanical:  
machinery, compressed gases, moving objects, tools  
explosives, strain (self)
2. Electrical:  
uninsulated conductors, high voltage sources
3. Chemical:  
acids, fuels, bases, reactive materials
4. Thermal
5. Radiation:  
noise, x-rays, lasers, microwave, radioactive  
materials

#### Hazardous Materials

1. Compressed or liquefied gases:  
flames, hot surfaces
2. Corrosive material
3. Flammable material:  
solid, liquid, gas
4. Oxidizing material
5. Poison
6. Radioactive material
7. Etiological agent
8. Dust
9. Explosives

### INDIRECT CAUSES OF ACCIDENTS

#### Unsafe Acts

1. Failing to use personal protective equipment
2. Failing to warn co-workers or to secure equipment
3. Engaging in horseplay
4. Lifting improperly
5. Loading or placing equipment or supplies  
improperly
6. Rendering safety devices inoperable
7. Operating equipment at improper speeds
8. Operating equipment without authority
9. Servicing equipment in motion
10. Improper work position
11. Using alcoholic beverages
12. Using drugs
13. Using defective equipment
14. Using equipment improperly

#### Unsafe Conditions

1. Congestion of workplace
2. Defective tools, equipment, or supplies
3. Excessive noise
4. Fire and explosion hazards
5. Hazardous atmospheric conditions:  
gases, dusts, fumes, vapors
6. Inadequate supports or guards
7. Inadequate warning system
8. Poor housekeeping
9. Poor illumination
10. Poor ventilation
11. Radiation exposure

### BASIC CAUSES OF ACCIDENTS

#### Management Safety Policies and Decisions

1. Health and safety policy is not:  
in writing, reviewed periodically; signed by top  
management; distributed to each employee
2. Health and Safety procedures do not provide for:  
a written manual; accident investigation  
safety meetings; job safety analysis;  
adequate housekeeping; medical surveillance;  
preventive maintenance; reports; safety inspections
3. Health and safety not considered in procurement of:  
supplies; equipment; services
4. Inadequate personnel practices regarding:  
employee selection; communication; training;  
assigned responsibility; assignment;  
accountability; job observation

#### Personal Factors

1. Behavior factors:  
frequent accidents; risk taking; lack of hazard  
awareness
2. Experience factors:  
insufficient knowledge; accident record  
inadequate skills; unsafe practices
3. Physical factors:  
size; strength; stamina
4. Mental factors:  
emotional; alcoholism; depression; drug use
5. Motivational factors:  
needs; capabilities
6. Attitude factors:  
people; company; job

#### Environmental Factors

1. Unsafe facility designs:  
mechanical layout; access ways; electrical systems  
material handling; hydraulic systems; illumination  
air conditioning; noise
2. Unsafe operating procedures
3. Unsafe projections:  
physical plant; equipment; procedures; supplies
4. Unsafe location factors:  
geographic area; surroundings; terrain; weather

## **FALL PROTECTION WORK PLAN**

**Note:** Employees must review the requirements of this fall protection work plan prior to starting work. This plan must be available at the jobsite during work activities. Also, employees must be trained and instructed in accordance with Washington Administrative Code, WAC 296-155-245, and Part C-1. This program involves establishing a fall protection work plan, system, or a combination of prevention and protection measures.

Job Location:

Date:

Description of Work:

1.	Identify all fall hazards (10 ft) or more in the work area:		
	<input type="checkbox"/> Leading edge	<input type="checkbox"/> Stairways	<input type="checkbox"/> Floor openings
	<input type="checkbox"/> Perimeter edge	<input type="checkbox"/> Ladders	
	<input type="checkbox"/> Scaffold erection/disassembly	<input type="checkbox"/> Through a roof	
	<input type="checkbox"/> Other (describe):		
2.	Method of fall protection to be provided:		
	<input type="checkbox"/> Fall Restraint	Type of Harness: Full Body Harness and Lanyard Anchor Point:	
	<input type="checkbox"/> Fall Arrest	Type of Harness: Full Body Harness and Lanyard Anchor Point:	
	<input type="checkbox"/> Safety Warning Line System	Note: Warning line must erected 15 feet back from the unprotected edge. Caution or danger tape is acceptable for a warning line. WISHA will accept it as equivalent to a flagged rope or chain warning line.	
	<input type="checkbox"/> Safety Watch System	Note: Can be used when the employee is conducting any repair work or servicing equipment on a roof that has a pitch no greater than four in twelve. There can only be two people on the roof while the safety watch system is used: The employee acting as the safety watch and the employee engaged in repair work.	

<b>FALL PROTECTION WORK PLAN</b>			
3.	Describe the correct procedure for handling, storage, and securing of tools and material:		
5.	Describe the method for prompt, safe removal of injured workers:		
	<input type="checkbox"/> Initiate emergency response (911)	<input type="checkbox"/> Use drop lines or retraction devices	<input type="checkbox"/> Use ladders
	<input type="checkbox"/> Utilize lift truck or personnel platform	<input type="checkbox"/> Utilize scaffolds	
	<input type="checkbox"/> Other (describe):		
8.	Identify the employees working at/near a "leading edge."		
Fall Protection Plan Completed By:			

## **ABBREVIATIONS**

AHERA-Asbestos Hazard Emergency Response Act

ANSI-American National Standards Institute

ASTM-American Society for Testing and Materials

DOE-Department of Energy

EPA-Environmental Protection Agency

L&I-Department of Labor and Industries

SDS-Safety Data Sheets

OSHA-Occupational Safety and Health Administration

OSPI-Office of Superintendent of Public Instruction

WAC-Washington Administrative Code

WIAA-Washington Interscholastic Athletic Association

WISHA-Washington Industrial Safety and Health Act