

**KING COUNTY**

**ACCIDENT PREVENTION PROGRAM**

**SAFETY POLICIES AND  
PROCEDURES**

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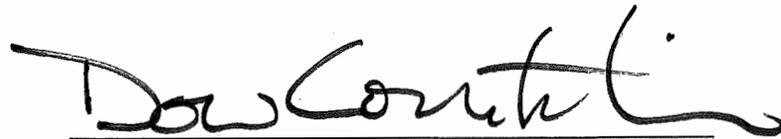
## **KING COUNTY SAFETY POLICY**

King County government is committed to maintaining a healthy, productive work force capable of achieving the level of quality government we desire.

An integral part of this commitment is our Accident Prevention Program of written programs and policies for maintaining a safe and healthful working environment.

No job is so important or urgent that we should not take time to perform it in a safe manner. Accidents resulting in injuries and damage to property and equipment represent needless waste and diminish our ability to work efficiently.

Supervisory planning, including a review of safe work procedures and the provision of protective equipment, will help to ensure a safe work place. I encourage all King County employees to adopt a personal commitment to safety and health in their daily work.

A handwritten signature in black ink, reading "Dow Constantine", written in a cursive style. The signature is positioned above a horizontal line.

Dow Constantine, King County Executive

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# **KING COUNTY ACCIDENT PREVENTION PROGRAM**

## **SAFETY POLICIES AND PROCEDURES**

### **Section 1: INTRODUCTION**

This Accident Prevention Program describes the minimum requirements of King County's health and safety program, and establishes a general framework for your department's program. Each department is responsible for adding specific procedures and requirements, tailored to its work, to this Accident Prevention Program. All King County departments are required to ensure that facilities, equipment, supplies, practices and procedures meet or exceed applicable federal, state and local safety and health standards.

Your supervisor is responsible for implementing proper procedures and enforcing the rules and regulations that pertain to your job. There may be rules or procedures not covered in this document that you are required to follow based on the unique aspects of your work. As a King County employee, you are expected to always follow work rules; work in a safe manner; and report to your supervisor any work practice, procedure or equipment you feel is unsafe.

If a work situation creates a serious risk to you or anyone else, stop work immediately until appropriate safety measures are implemented. Any equipment that is defective must be tagged "Do Not Use" until it is determined to be safe.

There are many hazards or problems that you can identify and correct on the spot. Others can be resolved immediately through your supervisor. Still others can be addressed through your work group's Safety Committee. More complex problems involving policy issues or requiring specific technical expertise may require additional assistance. The services of Certified Industrial Hygienists and/or Certified Safety Professionals are available, at no charge, to every department in King County government through King County's Safety and Claims Management office at 206-477-3350. Some departments have their own safety staff for specific divisions, such as Transit, Wastewater Treatment, and Solid Waste.

King County is committed to providing a safe and healthful workplace for every employee. Most work-related injuries occur as the result of unsafe acts. Each task involves junctures where you must consider your next move, and these decision points often involve choosing between a quick and easy way or a safe way. The choice, and the responsibility for making the right choice, is yours. You can work safely if you consciously choose to do so, and if choosing the safe way becomes a habit.

## **Section 2: NEW EMPLOYEE SAFETY ORIENTATION**

### **INTRODUCTION**

It is up to each of us to create a culture of working safely within King County government. To that end, every new employee must receive a safety orientation. Aside from the fact that a new employee safety orientation is required by law, (WAC 296-800-140), a safety orientation performed by a direct supervisor on an employee's first day of work is an opportunity to get a new employee off on the right-foot and fulfill several additional regulatory requirements.

A New Employee Safety Orientation must be conducted whether the employee is a new hire, a re-hire, or transferred from another job. The orientation should be performed by the employee's immediate supervisor during an initial walk-through of the job, or at least by an authorized lead within the same work group. Even if technical/procedural portions of a new employee orientation are provided by a safety professional or safety trainer, it is important for the direct supervisor to convey that *safety is important to me and it should be important to you.*

Attachments 1 through 4 provide examples of checklists and/or forms that can be used to perform New Employee Safety Orientations. These documents can be modified as appropriate to suit the supervisor's needs. Regardless of the form used, the topics covered and an employee's participation in the safety orientation must be documented, and that documentation must be retained by the employer and available for inspection by the Department of Labor and Industries.

The safety orientation should address all of the talking points listed below, as applicable, and any other information necessary for the new employee to perform his or her job safely. Additional safety training that is beyond the scope of an orientation may be required for certain jobs. See Section 4, Employee Safety Training, for information on training classes offered by Safety and Claims Management.

Office employees are not exempt from a safety orientation. Many of the topics listed below, such as emergency procedures, how and where to get first-aid, how to report a work-related injury, how to report unsafe working conditions and more, apply to all employees and can best be addressed in the context of a New Employee Safety Orientation. Moreover, some of the most serious employee injuries have stemmed from lifting boxes of files, or repetitive stress injuries incurred in an office work environment. A New Employee Safety Orientation is the perfect time and place to discuss safe lifting practices and how to request an ergonomic evaluation. New Employee Safety Orientations apply to everyone!

For further assistance please call Safety and Claims Management at 206-477-3350.

## **NEW EMPLOYEE SAFETY ORIENTATION TALKING POINTS**

- Discuss the department's safety program, health and safety committee, and accident review process.
- Identify Safety Committee representative(s) and the division or department's Safety and Health Professional by name.
- Explain how to report unsafe working conditions and/or work practices. A typically hierarchy is to first notify the direct supervisor, then a safety committee representative and/or the department's Safety and Health Professional (in Safety and Claims Management). If there is a perceived immediate hazard, do not hesitate to contact the Safety and Health Professional directly.
- Explain how to report a work-related injury.
- Describe where and how to get first-aid treatment.
- Discuss applicable safety rules and procedures, and any other task-specific information the employee needs to perform his or her job safely. This includes safe practices for using machinery, equipment, and materials, a review of all known potential hazards, and any required personal protective equipment (PPE).\*
- Demonstrate required personal protective equipment (PPE), if any:
  - Applications (when, where, how to use)
  - Limitations
  - Care and maintenance of PPE
  - Employee demonstration of competence in using required PPE
- Describe the department's Hazard Communication - Globally Harmonized System (GHS) as applicable:
  - Inform employee of existence of the Hazard Communication (GHS) and his or her right to know about chemical hazards
  - Identify hazardous materials used or encountered on the job, and discuss signs and symptoms of over-exposure and related health effects

- Review proper chemical handling procedures and required personal protective equipment (PPE) if any
- Discuss emergency procedures in the event of spills, contact with chemicals, or other incidents
- Show the location of eyewash stations and emergency showers (where applicable), or other emergency equipment
- Review and explain Safety Data Sheets (SDSs), including where they are located
- Describe emergency procedures:
  - Discuss emergency response (fire, earthquake, intruder, bomb threats)
  - Location of the Automated External Defibrillator (AED), who the site coordinator is, and availability of training
  - What to do and where to go in the event of each emergency situation
  - Location of and discussion of how and when to use fire extinguishers
- Highly desirable but not required by law - the supervisor should clearly state his or her personal priorities, expectations, and evaluation criteria, e.g.:
  - Safety is my highest priority. If you ever doubt that, talk to me. It is *my* job to provide you with the training and tools you need to perform *your* job safely. If you do not feel that that is the case, talk to me. If you feel that your working conditions are unsafe, talk to me.
  - I expect everyone to observe the safety procedures and safe work-practices set out in the new employee orientation and all subsequent training. Beyond designated procedures, I expect everyone to take personal responsibility for working and behaving in a safe manner.
  - Your (safety-related) behavior is one of my primary considerations when I evaluate your overall job performance.

## Attachment 1

### NEW EMPLOYEE SAFETY ORIENTATION CHECKLIST

- **Work-related injuries:** How to report a work-related injury or illness
- **First aid:** Location of supplies and who has current First-Aid/CPR certification
- **Employee Safety Committee**
  - Inform employee of existence/purpose of Safety Committee
  - Identify committee representatives and Safety and Health Professional
- **Unsafe working conditions and/or work practices:** How to report unsafe working conditions and/or work practices
- **Hazard Communication Program/Globally Harmonized System (GHS)**
  - Inform of existence and employees rights
  - Review proper handling procedures and any required protection equipment
  - Explain Safety Data Sheets
- **Emergency Procedures**
  - Types of emergencies that may be reasonably anticipated
  - How and who to report an emergency
  - How to evacuate (or not) and where to meet for a head count
- **Fire Extinguishers:** Locations; how and when to use
- **Automated External Defibrillator (AED):** Locations, site coordinator, training availability
- **Safe Lifting.** Discuss proper lifting techniques
- **Ergonomic Evaluations.** Discuss the availability of ergonomic evaluations and how to request one.
- **Safety rules and task specific procedures:** that apply to this employee

Employee's name \_\_\_\_\_

Trainer (Supervisor) \_\_\_\_\_

Date \_\_\_\_\_

**Attachment 2**

**NEW EMPLOYEE SAFETY ORIENTATION**

Employee Name: \_\_\_\_\_

Hire Date: \_\_\_\_\_ Today's Date: \_\_\_\_\_

Job Title: \_\_\_\_\_

Division/Section: \_\_\_\_\_

Work Location: \_\_\_\_\_

Orientation Performed By: \_\_\_\_\_

Job Title/Relationship To Employee: \_\_\_\_\_

**Topics Covered**

- How to report a work-related injury.**

A work related injury or illness should be reported immediately to your supervisor or to \_\_\_\_\_.

- Where/how to get first-aid.**

\_\_\_\_\_  
\_\_\_\_\_

- Discuss the department's safety program, health and safety committee, and accident review process.**
  - **Identify at least one Safety Committee representative and the department's Safety and Health Professional by name.**

\_\_\_\_\_  
\_\_\_\_\_

- How to report unsafe working conditions and/or work practices.**

The preferred method to report unsafe working conditions and/or work practices is through your Department's chain of command starting with your immediate supervisor. If the issue is not addressed in a timely manner it should be reported to your Safety Committee representative and brought before your Safety Committee. If the issue poses an immediate threat and it is not addressed promptly after being reported to your supervisor, it should be reported to the Department Safety and Health Professional identified above.



## Attachment 3

# Safety Orientation

### Emergency Procedures

- Types
  - **Fire**
  - **Earthquake**
  - **Criminal - violence, terrorist**
  - **Contaminants outside building**
    - Chemical release
    - Nearby fire
- Call 911, and if in CH complex 296-5000

### Evacuation

- For Fires
- Multistory County buildings downtown
  - **Security will direct to evacuate**
    - Only certain floors will be evacuated
    - Evacuate if in immediate danger
  - **Outlying buildings**
  - **Detention Centers have own procedures**

### Do Not Evacuate

- Shelter in place
  - **Earthquake**
    - Drop cover and hold
    - Falling building materials inside and out
  - **Outside smoke or chemical releases**

### First Aid

- First aid training
  - **Goal is to train all in trades**
  - **Every other year**
- Kits in shops and vehicles
  - **Make sure they are stocked**

### Automated External Defibrillator (AED)

- Use is voluntary
- Location of nearest AED

- Site coordinator is \_\_\_\_\_
- Training on use is available

### Fire Extinguishers

- Use is voluntary
- Only for small fires, call 911 first
  - **If little or no smoke**
  - **Do not risk yourself**
- ABC type - powder
- Back 8', pull pin, point at base of fire, sweep back and forth to smother fire

### Work Related Injuries/Illnesses

- Self-insured for workers' compensation
- All claims must be handled by workers' comp
- Report all, even if minor to supervisor as soon as possible
- If medical attention is needed
  - **Fill out accident report**
  - **If possible, take initial physician's report**

### Unsafe working conditions

- Report to supervisor as soon as possible
- Safety and Claims Management at 477-3350

### Safety Committees

- Employee and management representatives
- Purpose is to discuss and eliminate unsafe conditions and practices
- You may contact employee representative with your concerns

### Hazard Communication/Globally Harmonized System (GHS)

- Safety Data Sheets (SDS)
- Chemical characteristics and health effects
- Supervisors train workers - hazards & PPE

### Health and Safety Program

- Core County Accident Prevention Program
- FMD specific policies

## Personal Protective Equipment

- Footwear
  - **Full leather uppers, possibly steel toes**
- Safety glasses
- Hearing protection
- Gloves
- Hardhat
- Clothing
- Respirator

## Asbestos

- Found in common building materials
  - **Floor tiles, linoleum, mastic**
  - **Roofing materials**
  - **Pipe insulation**
  - **CAB**
  - **Structural insulation**
  - **Ceiling tiles, popcorn ceilings**
  - **Drywall mud**
  - **Wire/electrical insulation**
  - **Ventilation duct sealers/connectors**
- In house HAZMAT team

## Lead

- Most common in old paints
  - **Especially on metals, steel and aluminum**
- Pipes, solder
- Flashing
- Zinc chromate primers – metals

## Fall Protection

- Construction/maintenance
  - **Fall hazards > 10 feet**
  - **Articulated boom lifts**
  - **Cable supported staging**
- In fixed establishments
  - **Floor holes, openings**
  - **Wall openings, w/drop of > 4'**
  - **Windows, < 3' from floor**
- Requires further, comprehensive training

## Ladders

- Safe ladder procedures handout

## Electrical Safety

- Use GFCIs outdoors, wet/damp locations
- Damaged wire insulation, plugs

## Tools

- Use only with all required guarding
- Intended purpose/limitations
- Good repair/cutting parts sharp
- Electric tools grounded or double insulated
- Gasoline powered not used indoors
- Powder actuated – current card required

## Larger Equipment

- Use only if trained by qualified trainer
  - **Forklifts, cranes, boom lifts, stage scaffolding, earth moving equipment, dump trucks**

## Lock Out Program

- Lock out required unless impossible
- Repair, maintenance or adjustment
  - **Unexpected energizing, start up or release of stored energy**
- Energy source isolated/rendered inoperative and locked out
- Tag to list holder of key

## Permit-Required Confined Spaces

- Not intended for occupancy
- Large enough to enter
- Restricted egress
- Includes
  - **Manholes, vaults, pits, sumps, tunnels, tanks, boilers**
- Possibility of serious injury hazard
  - **Both atmospheric and physical hazards**
- Requires further, comprehensive training

## Excavations

- Wall collapse
  - **Burial results in 99% chance of fatality**
  - **Unstable soils, wet conditions, vibration, heavy equipment on top**
- Shoring or sloped sides, 4' deep or more
  - **Soil classification and protection determined by trained, competent person**
  - **Need 100% protection**
  - **All workers require additional training**

## Ergonomics

- Lift properly, back straight – butt out
- Load close to body
- Do not twist back
- Do not lift too much, get help
- Use lifting devices, power tools
- Avoid work overhead when possible
- Extremities in awkward positions
- Buy ergonomically designed tools

## Traffic Control

- Street, drive, parking lot/garage
  - Wear bright, reflective vest
  - Block off work area with cones/signs
  - Must have valid flagger card to actively direct traffic on roads

**Attachment 4**

**NEW EMPLOYEE SAFETY ORIENTATION**

Department/Division/Location: \_\_\_\_\_

Employee Name: \_\_\_\_\_

Job Title: \_\_\_\_\_

- Injuries must be reported immediately and near misses or close calls as soon as possible to your immediate supervisor.
- Supervisors must complete the Work Related Illness/Injury Supervisors Report and submit it to the Safety and Claims Management office within 3 working days. Injuries involving time off work should be reported on the first day of time loss.
- Directions for contacting medical assistance and the locations of first aid kits.
- Procedures for reporting unsafe conditions and practices to the supervisor. If concerns are not fully addressed by the supervisor, they should be discussed with a Safety Committee representative or contact the Safety and Claims Management office at 206-477-3350. Identify appropriate Safety Committee representative(s) and the Safety and Health Professional.
- Check the personal protective equipment needed for this job.
  - gloves
  - safety glasses
  - personal protective clothing
  - safety vest
  - respirator
  - hard hat
  - hearing protection
  - fall protection
  - safety shoes
- Describe precisely when and how each of the personal protective items marked above are to be used. Review for each of the checked items care, cleaning, storage, and equipment replacement procedures.
- Include or describe the work site emergency evacuation procedures, emergency assembly site or check in procedures, and other applicable emergency actions
- Identify the hazardous gases, chemicals or materials that the employee may use or be exposed to. Explain the safe use of each and the emergency procedure to follow after an accidental exposure. Show the employee the location of the SDSs, which must be easily available to the employee.
- Describe the overall safety program and supervisor's expectations.
- On-the-job review of the practices/procedures necessary to perform the job assignment in a safe manner.

Date Completed: \_\_\_\_\_ Conducted by: \_\_\_\_\_

Employee Signature: \_\_\_\_\_

## **Section 3: EMERGENCY EVACUATION**

### **INTRODUCTION**

In the event of a major emergency, you may be required to evacuate your work area or areas you visit. When an evacuation alarm is sounded, you are required to evacuate. In some emergencies, such as earthquakes, sheltering in place is required. It is critical that you take the time to become familiar with all of the marked exits from your floor or work area and where they exit to the outside.

### **APPLICABILITY**

Detailed emergency response plans are required for every location and training is required for every employee.

### **RESPONSIBILITIES**

Department of Executive Services, Facilities Management Division (FMD) maintains an Emergency Response Plan for the Courthouse Complex buildings, including the King County Courthouse, the Administration Building, the Chinook Building, and the Yesler Building. FMD also provides floor warden training. All departments occupying these buildings must follow that plan and must provide training on the applicable parts of this plan for all of their employees.

For all other King County-owned locations, each department must prepare an emergency response plan and train their employees. If you need assistance, contact Safety and Claims Management at 206-477-3350.

If the building space is leased, and is a high rise building (six floors or more), the building management company is required to have an emergency response plan and train floor wardens. Departments must train all of their employees on the emergency response plan and evacuation procedures.

For leased space in buildings with fewer than six stories, each department must have a written emergency response plan and train their employees.

Management must ensure that exits and passageway to exits are clearly signed. Doors that may be confused as exits need to be signed as "Not an Exit". The exit doors must always be operable from the inside. Passageways to exits must be kept fully clear at all times.

### **TRAINING**

All employees must be trained on emergency response and evacuation procedures. Each department is responsible for training, or ensuring that training occurs, for all of their employees.

Training must include types of emergencies, locations of exits, evacuation routes, how to sound the alarm or report an emergency, where to find fire extinguishers and how to use them, and the designated meeting location in the event of an evacuation.

It is recommended that practice evacuation drills be held at least twice per year.

High rise buildings (six floors or more) are required to have tenant volunteers called floor wardens. They are trained by the building management to assist with evacuation and to make sure everyone evacuates safely. Alarms will typically sound on the floor of the event and the adjoining floors. Standard procedure is to go down four floors and re-enter the building (if the alarm is not sounded on that floor) and await further instructions from the public address system.

## Section 4: EMPLOYEE SAFETY TRAINING

King County provides safety training programs to reduce on-the-job accidents and to meet state training requirements. All employee training must be documented. A record of training delivered by Safety and Claims Management is entered into the PeopleSoft training database and is accessible to each employee.

On-site training can be arranged for groups. To schedule safety training, contact a Safety and Claims Management Safety Training Specialist at 206-477-3371 or 206-477-3370.

The following table provides information on training subjects, requirement authority, training frequency requirements, and providers of training. Some King County Departments may enforce different requirements.

SUBJECT	TRAINING RESPONSIBILITY	TRAINING FOR:	REQUIREMENT AUTHORITY	TRAINING FREQUENCY	TRAINING LOCATION	COMMENTS
Accident Investigation Techniques	Safety and Claims Management	All supervisors, managers, and safety committee members	None	One time	Home Dept., Safety Training Classroom	Information for supervisory personnel on handling accident investigations
Aerial Lifts and Elevating Work Platforms	Home Department; Safety and Claims Management	Employees who operate this type of equipment	DOSH WAC 296-869-20025	Initial assignment as operator	Home Department	Equipment vendor may provide training: training records must be retained by King County
Alternate Fueled Vehicle Safety	Home Department	Employees assigned or operating a vehicle with alternate fuel (CNG, Propane)	King County Policy	Initial assignment as operator	Contract fuel company & Home Dept.	

<b>SUBJECT</b>	<b>TRAINING RESPONSIBILITY</b>	<b>TRAINING FOR:</b>	<b>REQUIREMENT AUTHORITY</b>	<b>TRAINING FREQUENCY</b>	<b>TRAINING LOCATION</b>	<b>COMMENTS</b>
Asbestos 2-hour Informational Course	Safety and Claims Management	Maintenance employees, as required	DOSH WAC 296-62-07722 (2)	Initial assignment and annually thereafter	Home Department; Safety Training Classroom	Information for employees who maintain asbestos floor tile or are around asbestos materials
Asbestos Workers and Asbestos Supervisors	Outside Contractor	Certified Asbestos Workers	DOSH WAC 296-65	Initial assignment (5 day class)  Annually thereafter (8 hour class)	Outside Contractor	Certification required for workers who disturb or remove asbestos-containing materials
Bloodborne Pathogens	Home Dept.; Safety & Claims Management	Employees exposed to human body fluids	DOSH WAC 296-823-12005	Before first assignment and annually thereafter	Home Dept. Safety Training room	Employees selected by job classification
C.P.R. (Cardio Pulmonary Resuscitation) and A.E.D. (Automated External Defibrillator)	Emergency Medical Services, Safety and Claims Management	Field Employees, Supervisors, Managers, Lead Persons	DOSH WAC 296-800-15005	Every 2 Years, or as per certifying agency	EMS classroom, Safety Training room, or Home Dept.	EMS offers CPR and AED only; Safety and Claims offers First Aid, CPR and AED training.
Confined Space Entry	Safety & Claims Management, Home Department	Employees who enter confined spaces	DOSH WAC 296-809-40002	Before first assignment. Retraining if any deficiencies in the program are discovered	Safety Training Classroom; home department	Managers, Supervisors, Leads and selected employees must attend. Home Dept. must provide training on specific tools used during confined space entry.

<b>SUBJECT</b>	<b>TRAINING RESPONSIBILITY</b>	<b>TRAINING FOR:</b>	<b>REQUIREMENT AUTHORITY</b>	<b>TRAINING FREQUENCY</b>	<b>TRAINING LOCATION</b>	<b>COMMENTS</b>
Defensive Driving	Safety & Claims Management	All employees who drive on County business	Executive Policy FES 12-1 (AP) 6.8.1	Upon initial assignment and every 3 years	Safety Training Classroom	Employees expected to drive their own vehicles on County business must attend
Educational Topics for Safety Meetings	Home Department	Safety Meeting participants	DOSH, Safety & Claims Management	Subjects to be determined by safety committee	Safety Meeting	Videos/DVDs and assistance from Safety Office should be requested prior to safety meetings.
Effective Safety Committees	Safety & Claims Management	Affected employees and managers	NONE	As needed	Home Dept.; Safety Training Room	Develops skills necessary for implementing safety programs
Energy Control Lockout/ Tagout	Home Department; Safety & Claims Management	All affected employees	DOSH WAC 296-803-60005	Initial assignment	Home Department Safety Meeting	Home dept. must inventory hazards; video and presentation
Ergonomics and Body Mechanics	Safety & Claims Management	Office and field employees	None	As needed	Home Dept., Safety Meeting	Information on avoiding repetitive motion injuries
Fall Protection	Home Department; Safety & Claims Management	All affected employees	DOSH WAC 296-155-24611 (2)	Initial assignment to job exposed to falling from height	Home Department Safety Meeting	Retraining required if changes in workplace or equipment, or if inadequacies in prior training is noted.
Fire Extinguisher Use	Safety & Claims Management	All employees as needed	DOSH WAC 296-800-30025	When first hired and then annually	Home Department Safety Meeting	Training course, Demonstration, or video

<b>SUBJECT</b>	<b>TRAINING RESPONSIBILITY</b>	<b>TRAINING FOR:</b>	<b>REQUIREMENT AUTHORITY</b>	<b>TRAINING FREQUENCY</b>	<b>TRAINING LOCATION</b>	<b>COMMENTS</b>
First Aid	Safety & Claims Management	Field Employees, Supervisors, Managers, Lead Persons	DOSH WAC 296-800-15005	Every 2 Years	Home Department; Safety Training Classroom	CPR is also required. Safety and Claims offers First Aid/CPR/AED combination class
Forklifts and Powered Industrial Trucks	Safety & Claims Management	Employees operating forklifts	DOSH WAC 296-863-60005	Initial assignment as operators, every 3 years thereafter	Home Department Safety Training Classroom	Training must include both classroom and hands-on evaluation. Retraining required whenever any deficiencies are noted.
Hazard Communication /Globally Harmonized System (GHS) (Worker Right to Know)	Safety & Claims Management	All new Employees	DOSH WAC 296-800-17030	Initial Assignment	Home Department Safety Meeting	Training Course or Video available
Hearing Conservation	Safety & Claims Management	Employees exposed to noise over an average of 85 dBA	DOSH WAC 296-817-20020	Initial assignment and then annually	Home Dept. Safety Meeting	Videos available; Basic training provided during annual hearing tests
Heat Related Illnesses	Home Department; Safety & Claims Management	Employees working in outdoor temperatures above 89 degrees (or above 77 degrees if required to wear double layer clothing)	DOSH WAC 296-62-09560	Annual	Home Department Safety Meeting	Training Course or video available

<b>SUBJECT</b>	<b>TRAINING RESPONSIBILITY</b>	<b>TRAINING FOR:</b>	<b>REQUIREMENT AUTHORITY</b>	<b>TRAINING FREQUENCY</b>	<b>TRAINING LOCATION</b>	<b>COMMENTS</b>
How to file a Workers' Compensation Claim	Human Resources Division Safety & Claims Management	All new Employees, Supervisors and managers	Dept. of Labor & Industries, Self Insured Regulations  WAC 296-15-320	Initial Assignment, As needed	New Employee Orientation	This topic is addressed in New Employee Orientation
Job Safety Analysis	Safety and Claims Management	Leads, Supervisors, safety Committee members	None	One time	Home Dept. Safety Training Room	
Back Injury Prevention and Safe Lifting Techniques	Home Dept.; Safety & Claims Management	All affected Employees	As necessary	Initial Assignment and as necessary	Home Dept., Safety Meeting	Videos available
New Employee Safety Orientation	Home Department	All new Employees	DOSH WAC 296-800-140	Initial Assignment	Home Department	Overview of job-specific safety issues is required for new employees
Personnel Protective Equipment (PPE)	Home Department Safety & Claims Management	Affected employees	DOSH WAC 296-800-16025	Before performing work requiring PPE	Home Department, Safety Meeting	Overview of protective equipment selection and uses
Powder Activated Tools	Home Department	Employees who use gun powder activated tools	DOSH WAC 296-807-15005  WAC 296-155-36321	Initial assignment as operator	Home Dept.	Training must be provided by equipment manufacturer

<b>SUBJECT</b>	<b>TRAINING RESPONSIBILITY</b>	<b>TRAINING FOR:</b>	<b>REQUIREMENT AUTHORITY</b>	<b>TRAINING FREQUENCY</b>	<b>TRAINING LOCATION</b>	<b>COMMENTS</b>
Respirator Use and Maintenance	Home Department; Safety & Claims Management	Employees who may be required to wear respirators and their supervisors	DOSH WAC 296-842-16005	Before worksite respirator use and annually thereafter	Safety Training Classroom or Home Dept. Safety Meeting	Video, fit check and demonstration
Safety Management	Safety & Claims Management	All Supervisors and Managers	None	One time	Home Department, Safety Training Classroom	Information for Supervisors on how to manage safety in their department
Secure Your Load	Safety & Claims Management	Employees who load, secure or transport loads	Executive Order PER-18-9 (AEO)	One time; Additional training as needed	Home Department Safety Meeting	Both in-person and on-line training are available
Workers' Compensation: Assist Your Workers in Filing Claims	Safety and Claims Management	All Supervisors and Managers	None	One time	Home Department, Safety Training Classroom	Workers' Compensation Information for Supervisors
Work Place Violence Prevention	Safety and Claims Management	All employees	Recommended by Executive Policy PER-18-8 (AEP) Section 7.2.7	One time	Home Department, Safety Training Classroom	On-line training for Supervisors and Managers is available from Risk Management
Work Zone Traffic Control and Flagging	Safety & Claims Management	Employees who work as traffic flaggers or responsible for traffic control	DOSH WAC 296-155-305 (6)	Initial assignment as flagger, every 3 years	Home Department, Safety Training Classroom	Supervisor, Managers, Leads and selected employees

For course descriptions and current quarterly schedule, visit our web site:

<http://kingcounty.gov/employees/HumanResources/SafetyClaims/Safety/TrainingClass.aspx>

The Safety Training Classroom is located at the King County Administration Building, 5<sup>th</sup> floor, Seattle

Note - Driver training is not intended to meet commercial truck driver training requirements

DOSH - Washington State Department of Labor and Industries, Division of Occupational Safety and Health

WAC – Washington Administrative Code

## **Section 5: SAFETY INSPECTIONS**

### **INTRODUCTION**

Periodic safety inspections offer an effective way to identify and correct potential hazards in the workplace and enhance safety awareness. It is recommended that a supervisor and/or an employee familiar with the work area conduct in-house safety inspections on a regular basis, depending on the type of work done.

You don't have to be a safety expert to perform a safety inspection of your workplace. Most safety hazards are recognizable to any person who looks for them.

### **APPLICABILITY**

This policy applies to all King County departments and divisions.

### **RESPONSIBILITIES**

Each department, division, and work group is responsible for conducting inspections of their work site(s).

Safety and Claims Management (206-477-3350) can provide inspection assistance on request.

### **PROCEDURES**

You know your own workplace better than anyone. Look at the conditions in your workplace and how you and your co-workers do things and ask yourself, "Is it safe?" What could you be doing differently? If there are conditions or procedures that seem hazardous, they may not be as safe as they could be or should be. Trust your own judgment.

Clean up or correct any safety hazards or other recognized deficiencies immediately, if possible. Any perceived hazards that require further action should be reported to your supervisor and/or submitted to the Safety Committee for their review. Imminent hazards should be reported immediately to your supervisor and your department's Safety and Health Professional or to Safety and Claims Management at 206-477-3350.

### **CONSTRUCTION PROJECT INSPECTIONS**

For construction projects lasting over one-week, walk-around safety inspections must be conducted jointly by one member of management and one member of the crew, elected by the employees as their authorized representative. The walk-around safety inspections must be conducted weekly and be documented.

## **OFFICE INSPECTIONS**

Attachment 1, the "Office Inspection Checklist" can be used for typical office areas and most indoor work environments. Upon request, Safety and Health Professionals from King County Safety and Claims Management will assist you with safety inspections. Your department's Safety and Health Professional can also help you create or modify a checklist specific to your workplace to use for your own periodic inspections.

## **REGULATORY COMPLIANCE INSPECTIONS**

If your work place is visited (inspected) by an inspector from the Washington State Department of Labor and Industries, Division of Occupational Safety and Health (DOSH), your supervisor and King County Safety and Claims Management (206-477-3350) should be notified immediately.

When DOSH performs an inspection of a King County workplace, it is usually in response to an employee complaint. **It is a violation of Washington Administrative Code to discriminate against an employee for filing a safety or health complaint.** The State Safety Inspector is required to contact the person in charge of the job site, and has the right to interview employees privately.

The following DOSH Inspection List identifies what to do in the event of an unexpected visit from a Department of Labor and Industries inspector.

### **DOSH INSPECTION LIST**

- Notify Safety and Claims Management (206-477-3350) immediately. Also contact a management representative within your department.
- Determine the reason for the inspection. If it is in response to an employee complaint, request a copy of the complaint.
- Do not deny the inspector access, but ask him or her to wait a reasonable amount of time until a Safety and Health Professional and a representative of your department's management can participate in the inspection.
- Once the inspection is formally opened, answer all questions politely and honestly, but as directly and concisely as possible.
- Where possible, correct any noted deficiencies on the spot or before the conclusion of the inspection.
- Note where the inspector takes pictures and if possible, take duplicate photos yourself.

- If the inspector takes any samples, ask him or her to explain what it is and why s/he is taking it.
- If the inspector requests a copy of the OSHA 300 log of injuries and illnesses, contact Safety and Claims Management at 206-477-3350, and they will provide a copy.
- At the conclusion of the inspection, ask the inspector if he or she intends to issue any citations and document the exact regulatory citation(s)

**Attachment 1**

**OFFICE INSPECTION CHECKLIST**

<b>LOCATION / ITEM</b>	<b>OK</b>	<b>NOT OK</b>	<b>COMMENTS</b>
<u><b>AISLES, STAIRWAYS AND EXITS</b></u>			
Exit signs visible, unobstructed, and illuminated (20 foot candle minimum)			
Emergency lighting is operational			
Exit doors are not locked from inside			
Stairways have hand railings on both sides			
Minimum 44-inch wide clearance			
Cords/wires are placed out of path or protected			
Surface level changes are highlighted			
Free of obstructions; file drawers do not open into aisles			
<u><b>DOORS</b></u>			
Glass doors have safety glass; decals 4.5 feet from floor and centered			
Doors swing away from passageway			
<u><b>LIGHTING</b></u>			
20 - 40 foot candles for ambient light; 30 – 100 foot candles for reading			
20 foot candle minimum for halls and stairways			

LOCATION / ITEM	OK	NOT OK	COMMENTS
<u>AIR QUALITY</u>			
Temperature 70 – 74 degrees F			
20 cubic feet per minute fresh air provided per person; CO <sub>2</sub> levels below 1000 parts per million			
Water leaks are repaired immediately, and water-damaged ceiling tiles and/or carpeting is thoroughly dried or replaced			
Copiers and printers are vented or separated from employee desks			
<u>ELECTRICAL</u>			
Electrical outlets properly wired and grounded			
All switch and outlet covers in place			
All appliances UL listed and have ground wire			
Extension cords have ground wire and are same size or greater than the appliance cord			
Sufficient number of outlets or power strips to eliminate or minimize extension cords			
Power cords in walking spaces are rubber covered or taped down (not put under carpeting)			
Floor stacks are protected by furniture or other obstruction			
GFCI in all wet locations			
All repairs made by qualified personnel only			

LOCATION / ITEM	OK	NOT OK	COMMENTS
<u>FLOORS</u>			
Slip-resistant finish			
No tripping hazards			
Rugs/carpets free of holes and tears, and securely fastened			
Floor free of holes or depressions			
Wet floor signs used by custodians			
<u>PARKING LOTS AND SIDEWALKS</u>			
Surfaces maintained			
Trip hazards highlighted			
Lighted at night			
<u>COMPUTER WORKSTATIONS</u> (For workstation evaluations and group training, call Safety and Claims Management at 206-477-3350)			
Desk, monitor, and keyboard heights proper			
Adjustable chairs with good back support available			
Foot rests/ wrist rests available where needed			
Mouse positioned close to keyboard			
<u>STORAGE</u>			
Floors kept clear			

LOCATION / ITEM	OK	NOT OK	COMMENTS
Overhead sprinklers and smoke detectors clear			
No storage on top of higher files or overhead bins			
File cabinets and bookshelves anchored to walls and/or floor			
Heaviest items on middle-to-lower shelves			
Flammables/combustibles in fire safety cans/cabinets (quantities out limited to immediate use only)			
<u>MISCELLANEOUS</u>			
Open only one file drawer at a time; close after use			
All personnel trained in Hazard Communication/Globally Harmonized System (GHS)			
Fire extinguishers checked and tagged (annual service by certified technician from Safety and Claims Management)			
Safety Data Sheet (SDS) Book up to date and available to employees			
Safety bulletin board used for safety purposes only; WISHA poster, safety meeting minutes, emergency numbers posted			
First aid kit location marked			
Automated External Defibrillator (AED) location marked			
Accident Prevention Program manual available to all employees			



## **Section 6: REPORTING HAZARDS, HAZARD CONTROL, AND WORKING ALONE**

### **REPORTING HAZARDS**

If there are conditions or practices in your work area that you feel are unsafe, bring them to the attention of your immediate supervisor. Your supervisor is in the best position to assess the situation and will usually have the knowledge and resources to promptly take the appropriate corrective action.

If you are confronted with what you perceive to be a serious, imminent or immediate hazard, or if you still have concerns after bringing it to the attention of your supervisor, contact your Safety and Health Professional. If you don't know who that is, call Safety and Claims Management at 206-477-3350 and you will be directed to the Safety and Health Professional assigned to your department or division. Safety and Health Professionals are Certified Industrial Hygienists and/or Certified Safety Professionals, and are available to respond to perceived hazardous situations, evaluate air quality and noise, specify appropriate personal protective equipment, and consult on safe procedures.

Your Safety Committee is also an appropriate resource to help you resolve safety issues. Every employee has the right to question potentially hazardous situations and to get a satisfactory explanation of what will or will not be done and why. Most Safety Committees have a Safety Suggestion procedure for addressing non-emergency safety and health concerns.

### **HAZARD CONTROL**

Work place hazards should be controlled and/or eliminated according to the following hierarchy:

1. The most desirable method of hazard control is to eliminate the hazard altogether. Substitute a hazardous material or process with a safer material or process whenever feasible. Substitute a quieter tool/machine for a noisy one. Any lingering hazard and/or potential new hazards associated with new process must also be evaluated and controlled.
2. Institute engineering controls to reduce, isolate, or eliminate the hazard. Examples of engineering controls include:
  - Machine guarding
  - Local exhaust ventilation/fume hoods
  - Reactive silencers (mufflers)

- Enclosures for noisy machinery.
3. Limit the duration of exposure to workplace hazards. Administrative controls such as job task rotation can be used to reduce certain exposures to safe levels. As an example, administrative controls are often employed to control an employee's total daily "dose" of noise. However, this approach requires careful monitoring of worker exposure, and is not recommended except as a temporary measure.
  4. Use personal protective equipment. This is a last-resort measure, limited to the following situations:
    - During installation, maintenance, and repair of engineering controls, when an unprotected worker is at risk for injury or illness
    - When it is not feasible or practical to reduce worker exposure to allowable levels using substitution or isolation techniques
    - During emergencies, such as rescue operations
    - Ear muffs or ear plugs are permissible as a long-term method to reduce noise exposure but only as part of a comprehensive hearing conservation program and only when the 8-hour time-weighted average dose is less than 90 dBA.

## **WORKING ALONE**

There are very few occupational health and safety regulations which directly address the issue of employees working alone. Permit-required confined space entry is one example. In those instances where a second person is required by law, as in the case of confined-space entry, it is typically in a back-up, or rescue capacity. Nevertheless, a back-up person or at least a "spotter" should always be present whenever an employee is engaged in a potentially hazardous activity. At a minimum, employees working alone in high crime or remote areas of the County should have some means of communication such as a two-way radio or cell-phone.

Otherwise, working alone issues will be considered and addressed on a case-by-case basis. If you have concerns regarding working alone, bring them to the attention of your supervisor and/or your Safety and Health Professional.

## **Section 7: SAFETY COMMITTEES AND BULLETIN BOARDS**

### **INTRODUCTION**

Worker health and safety is an important issue in the workplace. Preventing accidents, creating a safety culture, and providing a safe and healthful work environment demands time, energy, and resources. An effective Safety Committee is a critical element in any safety program.

A well-managed Safety Committee enhances awareness of work-related safety issues, provides a forum for the discussion and resolution of those issues, and fosters communication between employees and management. Safety Committee meetings offer an opportunity for management to demonstrate its commitment to workplace safety and to convey the message that it expects a similar commitment from employees.

A Safety Committee is a functional body in which each committee member represents a group of employees. This gives everyone a voice but keeps the meeting size to an effective number of participants.

Safety Committee members bring employees' issues to the committee and take information back to co-workers regarding the committee's findings and actions, management's positions, and other health and safety-related news. The Safety Committee can assess training needs and organize and sponsor training and other informational events as it deems necessary.

### **APPLICABILITY**

A functional Safety Committee is a core requirement under Washington Department of Labor and Industries WAC-296-800-130. Every employer with 11 or more employees is required to establish a safety committee to address employee safety and health concerns. All King County employees and work groups must have representation on a Safety Committee or attend Safety Meetings. Because of the geographic distribution and the many different sizes, functions, and types of organizations within King County, work groups may have different types of safety representation.

State regulations permit Safety Meetings in place of a Safety Committee when:

- Employees work on different shifts with 10 or fewer employees on each shift, or
- Employees work in widely separate locations with 10 or fewer employees at each location

Crew Chief/Crew "tool-box" safety meetings may be held in place of regular Safety Committee meetings for groups that have unusual work shifts or

dispersed work locations, but these meetings must meet certain minimum requirements in order to comply with State regulations:

- For routine work-crew operations, safety meetings must be held at least monthly.
- For construction projects lasting less than a month, Crew Chief/Crew safety meetings must be held at the beginning of each job, and at least weekly thereafter.
- Monthly safety meetings must include discussions of the results of any safety inspections performed, any citations, and accident investigations and any other work-related health and safety issues that arise.
- Project/weekly meetings should include a discussion of the hazards associated with a particular job and the appropriate safe work practices.
- Attendance and subjects discussed must be documented.

Work groups are encouraged to allot time for the discussion of safety issues in regular staff meetings. Staff meetings provide an opportunity for employees to bring safety issues to the attention of the safety committee representative and for the safety committee representative to report back to the staff. However, the informal, undocumented discussion of safety issues in a staff meeting does not constitute a Safety Meeting and does not take the place of a Safety Committee.

King County employees should first take work-related safety and health concerns to their immediate supervisors. Imminent hazards should immediately be brought to the attention of the supervisor and the Safety and Claims Management office (206-477-3350). All other health and safety issues that are not resolved in a timely manner within the immediate work group are addressed most effectively by the work group's Safety Committee.

### **SAFETY COMMITTEE PROGRAM DEVELOPMENT**

To be effective the Safety Committee must be well-organized and have:

- clear goals
- action strategies
- sufficient resources
- well-informed, committed members

The following simple steps can assist you in establishing a safety committee or reviving an existing one.

#### **1. Establish the need for the committee**

Every King County employee should have an employee-elected representative on an active, effective health and safety committee. Every employee should be:

- aware of the committee's existence
- able to name his or her representative on the committee
- familiar with the purpose and activities of the Safety Committee

If your work group is not currently represented on a safety committee then you need to either establish a new safety committee or re-activate the existing one.

## 2. Organize the committee

The committee should be organized with the following parameters in mind:

- A Safety Committee typically consists of between five and ten members
- Each employee-elected member should represent about five to thirty employees

Large Departments might have several Division-wide Safety Committees, or even several committees within a large Division. In those instances, a Central Safety Committee comprised of one representative from each Division Safety Committee and at least one representative of the Department's leadership team can address Department-wide safety and health issues.

Establish a charter document that commissions the safety committee and establishes the rules. The charter document should clearly outline the scope of the committee, membership needs, roles and responsibilities, committee procedures, and goals.

Attachment 1 provides a sample Safety Committee Charter document.

## 3. Elect/Select the committee members

The number of employee representatives on a safety committee must equal or exceed the number of management representatives. Employee representatives must be elected by employees for a term of one year. There is no limit to the number of terms an individual may serve if re-elected.

Employees often volunteer to serve on the safety committee, but even volunteers should be confirmed through an election process. The election can vary from a formal paper-ballot or show of hands to an e-mail balloting process. The election process should be documented and retained at least until the next election.

State rules stipulate that no more than half of the members of a safety committee may be selected by management. Management must select at least one representative to serve and participate on the safety committee. A safety committee cannot work without management's support and participation.

It is important for all Safety Committee representatives to show up for meetings, participate in those meetings, and serve as advocates for health and safety in the workplace.

#### 4. Document the committee's activities

Documentation records include meeting minutes, reports to and by the committee, accident investigation and review reports, hazard assessments, surveys, improvements, training organized or provided by the committee, and any additional relevant activities.

Safety Committee meetings and Safety Meetings must be documented. Written meeting minutes should be posted on the Safety Bulletin Board (see below) and/or distributed to all employees via e-mail. Safety Committee and Safety Meeting minutes must be kept on file for at least one year by the committee, and available for inspection. A copy of meeting minutes must be forwarded to Safety and Claims Management (mail stop ADM-ES-0500, or mailed to 500 4<sup>th</sup> Avenue, Suite 500, Seattle, WA 98104).

#### **DUTIES**

The Safety Committee elects a chair and a secretary, and decides on the frequency of their meetings. For the first month or two while it is getting started, the Safety Committee may need to meet once a week. Thereafter, the committee itself should determine the frequency of the meetings. Work groups commonly schedule monthly meetings, but in some cases, such as office work environments, bi-monthly or quarterly meetings suffice. Minutes of each meeting, including attendance and subjects discussed, must be retained for at least one year.

The Safety Committee's primary duties include:

- Provide a forum for open two-way communication between management and employees
- Consider health and safety-related issues brought before the committee and following up on those issues as deemed appropriate by a simple majority
- Review safety and health inspection reports to assist in the correction of unsafe conditions or practices
- Review accident and injury reports and investigations since the last meeting
- Evaluate the accident prevention program on an on-going basis and making changes as deemed appropriate by a simple majority

#### **ACTIVITIES**

Safety Committees can be assigned a wide variety of activities, but should remain focused on the following three major categories:

Evaluation Activities – Methods of gathering and evaluating safety information in the workplace include:

- Reviewing and addressing employees' health and safety concerns
- Conducting safety inspections
- Conducting Hazard Assessments
- Reviewing accidents and/or analyzing accident investigations
- Reviewing safety suggestions

Development Activities – The creation and implementation of safety-related programs and projects includes:

- Developing and implementing an employee safety feedback (safety suggestion) system
- Assessing training needs and developing safety training
- Developing and communicating safety policies and procedures
- Selecting safety equipment vendors
- Evaluating and recommending safety equipment
- Recommending items for inclusion in the operating and capital improvement budget

Communication Activities – Methods for the communication of safety information throughout the organization include:

- Communicating safety information to employees through newsletters or bulletin boards
- Conducting safety promotions (such as safety fairs)
- Providing safety training opportunities
- Maintaining a safety bulletin board (posters, suggestions, committee minutes, etc.)
- Generating safety improvement suggestions, ideas, and incentives

Sample documents, forms and information are attached to assist in establishing and managing an effective Safety Committee. If you need help setting up or improving the effectiveness of your committee, or if you have other questions, please call the Safety and Claims Management office at 206-477-3350.

### **SAFETY BULLETIN BOARD**

State regulations require a Safety Bulletin Board in every fixed establishment with eight or more employees. The safety bulletin board must be centrally-located in an area accessible to all employees such as a meeting, break, or lunch room. The bulletin board must be dedicated to safety-related items such as Safety Meeting minutes, citations or other legally required notices, safety bulletins, newsletters, posters, accident statistics and other safety educational material.

The following items should be kept on your safety bulletin board. Those items that are required by State regulations are noted:

- Your Rights as a Worker poster (required)
- Job Safety and Health Law poster (required)
- Notice to Employees – Self-Insurance poster (required)
- Safety meeting minutes
- OSHA 300A form summarizing accidents during the previous year (required to be posted from February 1<sup>st</sup> until April 30<sup>th</sup> each year)
- Any State citations or appeals (must be posted - follow directions on back of form)
- Names of safety committee members and work phone numbers
- Safety posters or other safety information
- Notices for audiometric exams or other medical exams or monitoring
- Notices for upcoming meetings, training, or other safety-related events
- Blank safety suggestion forms

## Attachment 1

### Safety and Health Committee Charter

This document establishes the existence of a standing Safety and Health Committee within the King County (*Department/Division*) and sets forth the protocols for the selection, organization, and operation of that Committee.

The objective of the Safety and Health Committee is to serve as a forum for employees and management to directly participate in a collective effort to make the (*Department/Division*) a safe and healthful place to work.

It is the role of the Safety and Health Committee to establish and maintain an open dialogue between the management and staff, to contribute to the visibility and effectiveness of our health and safety program, and to enhance our efforts to provide a safe and healthful workplace for every employee. Management and employee participation are crucial to the success of this effort.

The Safety and Health Committee shall consist of at least one employee-elected representative from each work group, i.e. (*identify appropriate groups*). Representation should be no fewer than three and no more than fifteen members on the committee. Elections are to be held once a year. There is no restriction on how many terms an elected Safety Committee member may serve. At least one individual, but no more than half of the members of the committee, shall be selected by (*Department/Division*) management to serve on the committee. The name of each current Safety and Health Committee member and the group s/he represents shall be posted on the safety bulletin board in each lunchroom.

A Chair and a Secretary shall be elected by the committee for a term of one year, but there is no restriction on how many terms they may serve, if re-elected. The committee Chair will call the meetings, set the agenda, and direct the meetings. The committee Chair may call an emergency meeting at any time s/he deems it necessary. The committee Secretary will take minutes of each meeting and distribute them to the members.

Safety and Health Committee meetings shall be held monthly, or as frequently as the committee deems necessary to effectively perform the following functions:

- Evaluate and review identified safety and health issues and/or reported deficiencies
- Determine measures for the correction of identified unsafe conditions or practices

- Review all work-related accidents, injuries and/or illnesses including identification of the cause(s) and the actions necessary to prevent a recurrence
- Review the results of inspections performed to help correct health and safety hazards
- Evaluate the department's health and safety program, including recommendations to improve identified deficiencies

Findings and/or recommendations carried by a simple majority shall be brought to the attention of the (*Department/Division*) Director in writing as deemed appropriate by the committee. The Director shall respond to all such written findings and recommendations in writing within 30 days.

Minutes of each meeting including attendance, topics of discussion, recommendations, and findings shall be prepared and posted on the Safety Bulletin Board, and maintained for a period of at least one year.

King County (*Department/Division*) health and safety program was developed and implemented in a spirit of cooperation to provide a safe and productive working environment for all employees. The program relies on participation by both management and staff. Every employee is encouraged to actively participate in the Safety and Health Committee either as a committee member or through an elected representative.



## Safety Committee Members

Instructions:

Use this worksheet to identify members of the Safety Committee. Information should include methods for communication and distribution of Safety Committee minutes and announcements.

Committee Chair \_\_\_\_\_

Member	Title	Division/ Section	Mail Stop	Phone Number

## **Chairing the Safety Meeting**

Suggested Order of Business:

Call to order by the chair - The chair is in charge, and responsible for maintaining order. The chair should keep topics safety-related, and should time the meeting to give people a chance to respond and an opportunity to speak. The meeting should also be paced so that the secretary has adequate time for note-taking.

Read/adopt previous minutes - Read the minutes for the previous meeting. The chair will ask for corrections and comments at the end of the reading. The secretary will enter the corrections in the new minutes. The last meeting's minutes may be sent out with the current month's meeting notice and agenda, thus eliminating the need to read the minutes during the meeting. Comments and adoption of the minutes still need to take place.

Unfinished business - Discuss unresolved business recorded in previous meetings' minutes. Ask for any other old business that may have been missed. Give the group time to respond.

Review safety suggestions - Give a status report on old safety suggestions. Read new safety suggestions and new answers to old suggestions. Leave time for responses from the group. Encourage employees to write safety suggestions. Oral suggestions are more likely to get dropped. Also, encourage employees to resolve issues within their work group and with their supervisor's assistance. (See safety suggestion information sheet).

Review accidents and near misses - Read any accident reports made available since the last meeting. If possible, arrange for the employee to discuss the accident or near miss (note, however, that the safety meeting usually does not serve as the accident review board). Encourage co-workers to discuss near misses.

New business - Ask for ideas from the group; give them a chance to respond. You may have to start the discussion yourself. When new issues arise try to determine who will assume responsibility if a response is needed. Ask that person to report at the next meeting. Do not let the issue drop until it is resolved.

Special presentations - Plan in advance. Try to get guest speakers, demonstrations by vendors, or other information of interest to the group.

Comments and closing - Ask for comments from any safety office representatives, supervisors or management attending the meeting. Adjourn meeting.

## **Taking Minutes**

In general, the duties of the secretary are as follows:

- Record and keep minutes of the safety meetings.
- Read the minutes of the previous meeting at the next meeting.
- Record corrections to the previous meeting's minutes in the current minutes.

Minutes are records of meetings. They should be written accurately, clearly and concisely. The minutes should be prepared as soon as possible after the meeting was adjourned, while you can recall details of discussion and background details of your notes. One technique for taking minutes is to use headings, giving the subject of each paragraph a title. This makes it easy to locate each item of business given in the minutes and an easy way to arrange your notes. The tone of the minutes should be objective without adjectives expressing opinions.

The chair needs to work with the secretary in allowing the pace of the meeting to include adequate time for recording by the secretary. Full notes should be taken. Issues and the actions taken during the meeting need to be noted. If any motions are made the notes should include the name of the person asking for the motion. If a responsibility for taking action has been assigned or assumed the name of that person should be recorded. If a discussion becomes very involved, note the major points made. The language of minutes is fairly formal and follows traditional lines.

Both the secretary and the chair should review the final safety meeting minutes, which should then not be changed or rewritten. Changes to the minutes after reading them at the next meeting should be noted in the next meeting's minutes.

A copy of the minutes should be posted on the safety bulletin board, and a copy sent to Safety and Claims Management, mail stop: ADM-ES-0500, or mail to 500 4<sup>th</sup> Avenue, Suite 500, Seattle, WA 98104.

# King County Safety Meeting Minutes

Department: \_\_\_\_\_

Division: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

List of Attendees	Members Absent

## ORDER OF BUSINESS

Call meeting to order

Introduce and list visitors (if any)

---

Read/correct/adopt minutes from previous meeting

Review of unfinished business (progress report of items from previous meeting)

Review Safety Suggestions (new suggestions, status of old suggestions)

Review accidents and near misses

Review safety inspection reports

New business

Special presentations

Next meeting date, time, place: \_\_\_\_\_

Chair's signature \_\_\_\_\_

Secretary's signature \_\_\_\_\_

(send copy to Safety and Claims Management, MS: ADM-ES-0500)





## **Section 8: FIRST AID TRAINING AND FIRST AID KITS**

### **FIRST AID TRAINING**

Washington Industrial Safety and Health rule WAC 296-800 and WAC 296-155 (Safety Standards for Construction Work) require that all employees be provided with quick and effective first-aid attention in the event of an on the job injury.

The presence of personnel who have been adequately trained in first-aid procedures at or near those places where employees are working is required by the following:

- Whenever there are two or more employees working at any worksite, a person or persons holding a valid first-aid certificate must be available.
- All crew leaders, supervisors or persons in direct charge of one or more employees must have a valid first-aid certificate.

These training requirements may be met by completing a First Aid and Cardiopulmonary Resuscitation (CPR) course offered by Safety and Claims Management (206-477-3371) OR by completing both the Health Department CPR training (206-263-8317) and the First Aid course offered by Safety and Claims Management.

### **FIRST AID KITS AND SUPPLIES**

First aid kits must be readily available to all employees. Supplies must be stored in containers that adequately protect the contents, and need to be clearly marked and not locked, but they may be sealed. Supplies must be capable of being moved to the location of the injured employee. First aid kits/supplies must be appropriate for the occupational setting and the response time of emergency medical services.

When deciding on the location and contents of first aid kits/supplies, consider these factors:

- Location of employees, areas of greatest hazards, ease of accessibility
- Injury/illness record
- Types of hazards
- Number of employees, shifts
- Recommendations of trainers, emergency service providers, physicians or clinics, trade organizations

**A basic First Aid kit should contain the following items:**

- 1 absorbent compress, 4x8 inches
- 16 adhesive bandages, 1x3 inches
- 1 adhesive tape, 5 yards long
- 10 antiseptic single use packages, 0.5g application
- 6 burn treatment single use packages, 0.5g application
- 4 sterile pads, 3x3 inches
- 2 pr. Medical exam gloves
- 1 triangular bandage, 39x39x55 inches
- 1 CPR barrier device

**Other recommended items:**

- 4 bandage compresses, 2x2 inches
- 2 bandages compresses, 3x3 inches
- 1 bandage compress, 4x4 inches
- 1 eye covering (for two eyes)
- 1 eye wash, 1 fluid ounce
- 1 chemical cold pack, 4x5 inches
- 2 roller bandages, 2 inches wide
- 1 roller bandage, 3 inches wide

Note: ASTM, ANSI, or other consensus national standard kits will likely meet these recommendations

The size and quantity of first aid kits required to be available at any one site should be determined by the number of personnel normally dependent upon each kit as outlined in the following table:

<b>Number of employees normally assigned to worksite</b>	<b>Minimum first-aid supplies needed</b>
1 - 15 Employees	1 First-aid kit
16 - 30 Employees	2 First-aid kits
31 - 50 Employees	3 First-aid kits

**REFERENCES:**

WAC 296-800, Safety and Health Core Rules

WAC 296-155, Safety Standards for Construction Work

**FIRST AID INFORMATION**

**BUILDING NAME, DEPARTMENT, DIVISION**

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**THE FIRST AID KIT FOR THIS FLOOR IS  
LOCATED**

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**FIRST AID-TRAINED PERSONNEL INCLUDE**

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(Please post on the safety bulletin boards)

## **Section 9: HAZARD COMMUNICATION and the GLOBALLY HARMONIZED SYSTEM (GHS)**

### **INTRODUCTION**

This section provides King County work groups with the necessary information and tools to develop and implement a Hazard Communication and the Globally Harmonized System (GHS) program as required by WAC 296-901.

### **APPLICABILITY**

A Hazard Communication/GHS Program is intended to provide employees with the information they need to work safely with any potentially-hazardous chemicals they may use in the course of doing their jobs. In this document the program will be referred to as GHS.

### **RESPONSIBILITIES**

Each department, division, and work group must have a GHS program specific to their work site(s). An individual or group of people should be assigned responsibility for developing and maintaining the GHS program.

Supervisors are responsible for ensuring that:

- Employees are trained as described below.
- Current Safety Data Sheets (SDSs) are available to employees for all the hazardous chemicals they use in the course of their employment.
- Employees have all required personal protective equipment (PPE) and that they use it properly.

Employees are responsible for using hazardous chemicals and any associated personal protective equipment in accordance with training received.

### **DEVELOP A WRITTEN CHEMICAL GHS PROGRAM**

In order to comply with the chemical GHS standard each department/work group must develop, implement and maintain a written program. It must include:

- A list of the hazardous chemicals known to be present.
- A method to ensure that each container of hazardous chemicals in the workplace is labeled.
- Procedures for ensuring that a safety data sheet is obtained and made available for each hazardous chemical which is used.

- Provisions to provide employees with effective information and training on hazardous chemicals in their work area.

The written GHS must be available, upon request, to employees, their designated representatives, and the Department of Labor and Industries.

Where employees must travel between workplaces during a work shift, i.e., their work is carried out at more than one geographical location, the written GHS may be kept at the primary workplace facility.

Safety and Claims Management will assist with departments with the development of their Chemical GHS. Contact the Safety and Health Professional assigned to your department, or call Safety and Claims Management at 206-477-3350.

### **LIST ALL THE HAZARDOUS CHEMICALS PRESENT IN YOUR WORKPLACE**

Each work group/location must identify all hazardous chemicals which are known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency. Examples of hazardous chemicals are: acids, adhesives, caustics, fuels, paints, varnishes, shellacs and pesticides. The following are some ways to determine whether a product is hazardous:

- Look for words on the chemical's label that indicate that the chemical is flammable, an irritant, corrosive, carcinogenic, etc.
- Check the product's SDS for hazard information.
- If you have any questions about a chemical you have at your workplace, contact your Safety and Health Professional in Safety and Claims Management (477-3350).

### **Exemptions**

The following are exempt from the GHS rule:

- Consumer-type products (products that are used the same way they would be in the home. Consumer products include most cleaning products and supplies used by office employees.)
- Hazardous wastes including biological hazards and radiation
- Foods, drugs, tobacco, alcohol and cosmetics

The consumer product exemption does not apply if the product is used in greater

concentrations, quantity, or frequency that would normally occur with household use. For example, SDSs are required for all cleaning products used by custodians.

Enclosed items are also exempt from the GHS rule. These products contain hazardous substances that are not readily released when handled under normal conditions. Intact dry toner cartridges are covered by this exclusion.

### **Prepare a List of Hazardous Chemicals**

Each work group/location that stores or uses hazardous chemicals must maintain a current inventory of those chemicals. This inventory should be incorporated in the written GHS.

Safety and Claims Management will assist departments in organizing their workplace inventories. Contact the Safety and Health Professional assigned to your department.

### **LABEL ALL CONTAINERS HOLDING HAZARDOUS CHEMICALS**

Manufacturers and distributors are required to label hazardous substances. Labels provide important hazard information and should not be removed or defaced.

Each facility that transfers a material from the primary container to a secondary container (for use, dilution, mixing etc.) must adhere to a secondary labeling system. Immediate supervisors will ensure that secondary container labeling materials are readily available. A wired tag may be appropriate for small containers and for materials that damage or erase inks.

The secondary label must list the product name as it appears on the inventory and SDS, along with applicable hazard warning information (e.g. 'flammable', 'poison', 'corrosive').

You are not required to label portable containers into which hazardous chemicals are transferred from labeled containers if the container is used and controlled by the same employee who performed the transfer within the same shift. Note that such unlabeled containers **MUST** be under the immediate control of the employee who performed the transfer and used or emptied during the same work shift.

### **OBTAIN AND MAINTAIN CURRENT SAFETY DATA SHEETS (SDSs)**

The manufacturer and distributor must provide Safety Data Sheets (SDSs) for all products that contain hazardous chemicals. Each work group must maintain

SDSs for products containing hazardous chemical substances used by employees.

SDSs are a form of employee exposure records. Outdated SDSs or SDSs for products that are no longer used must be removed from the active SDS file, but must be retained and made available for a period of 30 years.

Prior to introduction of any new chemical into any King County work place, the immediate supervisor will ensure that an SDS is available and all affected employees have been trained in the safe use of the new chemical product. SDSs may be obtained using one of the following available resources:

- Obtain hard copies with shipments from the supplier or manufacturer;
- Download directly from the manufacturer via the internet;
- Download from an SDS library available on the internet (e.g., try <http://www.ilpi.com/msds/index.html> or use a search engine and the keyword SDS); or,
- Contact Safety and Claims Management (206-477-3350) if you experience difficulty in obtaining an SDS.

Your Safety and Health Professional will review and evaluate SDSs for significant health and/or safety information, on request.

### **Make Sure That Safety Data Sheets (SDSs) Are Readily Accessible To Employees**

SDSs must be readily available at all times to supervisors, employees and contractors who use or may be exposed to hazardous chemicals. Employees at remote work sites must have SDSs immediately available for all hazardous chemicals being used at that worksite.

This requirement can be met by maintaining hard copies of SDSs at each workplace, or by maintaining electronic files that can be easily viewed and printed. Note: If electronic SDS files are maintained, the employees must be able to readily access the files at their assigned work location. This will require that employees have access to a computer terminal either directly or via their supervisor.

### **INFORM AND TRAIN EMPLOYEES ABOUT HAZARDOUS CHEMICALS USED IN THE WORKPLACE**

Each Supervisor/Manager is responsible for ensuring that all King County employees who may be exposed to chemicals at work receive training prior to

assignment of tasks involving chemical use. Employees newly hired or transferring to new work locations shall be trained in the hazards associated with that job prior to any exposure. Training will include:

- An overview of the requirements of the GHS Standard (WAC 296-901).
- The details of the department/work group's GHS.
- A review of any operations in the work area where hazardous chemicals are present.
- An explanation of labels on containers and instruction in secondary labeling procedures.
- An explanation of Safety Data Sheets, including their location and availability.
- Physical and health effects of the chemical products used.
- Methods and techniques used to determine presence or release of hazardous chemicals into the work area (e.g., odor, physical effects).
- Explanation of how to reduce or prevent exposure to these hazardous chemicals through work practices and personal protective equipment, and a review of disposal and spill cleanup procedures.
- Review of controls that have been instituted to reduce or prevent exposure.
- Emergency procedures to follow if inadvertent contact/exposure occurs outside the acceptable range.

### **Non-Routine Tasks**

Employees are sometimes assigned to perform special tasks that involve hazardous chemicals, gases or materials. Prior to beginning special tasks, the supervisor shall provide each affected employee with information that includes:

- Specific chemical hazards.
- Proper use procedures the employee shall follow.
- Control measures to be taken to reduce the hazard such as ventilation, respirators, or presence of others as a safety watch.
- Emergency response procedures.

## **Contractor GHS**

Each organization shall provide contractors who come into a King County workplace with a listing of chemicals to which they may be exposed while on the job site, and any information regarding measures they may take to reduce exposure.

The King County Project Manager shall contact the contractor before work is started in a King County work place to gather information concerning any chemical hazards the contractor may be bringing into the work place. The Project Manager shall obtain SDSs for all hazardous chemicals brought into King County work places by a contractor.

The Project Manager should contact the Safety and Claims Management if there is any potential for hazardous exposures to employees or the public.

## **Rules For Laboratories Using Hazardous Chemicals**

Laboratories are required to have a written Chemical Hygiene Plan under [Chapter 296-828 WAC](#), if applicable. They are not required to have a written Chemical GHS.

Under the GHS Requirements for Laboratories, you must:

- Make sure that labels on incoming containers of hazardous chemicals are not removed or defaced.
- Maintain Safety Data Sheets (SDSs) received with incoming shipments of hazardous chemicals, and make them readily accessible to laboratory employees when they are in their work areas.
- Provide laboratory employees with information and training as described in the above section titled, "Inform and Train Employees About Hazardous Chemicals Used In the Workplace." You do not have to cover the location and the availability of the GHS.

## **Rules For Handling Chemicals In Factory-Sealed Containers**

This applies to situations where employees only handle chemicals in factory-sealed containers that are not opened under normal use (such as those found in trucking or warehousing). In those instances, you must:

- Make sure that labels on incoming containers of hazardous chemicals are not removed or defaced.

- Keep any SDSs that are received with incoming shipments of the sealed containers of hazardous chemicals. If a factory-sealed container of hazardous chemicals comes without an SDS, obtain one as soon as possible, if an employee requests it.
- Make sure that the SDSs are readily accessible during each work shift to employees when they are in their work area(s).
- Inform and train your employees about hazardous chemicals in your workplace, to protect them in case of a hazardous chemical spill or leak from a factory-sealed container. You do not have to cover the location and availability of the written chemical GHS.

## **Section 10: PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING**

### **INTRODUCTION**

King County employees perform many types of work, including construction and maintenance of roads, wastewater facilities, landfills, parks, and the King County airport. Employees are potentially exposed to hazards associated with these jobs. Although every effort is made to eliminate hazards through engineering and administrative controls, at times it is necessary to protect employees with the use of personal protective equipment (PPE).

### **APPLICABILITY**

This program complies with WAC 296-800-160 and applies to all King County employees who are required to use PPE for their work. PPE will be selected based on task-specific hazard assessments. All PPE must be worn according to the manufacturer's instructions. PPE will be maintained by the user in a sanitary and reliable condition.

Respirators, important to protect against harmful vapor or dusts, are covered in Section 11, Respiratory Protection Program.

### **RESPONSIBILITIES**

Managers and Supervisors are responsible for:

- The overall development, implementation and enforcement of PPE programs for their employees
- Completion of written workplace hazard assessments
- Procurement of adequate quantities and sizes of PPE that is not personal in nature. Examples of PPE that is personal in nature and often used away from the worksite include safety shoes and cold-weather outerwear (See WAC 296-800-16020)
- Ensuring that employees comply with the requirements of proper selection, use and maintenance of PPE

Employees are responsible for:

- Using PPE as required by the written hazard assessment
- Notifying management regarding problems with PPE fit or adequacy
- Ensuring proper care and maintenance of PPE

King County Safety and Health professionals are responsible for:

- Developing written PPE programs
- Providing technical assistance to supervisors and managers in hazard assessment methodologies

- Employee training
- Conducting routine audits of PPE programs at county departments

## **WORKPLACE HAZARD ASSESSMENT**

Protective devices for the head, eyes, face, ears (hearing), body, hands and feet may be required and are selected to match the hazard(s) associated with a particular job.

A task-based hazard evaluation of work and the work environment must be conducted. This involves review of historical accident data and Material Safety Data Sheets (MSDSs) for chemical products. Tasks occurring in each facility and operation are reviewed and the types and severity of potential hazards are evaluated. The hazard evaluation includes observation of work activities to identify:

- Sources of motion, such as machinery or movement that could result in hazardous contact
- Sources of temperature extremes that could result in burns or ignition of protective equipment
- Types of chemical and dust exposures
- Sources of light radiation (i.e., welding, lasers, UV sources)
- Sources of falling objects or potential for dropping objects
- Sources of sharp objects
- Sources of rolling or pinching objects which could crush the feet
- Types of electrical hazards
- Layout of the workplace and location of coworkers

Data collected from these reviews and work audits are then analyzed to identify the specific types of protective equipment necessary to adequately control the identified hazards. Consideration is given to the following basic hazard categories:

- Impact
- Penetration
- Compression
- Chemical
- Heat or Cold
- Harmful Dust
- Light (optical) radiation
- Harmful Noise

## **DOCUMENTATION**

Written documentation is required for the hazard assessment. Attachment 1 contains a sample hazard assessment for tasks commonly performed by county employees. This table may be used as a basis for developing departmental

assessments. Written certification is also required to verify that the assessment has been performed according to the requirements of WAC 296-800-160. The certification must include:

- The facility/operation(s) evaluated
- The name and signature of the person certifying that the evaluation has been performed
- The date(s) of the hazard assessment

### **HAZARD REASSESSMENT**

The workplace needs to be reassessed periodically based on the same criteria described above. At a minimum, PPE assessment updates are tied to:

- The purchase of any new PPE
- The use of new equipment or facilities
- The introduction of new operations or procedures
- Accidents—review of the suitability of PPE during an accident review/investigation

### **PPE SECURITY AND CONTROL**

PPE that is not personal in nature such as hard hats, safety glasses, work gloves, high visibility vests, ear plugs or ear muffs, are maintained at each facility or base of operations.

### **FITTING, CLEANING AND MAINTENANCE**

Comfort and fit are very important when selecting PPE. Wherever possible, equipment should have adjustable fitting devices. PPE is fitted to the individual during training and evaluated as part of the periodic assessment.

All PPE should be kept clean and properly maintained. PPE is normally issued to the employee. It is the responsibility of each employee to ensure that PPE is inspected, cleaned and maintained at regular intervals. Contaminated PPE which cannot be decontaminated must be disposed of in a manner that protects employees from exposure to hazards. Supervisors are responsible for ensuring that employees properly clean and maintain their PPE.

### **TRAINING**

King County provides employees with various training programs, including an initial health and safety orientation class (Section 2, New Employee Safety Orientation). PPE training courses cover the following:

1. When PPE is necessary
2. What PPE is necessary

3. How to properly don, doff, adjust and wear PPE
4. The limitations of the PPE
5. The proper care, maintenance, useful life and disposal of the PPE

Before being allowed to perform work where PPE is required, each affected employee must demonstrate an understanding of the training. Each Department is responsible for providing training for its employees, with assistance from the Department's assigned Safety and Health Administrator.

In addition, interim training is conducted when there are:

- Changes to the workplace making previous training obsolete
- Changes to the PPE making previous training obsolete
- Indications that the employee has not retained the requisite understanding or skill

#### **GENERAL SELECTION GUIDELINES**

Selection of PPE follows these general guidelines:

1. Evaluate the potential hazards and types of protective equipment available (e.g., splash protection, impact protection, hearing protection, etc.).
2. Compare the hazards associated with the task and environment (e.g., chemical properties, physical hazards, intensities, etc.) with the capabilities of the available protective equipment.
3. Select the appropriate type of protective equipment to protect employees from the hazards.

#### **SELECTION GUIDELINES FOR EYE AND FACE PROTECTION**

All employees engaged in any activity that exposes them to eye or face hazards from flying, particles, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation must wear eye or face protection. Protective eye and face devices (glasses, goggles, or face shields) will comply with ANSI Z87.1-1989 or later.

Work activities such as grinding, milling, sanding, sawing, welding, chipping, and chiseling require the use of safety glasses. All other work tasks that generate dusts or flying debris also require the use of protective safety glasses or goggles.

Employees who wear prescription lenses while engaged in operations that involve eye hazards will wear eye protection that incorporates the prescription in its design. They may also wear eye protection that can be worn over prescription lenses without disturbing the proper position of the lenses. Contact lenses are

not permitted in areas where eye injuries may be aggravated by chemical damage to the lenses.

For advice on proper selection of appropriate eye or face protection for a particular application, contact the Safety and Health Administrator assigned to your work group.

### **SELECTION GUIDELINES FOR HEAD PROTECTION**

Employees will wear protective hard hats when there is a potential for injury to the head from falling or flying objects or low clearances. Hard hats are also required when performing construction and maintenance related task(s) on a public road-right-of-way. Protective hard hats will comply with applicable ANSI standard ANSI-Z89.1-1986 or later for general use OR ANSI- Z89.2-1971 or later for electrical workers.

Employees working in and around the asphalt dispensing equipment (Laythen box) in Roads Maintenance and those operating the button machine at Traffic and Signal are exempt from wearing hard hats. This exemption is only applicable when these employees are engaged in these operations and does not cover preparatory work.

### **SELECTION GUIDELINES FOR FOOT PROTECTION**

Protective footwear (safety shoes-steel toe or reinforced toe shoes or boots) complying with ASTM F2412-05 and ASTM F2413-05 or later shall be worn when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where employees' feet are exposed to electrical hazards.

### **SELECTION GUIDELINES FOR HAND PROTECTION**

Gloves are used to prevent cuts, abrasions, burns and skin contact with chemicals that can cause skin or systemic effects. Contact your Safety and Health Administrator for guidance on appropriate gloves for a particular application.

### **SELECTION GUIDELINES FOR WORKER VISIBILITY APPAREL**

All King County employees working on foot whose duties place them within the right-of-way shall wear high visibility safety apparel meeting the requirements of ANSI/ISEA "American National Standard for High-Visibility Apparel" and labeled as meeting the [ANSI/ISEA 107-2004](#), **class 2 or 3 (FHWA Worker Visibility Rule, 23 CFR part 634)** standard. The apparel must also meet WAC Chapter 296-155 – Part E. The apparel background (outer) material color shall be either fluorescent orange-red or fluorescent yellow-green as defined in the standard.

The retroreflective material shall be orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of 300 m (1,000 ft). The retroreflective safety apparel shall be designed to clearly identify the wearer as a person.

Approved safety vests are furnished by King County through the field operation storerooms.

## **REFERENCES**

29 CFR 1910 Subpart I, *Personal Protective Equipment*.

WAC 296-800-160

WAC 296-155-300

ANSI/ISEA 107-2004, class 2 or 3 (FHWA Worker Visibility Rule, 23 CFR part 634).

**Attachment 1**

**SAMPLE: PPE Hazard Assessment Documentation**

**Note: Basic PPE for Trades Employees Consists of Safety Glasses and Safety Shoes**

<b>LOCATION(S)</b>	<b>TASK(S)</b>	<b>OCCUPATION(S)</b>	<b>HAZARD(S)</b>	<b>ADDITIONAL PPE/CONTROLS</b>
	WELDING- ALL TYPES; INCLUDING PREP/GRINDING	WELDER	THERMAL BURNS	LEATHERS, THERMAL GLOVES
	GRINDING	WELDER; MAINT SPEC I&II;	STRUCK-BY FLYING OBJECT	GOGGLES WHEN GRINDING
	SPRAY DEGREASING ELECTRICAL SYSTEMS OR COILS	ELECTRICIAN; HELPER	TCE	REUSEABLE NITRILE GLOVES
	BATTERY SYSTEM MAINT/REPAIR	MAINT. SPEC.-I; II; MAINT WORKER; ON-CALL MAINT.; AIRPORT MAINT	ACID	REUSEABLE NITRILE GLOVES; FACESHIELD; SPLASH GOGGLES
	DRYWALL REPAIR: SANDING	CARPENTER I; II	STRAINS-LIFTING; STRUCK-BY;STRAINS- MOVEMENT; FALLS	HARDHAT; GOGGLES; STILTS; FALL PROTECTION
	DRAIN CLEANING	PLUMBER; PLUMBER I; II	COROSIVES; STRAINS-BODY POSITION; STRUCK BY/AGAINST	REUSEABLE NEOPRENE GLOVES; FACESHIELD; SPLASH GOGGLES
	PAINTING : PREP- MANUAL/ AIR SCRAPING	PAINTER I; II	FALLS; STRUCK-BY	HH; DISPOSABLE CLOTH WORK GLOVES; FALL RESTRAINT
	PAINT THINNER/ WASTE HANDLING		HANDS-CHEMICAL CONTACT	GOGGLES; REUSEABLE NITRILE GLOVES
	ANIMAL DISPOSAL	ANIMAL CONTROL OFFICER	STRAINS-LIFTING	LEATHER GLOVES; MATERIAL HANDLING DEVICES
	AUTOPSY	CHIEF MEDICAL EXAMINER; MEDICAL EXAMINER; AUTOPSY ASSISTANT	CUTS; STRAINS- LIFTING; BLOOD BORNE PATHOGENS	SURGICAL NITRILE GLOVES; FACE SHIELD; GOWN, ARM PROTECTORS, AND SHOE COVERS

Assessment Conducted By: \_\_\_\_\_

Date: \_\_\_\_\_

## **Section 11: RESPIRATORY PROTECTION PROGRAM**

### **INTRODUCTION**

This program details the basic requirements and procedures for respiratory protection of King County employees. These requirements apply to employees who work in areas with hazardous levels of airborne dusts, mists, vapors, gases, or fumes, or oxygen deficient atmospheres, when the hazard cannot be eliminated or reduced to safe levels.

King County Safety and Claims Management (206-477-3350) supervises respirator program development and implementation, and can assist your department with meeting the program requirements.

Each department that has operations involving respiratory hazards will appoint a Respirator Program Administrator. The administrator for the

\_\_\_\_\_ Department/Division is  
\_\_\_\_\_.

### **RESPONSIBILITIES**

Safety and Claims Management will support departments by:

- Providing technical support to managers and supervisors in conducting respiratory hazard evaluations, including air monitoring
- Assisting departments in conducting training on the care and use of respirators for supervisors and employees
- Assisting departments in performing fit tests, upon request
- Assisting departments in obtaining medical evaluations for employees who use respirators, and for employees accidentally exposed to hazardous levels of airborne contaminants, as appropriate
- Updating this Respiratory Protection Program as necessary

Department Respirator Program Administrators, with the support of department managers and supervisors, are responsible for:

- Contacting Safety and Claims Management to evaluate tasks that may require respiratory protection
- Restricting the use of respirators to employees who have received initial and periodic (as determined by health care professional) medical clearance (except for voluntary use of dust masks or other filtering face pieces)
- Ensuring that employees receive initial and annual fit tests and training for the use of respirators required for their jobs
- Monitoring and ensuring that their employees properly use required respiratory protection
- Ensuring proper sanitation and maintenance of respirators
- Documenting monthly visual inspections of Self Contained Breathing

- Apparatus (SCBA) units, and ensuring annual service inspection by an authorized service representative
- Ensuring that respiratory protective equipment purchased for use by King County employees has been certified by the National Institute for Occupational Safety and Health (NIOSH)
  - Ensuring that this written Respiratory Protection Program is tailored to the needs of department employees, as necessary
  - Revising and updating the hazard evaluation as needed (i.e., any time work process changes may affect employee exposure)

Employees are responsible for:

- Using required respirators in compliance with this program
- Notifying management of respirator malfunction or job circumstances where respiratory protection use might need to be reviewed
- Ensuring the care and maintenance of their assigned respiratory equipment
- Notifying management if their medical status changes and requires an updated medical evaluation for the use of respirators

## **VOLUNTARY USE OF RESPIRATORS**

Departments may choose to provide respirators for use in areas where respiratory hazard exposures are below the Washington State Department of Labor and Industries Permissible Exposure Limits (PELs). This is referred to as voluntary use.

Voluntary use of any respirator requires that employees receive the information contained in Attachment 1. This information must be posted or distributed in workplaces where there is voluntary respirator use. No additional requirements apply to the voluntary use of filtering face piece (dust mask) type respirators. Voluntary use of other types of respirators (e.g., cartridge respirators) must comply with the medical evaluation, cleaning, disinfecting and proper storage requirements. The requirements for breathing air must be met for use of air-supplying respirators.

Effective training must be given to ensure that voluntary respirator use does not create a hazard. A department-specific written program addressing these requirements must be developed. Fit testing is not required for voluntary use respirators.

## **TRAINING**

Respirator users and their direct supervisors must be trained in selecting the proper type of respirator for each task requiring respiratory protection. Training must take place before any initial use of respirators, any change in respirator type or procedures, and annually thereafter. Safety and Claims Management will

assist departments in providing training classes. Each user and direct supervisor must be able to demonstrate competency of the following:

1. Why the respirator is necessary. Include information identifying respiratory hazards such as hazardous chemicals, the extent of the employee's exposure and potential health effects and symptoms.
2. The respirator's capabilities and limitations. Include how the respirator provides protection and why air-purifying respirators can't be used in oxygen-deficient conditions.
3. How improper fit, use, or maintenance can compromise the respirator's effectiveness and reliability.
4. How to inspect, put on, seal check, use and remove the respirator.
5. How to clean, disinfect, repair and store the respirator.
6. How to use the respirator effectively in emergency situations, including what to do when a respirator fails.
7. Medical signs and symptoms that may limit or prevent the effective use of respirators, such as shortness of breath or dizziness.
8. The employer's general regulatory obligations: develop a written program, select appropriate respirators and provide medical evaluations.

### **HAZARD EVALUATION AND RESPIRATOR SELECTION**

Safety and Claims Management will assist departments in conducting respiratory hazard evaluations. The evaluations consist of the following steps:

1. Identify tasks and operations that involve potentially-significant exposure to respiratory hazards
2. Evaluate physical, chemical and biological characteristics of the hazard
3. Assess the extent of exposure, based on professional judgment and quantitative methods (air sampling)

If the exposure assessment determines that a respiratory hazard exists, control measures to reduce the exposure will be considered. If control measures are not feasible or cannot be immediately installed, respiratory protection is selected.

The type of respirator selected is based on a thorough review of the hazard, task characteristics, and efficacy of the respirator in controlling the hazard. The

assigned protection factor for respirators required by WAC 296-842-13005 shall be used for selection.

If a chemical cartridge respirator is selected, the cartridge must either have an end-of-service life indicator or the replacement frequency must be specified. The change schedule will be determined based on a review of data on the breakthrough time of the contaminant. Such data are deemed reliable if provided by the manufacturer, published in a peer-reviewed journal or by established research agencies, such as NIOSH.

The findings of the respiratory hazard assessment must be conveyed and readily-accessible to employees. Attachment 2 contains the current King County respiratory hazard assessment table.

Each department's Respirator Program Administrator is responsible for revising and updating the hazard evaluation as needed (i.e., any time work process changes may affect employee exposure). If an employee feels that respiratory protection is needed during a particular activity, s/he is to contact the supervisor, who will contact the Respirator Program Administrator. The Respirator Program Administrator will evaluate the potential hazard and will then communicate the results of that assessment back to the affected employees. If it is determined that respiratory protection is necessary, all other elements of this program will be in effect for those tasks and this program will be updated accordingly. Safety and Claims Management will provide technical assistance to each Respirator Program Administrator.

### **MEDICAL EVALUATION**

An initial medical evaluation is required to determine if employees have any physical condition that may limit or restrict the use of respiratory protection equipment.

Employees who are or may be required to wear respirators (voluntary use of dust masks is exempt) must complete an initial medical questionnaire administered by a physician or licensed health care provider (PLHCP). The questionnaire must contain all information listed in WAC 296-842-22005, along with any additional questions recommended by the PLHCP. Questionnaires must be administered confidentially during normal work hours. Department supervisors and managers are not permitted to review the completed forms.

Based on questionnaire responses, the PLHCP will determine if a follow-up medical evaluation is required for each employee. The protocol for the follow-up examination is designed by the PLHCP.

The PLHCP must provide a written recommendation to the department containing only the following information:

- Any limitations on respirator use
- Need for follow-up medical evaluation(s)
- A statement that the PLHCP has provided the employee with a copy of the recommendation

Medical re-evaluations are required under any of the following conditions:

- The employee reports medical signs or symptoms related to respirator use
- The PLHCP recommends a re-evaluation
- Observations of the employee or workplace indicate the need for re-evaluation
- A change occurs in workplace conditions, including changes in physical work effort or environmental conditions

The department management will provide the PLHCP the following information:

- Type and weight of the respirator to be used by the employee
- Duration and frequency of use
- Physical work effort
- Additional personal protective equipment to be worn
- Temperature and humidity extremes
- A copy of this written program and the DOSH regulations (WAC 296-842-22005)

Safety and Claims Management will coordinate medical questionnaire procedures with each department for existing and new employees.

### **RESPIRATOR FIT TESTS**

Each department will arrange for respirator fit tests for employees who are required to use tight-fitting respirators (all respirators except for hooded powered air purifying respirators). Contact Safety and Claims Management at 206-477-3350 for assistance.

Fit testing must occur prior to initial use and annually thereafter. In addition, testing is required whenever a different respirator face piece is used or whenever there are changes in the employee's facial characteristics.

The fit test must be administered using an L&I -accepted quantitative or qualitative protocol (WAC 296-842-22010). Qualitative fit testing of negative pressure respirators is acceptable only if exposures are less than 10 times the Permissible Exposure Limit. Safety and Claims Management uses the Bitrex qualitative fit protocol. The employee and supervisor will be provided with fit test results.

Fit test records will be maintained by each department, and shall include the following information:

- Type of respirator fit test used
- Manufacturer, model and size of respirator tested
- Name of person tested, test operator, and date of test

## **PROCUREMENT**

Based on the findings of the respiratory hazard assessment described above, supervisors and managers will procure adequate quantities and sizes of NIOSH-certified respirators.

NOTE: Bid Specifications and purchase orders must contain a statement such as "Only respiratory equipment certified by NIOSH is acceptable."

Supervisors will provide employees with the brand and model of respirator for which they have been fitted, will instruct employees regarding the specific tasks where they are to be used, and, if applicable, the cartridge replacement frequency.

Breathing air provided for supplied air respirators (SARs) must meet the requirements for Grade D breathing air (American National Standards Institute ANSI G-7.1.1989). This specification requires oxygen within 19.5-23.5% (volume/volume), Hydrocarbon (condensed) at no more than 10 parts per million (ppm), carbon monoxide at no more than 10 ppm, carbon dioxide at no more than 1000 ppm and no noticeable odor along with specific moisture content requirements. The supplier must provide a certificate of analysis.

If breathing air is supplied by in-house air supply apparatus, such as a compressed air system, then a written protocol must be developed and implemented that specifies all of the requirements listed in WAC 296-842-20015.

## **RESPIRATOR USE**

No person may use a respirator or undergo fit testing if any of the following could affect the functioning of the respirator:

- Hair (stubble, mustache, sideburns, beard, low hairline, bangs) which passes between the face and the sealing surface of the face piece of the respirator; or a mustache or beard which interferes with the functioning of the respirator's valves.
- A head covering which passes between the sealing surface of the respirator face piece and the wearer's face.
- Eyeglasses, goggles, face shield, welding helmet or other eye and face protective device that interferes with the seal of the respirator.
- Facial deformities or the lack of teeth or dentures that could prevent a respirator from sealing properly.

Emergency use respirators will be used only under the following conditions:

- Written procedures will be developed at any location where respirators may be used for emergency and/or rescue purposes. Employees will be trained in these procedures, with emphasis on emergency rescue and limitations of the respiratory protection.
- All feasible controls will be implemented before allowing county employees to enter any atmosphere that is immediately dangerous to life or health (IDLH) due to a respiratory hazard. If the hazard cannot be adequately controlled, the worker will wear a SCBA or a positive pressure, supplied air respirator with escape bottle.
- An adequate number of standby employees trained in the proper procedures and equipped with the same level of protection must be stationed outside any potential IDLH atmosphere where employees must enter. Constant communication (visual, voice, or signal line) must be maintained between the standby persons and the employee entering the IDLH area.
- Other appropriate rescue and first aid equipment must also be readily available for immediate use. If feasible, the local fire department should be requested to provide standby rescue services.

## **RESPIRATOR INSPECTION AND CARE**

### **Inspection**

Each employee who wears a respirator must inspect the device before and after each use. Routine respirator inspection must include a check of the tightness of connections and the condition of the face piece, headbands, valves, airlines, canisters, and cartridges. Rubber or elastomeric parts must be inspected for pliability and signs of deterioration.

Any malfunction of the respirator shall be reported to the immediate supervisor, who will supply replacement parts. Respirators in need of parts and/or repair beyond the users' capability to correct must be red tagged and removed from the work area until they can be repaired.

A respirator that is used only for emergency situations must be inspected after each use and at least monthly to ensure it is in satisfactory working condition. Air cylinders must be maintained fully charged according to manufacturer's instructions. The inspection must also include regulator and warning device operability.

Supplied air and SCBA respirator systems must also be inspected annually by an authorized service representative.

SCBA cylinders must be tested every three years and maintained as prescribed in Shipping and Container Specification Regulations of the Department of Transportation (49 CFR 173 and 178).

A record will be kept at the storage site with or near the SCBA respirator system indicating the dates and findings of respirator inspections.

### Cleaning and Disinfecting

Respirators issued for the exclusive use of one worker should be cleaned after each day's use or more often if necessary; respirators used by more than one worker must be cleaned and disinfected after each use.

Supplied air respirators used in regulated areas must be cleaned according to the manufacturer's instructions.

Respirators that are shared among employees shall be completely cleaned and disinfected after each use by carrying out the following procedures:

1. Remove and set aside the filters or cartridges from the respirator. Disassemble valves and head strap.
2. Immerse the respirator and parts (other than the cartridges/filter) in a warm (140 degrees F) aqueous solution of a germicidal detergent (available from the respirator supplier). The respirator face piece and parts may be scrubbed gently with a cloth or soft brush. Make sure that all foreign matter is removed from all surfaces.
3. After washing and disinfecting the respirator, rinse it with clean, warm (140 degrees F) water and then allow it to dry.
4. After the respirator is dry, attach the air-purifying cartridges, replacing cartridges if necessary.

**NOTE:** If a respirator is contaminated with organophosphate pesticides, it should be washed with alkaline soap and rinsed with 50% ethanol or isopropyl alcohol.

### Repair

Minor part replacement (such as valves, cartridges, and canisters) can be made to negative pressure respirators following manufacturer's instructions. Only authorized manufacturer representatives will do complicated repairs and all work on SCBAs.

All parts, cartridges and canisters must be from the same manufacturer as the respirator.

### Storage

After inspection, cleaning, and maintenance respirators must be stored in a plastic bags or containers to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals. Respirators should not be put into

lockers or toolboxes without a storage container.

Respirators, cartridges or canisters must not be stored where chemicals may contaminate them.

Emergency respirators must be stored in special storage compartments, clearly marked and accessible at all times.

### **RESPIRATOR PROGRAM EVALUATION**

Safety and Claims Management and each department's Respirator Program Administrator shall monitor the effectiveness of this program by:

- Conducting periodic unscheduled observation of employee activities at all work places to confirm proper respirator use
- Discussing respirator use with employees to confirm that training has been effective
- Conducting annual review and updating to maintain an effective Respirator Program

### **DOCUMENTATION AND RECORDKEEPING**

To ensure the availability of this respirator program at all times, copies shall be distributed as follows:

- Master copy - Safety and Claims Management office.
- Electronic version – Public Folders
- Hard copies – Accident Prevention Program books, and supervisors and respirator users without web access.

Records of respirator fit tests shall be kept by each department until the next fit test is administered.

Safety and Claims Management will maintain records of any hazardous exposure and medical evaluations for the duration of employment, plus 30 years.

## Attachment 1

### IMPORTANT INFORMATION ABOUT VOLUNTARY USE OF RESPIRATORS

Respirators protect against airborne contaminants when properly selected and used. Respirator usage that is required by WA DOSH or your employer is not voluntary use. With required use, your employer will need to provide further training and meet additional requirements in the respiratory protection regulation. WA DOSH recommends voluntary use of respirators when exposure to substances is below WA DOSH permissible exposure limits (PELs), because respirators can provide you an additional level of comfort and protection.

If you choose to voluntarily use a respirator (whether it is provided by you or your employer), be aware that respirators can create hazards for you, the user. You can avoid these hazards if you know how to use your respirator properly and how to keep it clean.

You should do the following:

1. Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding respirator limitations.
2. Choose respirators certified to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. If a respirator isn't certified by NIOSH, you have no guarantee that it meets minimum design and performance standards for workplace use.
3. A NIOSH approval label will appear on or in the respirator packaging. It will tell you what protection the respirator provides.
4. Do not wear your respirator into required use situations when you are only allowed voluntary use. Do not wear your respirator into atmospheres containing contaminants your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against solvents or smoke (since smoke particles are much smaller than dust particles).
5. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

**Attachment 2**

**KING COUNTY RESPIRATOR USE<sup>(a)</sup>**

<b>DEPT/ DIVISION</b>	<b>OCCUPATIONS</b>	<b>TASK/HAZARD DESCRIPTION</b>	<b>RESP TYPES<sup>(b)</sup></b>	<b>USER COMMENTS</b>
DAJD	CORRECTIONS OFFICER	TB PATIENT EXPOSURE	DM N95; PAPR	RESPIRATOR WORN IF TRANSPORTING SUSPECTED TB PATIENT
DAJD	CORRECTIONS OFFICER	CORRECTIONS EMERGENCY RESPONSE TEAM (CERT)	GM	RIOT CONTROL
DAJD	CORRECTIONS OFFICER	FIRE IN CORRECTIONAL FACILITY	SCBA	ASSIST FIREFIGHTERS IN CASE OF FACILITY FIRE
FMD	CARPENTER	DRYWALL SANDING NUSIANCE DUST	DM N95	USE WHEN SANDING WITHOUT VACUUM ATTACHMENT
FMD	HAZMAT TECH/SUPERVISOR	MANUAL DEMO- LEAD PAINT ON DRYWALL, ETC.	HF APR; N100	
FMD	MAINT. SPEC. / WORKER; PLUMBER, ELECTRICIAN, STEAMFITTER, CARPENTER	SUSPENDED CEILING WORK (ASBESTOS) ADMIN BLDG	HOOD PAPR; N100; HF APR N100	
FMD	ASBESTOS MGT PLANNER/SURVEYO R/ COORD	ASBESTOS SURVEYS/ OVERSIGHT	HF APR; N100	MAY WEAR OTHER TYPES OF RESPIRATORS
FMD	HAZMAT TECH/SUPERVISOR	ASBESTOS ABATEMENT: SURFACE INSUL.	SA	
FMD	HAZMAT TECH/SUPERVISOR	ASBESTOS ABATEMENT: FLOOR TILE	HF APR; N100	
FMD	HAZMAT TECH/SUPERVISOR	ASBESTOS ABATEMENT: FULL ENCLOSURE	FF APR; N100 SA	
FMD	HAZMAT TECH/SUPERVISOR	ASBESTOS ABATEMENT: GLOVE BAG	FF PAPR; N100	

<b>DEPT/ DIVISION</b>	<b>OCCUPATIONS</b>	<b>TASK/HAZARD DESCRIPTION</b>	<b>RESP TYPES<sup>(b)</sup></b>	<b>USER COMMENTS</b>
FMD, ROADS	PAINTER	PAINTING : PREP- SCRAPING/ SANDING PAINTED SURFACE/ORGANIC VAPORS	HF APR; R100; OV	
FMD, ROADS	WELDER	WELDING- UNPAINTED SURFACE, OPEN AREA/WELDING FUME	HF APR; N100	USE IF NO FORCED VENTILATION AVAILABLE.
FMD, ROADS	WELDER	GRINDING/ WELDING/ TORCHING- PAINTED SURFACE/ LEAD	HF APR, N100	INDOORS – MUST VENTILATE; OUTDOORS – MUST USE RESPIRATOR
FMD, ROADS	CARPENTER, PLUMBER, UTILITY	CONCRETE DEMO, SAWING, DRILLING/ SILICA	HF APR; N100	USE IF TASK IS OVER 15 MIN.
FMD, ROADS, PARKS	PAINTER; SIGN PAINTER	SPRAYING OIL: NO FORCED VENTILATION/ ORGANIC VAPORS	HF APR; OV/R100	USE IF TASK IS OVER 30 MIN. CHANGE CARTRIDGE- 8 HRS
DOT ROADS	BRIDGE MAINT. UNIT: CARPENTER; OPERATOR; UTILITY	BRIDGE PAINT MAINTENANCE/ LEAD	HF APR; R100	
DOT ROADS	PAINTER	SPRAYING OIL: WALK-IN BOOTH/ ORGANIC VAPORS	HF APR; R100/OV	USE IF PAINTING OVER 30 MIN; CHANGE CARTRIDGE- 8 HRS
FMD, ROADS, PARKS	SPRAY TECH; LANDSCAPE GARDENER	PESTICIDE/HERBICID E APPLICATION	HF APR; P	
PUBLIC HEALTH	CHIEF MEDICAL EXAMINER; MEDICAL EXAMINER; AUTOPSY TECHNICIANS	AUTOPSY/ FORENSICS/ (TB/BBP)	DM N95 / LOOSE FIT PAPR; N100	USE DURING AUTOPSY
PUBLIC HEALTH	JAIL-LPN/PUB HEALTH NURSE/RN; REQUIRED AT JAIL; TB CLINIC; PARAMEDICS	TB AND OTHER AIRBORNE DISEASE PATIENT EXPOSURE	DM N95	RESPIRATOR WORN IF EXPOSED TO SUSPECT PATIENT

<b>DEPT/ DIVISION</b>	<b>OCCUPATIONS</b>	<b>TASK/HAZARD DESCRIPTION</b>	<b>RESP TYPES<sup>(b)</sup></b>	<b>USER COMMENTS</b>
PARKS	POOL MGR; POOL FACILITY OPERATOR	EMERGENCIES: CHLORINE GAS	FF GM; CL	CHANGE CANISTER AFTER EACH USE AND EXP. DATE
PARKS	POOL FACILITY OPERATOR	ACID WASHING POOL SCALE	HF APR; AG	CHANGE CANISTER AFTER 8-HRS
SHERIFF'S OFFICE	SHERIFF'S DEPUTY; CORPORAL; SERGEANT	TEAR GAS USE	FF GM; OV	CHANGE CANISTER AFTER EACH USE AND EXP. DATE

<sup>(a)</sup> Includes mandatory use of any type of respirator/voluntary use of non-dust mask type respirators

<sup>(b)</sup> Key to Respirator Types:

- APR = Air purifying respirator
- DM = Dust mask
- PAPR = Powered air purifying respirator
- HF = Half face
- FF = Full face
- N100 = High efficiency particulate filter; (P100 and R100 also acceptable)
- R100 = High efficiency particulate filter; oil resistant
- N95 = Dust mask or cartridge (P95 and R95 also acceptable)
- OV = Organic vapor cartridge or canister
- AG = Acid gas cartridge
- P = Pesticide cartridge
- SCBA = Self-contained breathing apparatus
- SA = Supplied Air
- PD = Pressure demand
- GM = Gas Mask
- CL = Chlorine canister

## **Section 12: HEARING CONSERVATION PROGRAM**

### **INTRODUCTION**

Long-term exposure to excessive noise can lead to irreversible hearing loss. While noise-induced hearing loss rarely affects one's ability to "hear" speech, it can severely impair a person's ability to discriminate speech and communicate with others, leading to a profound decrease in quality of life. King County conducts a hearing conservation program as defined by WAC 296-817, "Hearing Loss Prevention (Noise), and WAC 296-802, "Employee Medical and Exposure Records." The program is designed to eliminate noise-induced hearing loss among King County employees.

### **APPLICABILITY**

This policy applies to all employees determined to have the potential for exposure to noise levels equaling or exceeding:

- An 8-hour time-weighted average (TWA) of 85 A-weighted decibels (dBA), using a slow response noise dosimeter
- A maximum of 115 A-weighted decibels (dBA), at any time, using a slow response sound level meter
- A peak reading of 140 C-weighted decibels (dBC), at any time, using a fast response sound level meter.

### **RESPONSIBILITIES**

Department Supervisors must ensure that:

- Employees working in high noise areas are aware of these requirements and participate in the King County Hearing Conservation Program
- Employees are provided with required training
- Appropriate hearing protection is available to employees
- Employees wear the proper hearing protection
- Employees included in the hearing conservation program have their hearing tested annually
- Administrative or engineering controls are implemented, when feasible

Employees must:

- Wear appropriate hearing protection as required
- Attend annual hearing tests and training as required

The Safety and Claims Management Office will:

- Conduct noise monitoring of work areas and specific jobs
- Determine which employees should be included in the Hearing Conservation Program
- Coordinate annual hearing testing and training

## **NOISE MONITORING**

Noise monitoring is conducted as deemed necessary or upon request at King County work locations where it is suspected that employee exposure to noise may exceed hearing conservation criteria. Noise monitoring is performed by Safety and Health Professionals from Safety and Claims Management (206-477-3350). Noise monitoring is conducted as required by WAC 296-817-20005. All employees will be notified of their monitoring results.

## **NOISE CONTROL**

Reasonable administrative or engineering controls are the most effective and desirable means of reducing noise exposure and must be implemented where employee 8-hour TWA exposures exceed 90 dBA. Personal hearing protective devices may be used to reduce noise exposure where engineering controls are not feasible or where the 8-hour TWA is less than 90 dBA.

Appropriate hearing protection must be used by all employees exposed to noise levels equaling or exceeding:

- An 8-hour TWA of 85 dBA, using a slow response noise dosimeter
- A maximum of 115 dBA, at any time, using a slow response sound level meter
- A peak reading of 140 dBC, at any time, using a fast response sound level meter.

Personal hearing protection (ear plugs or ear muffs) must be available at all times during the work shift to employees who are required to use hearing protection. Supervisors are responsible for maintaining an adequate supply of hearing protection devices and for ensuring that employees use them.

## **AUDIOMETRIC TESTING**

Safety and Claims Management provides audiometric testing for all employees participating in the hearing conservation program. The testing is conducted, and the results evaluated according to WAC 296-817-400.

Baseline audiometric testing is conducted during pre-employment physical examinations, and is repeated annually for employees participating in the hearing conservation program. Records of all noise monitoring and audiometric testing results are maintained by Safety and Claims Management, and are available upon request by King County employees. Audiometric test results are considered confidential medical records, and are released to third parties only upon authorization of the employee.

Each employee whose audiometric testing results show hearing loss, as defined

in WAC 296-817, is notified in writing within twenty-one days of determination of the hearing loss. If the employee already wears hearing protection, s/he must be retrained in its use and fitted with more efficient hearing protection if necessary. If the employee does not wear hearing protection, s/he must be provided hearing protection, trained in its use, and required to wear it. Additional medical testing, if necessary, is performed at no cost to the employee.

### **WARNING SIGNS**

Work areas where employees may be exposed to noise levels at or above 115 dBA must be posted with warning signs. The signs indicate that the area is a "high noise area" and that hearing protection is required to be worn at all times.

### **EMPLOYEE TRAINING**

All employees exposed to noise levels at or above 85 dBA for an 8-hour TWA must be given annual training that includes:

- The effects of noise on hearing (including both occupational and non-occupational exposures), and early signs of noise-induced hearing loss.
- Noise controls used in the workplace.
- The purpose of hearing protection: The advantages, disadvantages, and Noise Reduction Ratings (NRR) of various types.
- Instructions about selecting, fitting, using, and caring for hearing protection.
- The purpose and procedures for program evaluation including audiometric testing.
- The employees' right to access records kept by Safety and Claims Management.

### **QUESTIONS**

The potential for overexposure to harmful noise associated with a given job can be determined by a noise survey. If you have any questions, contact Safety and Claims Management at 206-477-3350.

## **Section 13: EMERGENCY EYEWASH AND SHOWER**

### **INTRODUCTION**

For work where there is a possibility for your eyes or body to be exposed to injurious chemicals and/or material, emergency washing facilities must be provided in your immediate work area. Emergency eyewashes and/or showers will be provided, depending on the hazard present.

### **APPLICABILITY**

An emergency eyewash must be present when there is potential for an employee's eyes to be exposed to corrosives, strong irritants or substances with a significant degree of toxicity. These chemicals include acids, caustics, peroxides, aldehydes, pesticides and concentrated detergents, among many other products. Consult the Safety and Claims Management office (206-477-3350) to determine if an eyewash is necessary for the chemicals you use.

An emergency shower must be present when there is the potential for major portions of an employee's body to contact corrosives, strong irritants or substances with a significant degree of toxicity. These include the same items listed above for eyewashes.

### **RESPONSIBILITIES**

Management of each department must ensure that all products used by employees are reviewed for any hazardous or toxic components, as required by the Hazard Communication and the Globally Harmonized System (GHS) Program (Section 9). Safety Data Sheets for products should indicate if there is concern for eye damage or injury from exposure to the product. Please consult with your Safety and Health Professional at Safety and Claims Management (206-477-3350) for advice on whether the intended use of the product would require an eyewash or shower.

### **TRAINING**

All potentially-affected employees must be trained about the hazards of the chemicals and the proper use of the equipment.

### **EMERGENCY EYEWASH**

The eyewash must meet the following minimum requirements:

- Must have a tepid water range of 60-100 degrees
- Flushes both eyes simultaneously while the user holds his/her eyes open
- Has a valve that remains on without user assistance
- Delivers at least 0.4 gallons of water per minute for at least fifteen minutes

- Meets the ANSI Z358.1 – 2009 standards

### **EMERGENCY SHOWER**

The shower must deliver water to cascade over the user's entire body at a minimum rate of 20 gallons per minute for at least fifteen minutes. The shower must meet the ANSI Z358.1 – 2009 standards.

### **LOCATION AND MAINTENANCE**

Emergency eyewashes and showers must be located at a travel distance of no more than 50 feet and take no more than 10 seconds to reach. Aisles must be kept free of obstacles for easy access for a person who may not be able to see.

Plumbed eyewashes and showers must be activated weekly to ensure operation and to keep water in the pipes fresh and uncontaminated. Weekly testing helps clear the supply lines of sediment and bacteria build-up caused from stagnant water. Annual inspections meeting the manufacturer's recommendations are required.

Self-contained (non-plumbed) eyewashes must have their water changed and be cleaned in strict accordance to the manufacturer's recommendations to prevent biological contamination of the water which can cause serious, debilitating eye infections. Generally, open units are changed every 6 months and sealed units every 2 years.

### **USE OF EMERGENCY EYEWASHES AND SHOWERS**

If a contaminant contacts the eyes, immediately go to the eyewash and turn on the water. Hold open both sets of eyelids with your fingers and flush the eyes for at least fifteen minutes. The fifteen minutes period of flushing is very important to remove chemicals that stubbornly attach to the surface of the eye and to remove chemicals that may have already penetrated the surface. Have someone assist you if possible.

If a contaminant contacts a significant portion of the body, then immediately go to the emergency shower and turn it on. Remove any clothing that was contacted (all clothing if necessary), and get under the shower for at least fifteen minutes. Again, this time period may be critical to remove certain chemicals. Do not put the contaminated clothing back on. Have someone assist you if possible.

## **Section 14: BLOODBORNE PATHOGENS EXPOSURE CONTROL**

### **INTRODUCTION**

Bloodborne pathogens are microorganisms that can be present in human blood and cause disease in humans. These pathogens include, but are not limited to, the human immunodeficiency virus (HIV), which causes AIDS; the Hepatitis B virus (HBV); and the Hepatitis C virus (HCV).

### **APPLICABILITY**

This Bloodborne Pathogens Exposure Control Plan is applicable to all King County employees who may perform first aid or CPR in a workplace emergency, but who are not designated first-responders. This plan is intended for all employees who are not otherwise included in a departmental Bloodborne Pathogens Program, in the event of an unanticipated exposure incident.

If your job includes designated duties that involve occupational exposure to human blood or other potentially infectious materials as defined below, your department must have a written Bloodborne Pathogen Exposure Control Plan and you must be included in a Bloodborne Pathogens Program specific to your job classification. That program supersedes this general plan.

### **RESPONSIBILITIES**

Managers and Supervisors are responsible for:

- Ensuring that their department has a specific bloodborne pathogens policy, if required
- Ensuring that employees who may be exposed to bloodborne pathogens during the course of their work are trained appropriately
- Ensuring that employees who experience an exposure during work follow the procedures outlines in this plan

Employees are responsible for following procedures as outlined in this or their departmental bloodborne pathogens policy.

### **DEFINITIONS**

"Blood" means human blood, human blood components, and products made from human blood.

"Exposure incident" is defined as a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials (OPIM) that results from the performance of an employee's job duties.

"Non-intact skin" means skin that is damaged by a wound or lesions, or otherwise compromised by a condition such as eczema or some other form of dermatitis.

"Occupational exposure" means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

"Other potentially infectious materials (OPIM)" means human body fluids including semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids. ("Saliva in dental procedures" is included above due to the likelihood of the presence of blood in the saliva as a result of the dental procedures. Otherwise however, saliva and sweat are not included in the definition of other potentially infectious materials.)

"Parenteral contact" refers to exposure via a cut or puncture wound inflicted by a potentially-contaminated sharp, such as a piece of glass or a used hypodermic needle.

"Universal Precautions" is an approach to infection control. According to the concept of universal precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

## **ASSESSING EXPOSURE INCIDENTS**

For reporting and follow-up purposes, an "exposure incident" is defined as a specific incident involving eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially contaminated materials that results from the performance of an employee's job duties.

All human blood and other potentially-infectious materials are presumed to be infectious. Sweat and saliva are not considered to be infectious body fluids unless there is reason to suspect the presence of blood or other potentially-infectious materials in the sweat or saliva. If a victim's blood or other potentially-infectious body fluids splash in your eyes, in your mouth, up your nose, or on non-intact skin, an exposure incident has occurred.

Contact with healthy, intact, unabrased skin does not necessarily constitute an exposure incident. For example, if blood splashes on intact skin and is immediately washed off, it would not constitute an exposure incident. If the contact goes unnoticed and/or a significant amount of time passes before the

blood can be washed off, however, there is a much greater likelihood that subsequent eye, nose, mouth, or non-intact skin contact may have occurred. Performing first aid while observing universal precautions and using appropriate personal protective equipment does not constitute an exposure incident unless there is some specific body fluid contact as described above.

If the skin is broken by a potentially-contaminated item, either by incision, laceration, puncture, abrasion, or other trauma, an exposure incident has occurred.

## **EXPOSURE PREVENTION AND CONTROL PROCEDURES**

First aid providers need to take every reasonable precaution to limit contact with a victim's body fluids. In the event that it is necessary for you to administer first aid or CPR at work, use nitrile gloves and the CPR mask, as appropriate, to prevent contact with the victim's body fluids. These items should be included in all first aid kits. Following any first aid/CPR emergency, all potentially-contaminated surfaces must be cleaned with an appropriate disinfectant solution. If no other disinfectant cleaner is available, a solution of one part chlorine bleach to nine parts water may be used.

After a first aid emergency, place all potentially-contaminated clothing, clean-up materials and other contaminated items into a plastic bag. Give the bag to the paramedics upon their arrival, or take it to the hospital with the victim. Do not eat anything, smoke, touch your face, or put on lotions or cosmetics until after you have thoroughly washed your hands.

Although such occurrences are rare, King County employees in "low risk" occupations have been cut and/or stuck by potentially-contaminated sharps hidden in flower boxes, flower beds or other vegetation, trash containers, and rubbish piles. Never dig in soil or reach in vegetation with your hands where you cannot see. As a general rule, always consider the possible presence of contaminated sharps before reaching under, behind, on top of, or into anything or anywhere you cannot see. Never compress trash with your hands. Handle closed trash bags by the neck only, and carry them away from your body.

Use tongs, or a dustpan and broom to pick up potentially contaminated sharps. Never pick up items such as used hypodermic needles, broken glass, jagged pieces of metal, razor blades, or other sharp-edged items by hand, even if you are wearing gloves. Place all sharps in a sturdy, leak-proof container.

## **POST-EXPOSURE FOLLOW-UP PROCEDURES**

Following an exposure incident, the exposed areas of the body should be washed with soap and warm water as quickly as possible. Mucous membranes

such as mouth, eyes and nose should be flushed with large amounts of clean water.

The exposure incident should be reported to your supervisor as soon as possible. If you are unsure whether or not an incident meets the criteria for a reportable exposure incident, proceed as if it does.

Go to the Harborview Medical Center Emergency Room, or any L&I approved medical provider (<https://fortress.wa.gov/lni/imets/>), or a US HealthWorks Occupational Medicine Clinic (<http://www.ushealthworks.com/Medical-Center/Washington.html>)

Inform them that you are a King County employee and describe the incident in detail. Be sure to mention that the incident was work-related and that King County is self-insured. If available, take a self-insurance packet along with you to the hospital or clinic. A King County Workers' Compensation claim must be filed for all bloodborne pathogen exposure incidents.

The consulting physician may submit a request for testing of the source individual's blood for HIV, HBV, and HCV. In Washington State this information cannot be released without the source individual's permission. Provided that the source individual gives permission to release the information, the results of the blood test will be made available to your physician as soon as possible.

The post-exposure medical evaluation will include a review of the exposure incident, a review of your medical history including HBV vaccination status, a review of the source individual's blood test results if available, a baseline sample of your blood, and commencement of treatment as deemed appropriate by the attending physician.

Following the post-exposure evaluation, the attending physician will provide your supervisor with a written opinion. This opinion will be limited to a statement that you have been informed of the results of the evaluation and told of the need, if any, for any further evaluation or treatment. Your supervisor is required to provide you with a copy of the physician's opinion within 15 days. The physician's written opinion will be the only information provided to your supervisor regarding the exposure incident; all other medical findings and records will remain confidential.

All potential bloodborne pathogen exposures need to be reported as a Workers' Compensation Claim, regardless of whether there is a visit to a health care provider. The claims forms, including the SIF-2, need to be filled out both for the employee's protection (documentation for any future claims) and to comply with state reporting requirements.

## **TRAINING**

Any job may involve some possibility of exposure to blood or other potentially infectious materials. While it is not possible to specifically address and control every exposure risk, training in hazard awareness and precautionary measures can greatly reduce the potential for bloodborne pathogens exposure incidents. King County Safety and Claims Management provides training on bloodborne pathogens to all occupationally-exposed employees, and it is included in the county's first aid training.

Bloodborne Pathogens training includes the following topics, as appropriate:

- An accessible copy of the regulatory text of the bloodborne pathogens standard and an explanation of its contents;
- A general explanation of the epidemiology and symptoms of bloodborne diseases;
- An explanation of the modes of transmission of bloodborne pathogens;
- An explanation of the exposure control plan and the means by which an employee can obtain a written copy;
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;
- An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;
- Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;
- An explanation of the basis for selection of personal protective equipment;
- Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and discussion of the criteria for determining who receives the preventative vaccination series;
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;

- An explanation of the procedures to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;
- Information on the post-exposure evaluation that the employer is required to provide for the employee following an exposure incident;
- An explanation of the signs and labels and/or color coding intended to inform/warn employees of potential hazards; and
- An opportunity for interactive questions and answers with the person conducting the class.

If you have not received bloodborne pathogens training, ask your supervisor or your safety committee representative, or contact the Safety and Claims Management office at 206-477-3350.

## **Section 15: ASBESTOS**

### **INTRODUCTION**

Asbestos has been used in many building, friction, and other types of products for decades. Its use was banned in most building products by 1980, but is not banned for other uses, such as brakes, clutches or gaskets. Exposure to airborne asbestos can cause lung disease, lung cancer and mesothelioma. A partial list of materials that may contain asbestos is located at <http://www.epa.gov/Region06/6pd/asbestos/asbmatl.htm>

### **APPLICABILITY**

Most King County employees have no contact with asbestos in their work environment, because recognized friable asbestos products have been contained or removed from King County facilities. Employees who may have risk of exposure to airborne asbestos are building trades, custodians and vehicle mechanics. All projects involving contractors who may disturb building materials must be evaluated for asbestos-containing materials.

### **RESPONSIBILITIES**

Building owners are responsible for conducting asbestos surveys prior to performing maintenance, janitorial, or construction activities. All asbestos removal at King County facilities is conducted by the Hazmat crew, part of the Department of Executive Services, Facilities Management Division. If removal is contracted out, then the Project Manager must ensure that the contractor is currently licensed for such work by the State of Washington.

Vehicle maintenance operations must ensure that new vehicles and replacement parts do not contain any asbestos. The current state contract for new vehicles specifies there be no friction products containing asbestos. There are currently no vehicle mechanics properly trained or equipped for working with asbestos-containing friction products or gaskets.

### **TRAINING**

All building trades and custodians who work in buildings with asbestos-containing building materials, and who may disturb them, must receive annual asbestos awareness training.

Hazmat workers who remove asbestos must have a current State of Washington certification to perform disturbance or removal of asbestos-containing materials. Initial and annual training are required. The Department of Executive Services, Facilities Management Division Hazmat team has a written operations and safety program specific to their responsibilities.

## **Section 16: TOOLS AND EQUIPMENT**

### **INTRODUCTION**

Most King County jobs require the use of some type of tools, equipment, or machinery, all of which can present hazards if they are not operated and maintained in accordance with the manufacturer's instructions. Following basic tool and equipment safe operating procedures can mitigate hazards and minimize the impact on the body.

Use only the machines and equipment you are trained and authorized to use. Leave repair and maintenance to those designated to perform these tasks. If you discover any equipment you think is not safe, report it to your supervisor immediately before continuing work. Any equipment found to be defective or unsafe must be removed from use and marked "Unsafe-Do Not Use" until corrective action is taken.

Any machine that could expose a person to injury from a point of operation, such as blades, cutters, rotating parts, powered drive belts, gears, or chains, must be provided with guards that completely enclose the hazardous parts of the machine. All guards should be in place and properly adjusted before the machine is operated. If guards are removed for an approved, specific procedure, they must be replaced immediately after finishing.

### **APPLICABILITY**

This program applies to all employees who use machines, tools, or equipment at work.

### **RESPONSIBILITIES**

County Safety and Health Professionals:

- Develop written programs
- Provide technical assistance to supervisors and managers
- Assist in employee training

Supervisors and Managers:

- Evaluate or seek help to identify appropriate tools for job tasks
- Equip employees with necessary tools to perform their jobs safely
- Ensure compliance with the safety program
- Provide training for employees on tool use

Employees:

- Comply with management directives with respect to tool use
- Review manufacturers' instructions before using any tool
- Only use tools for their intended purposes

## **TRAINING**

All King County employees who use machines, tools, or equipment for their jobs must be trained in use, maintenance and storage. Training shall be provided by knowledgeable individuals. Where possible, it is recommended that training be provided by manufacturer's representatives.

## **GENERAL REQUIREMENTS**

- Tools and equipment shall be used only for the purpose for which they are designed
- All tools, regardless of ownership, shall be of an approved type, maintained in proper condition, and subject to inspection at any time
- Tools with sharp edges shall be stored and handled in such a way as to not cause damage or injury to personnel
- Damaged machines, tools, and equipment must not be used
- Tools, except those normally carried on belts, that must be raised or lowered from one elevation to another shall be placed in an approved container or firmly attached to hand lines
- Tools shall not be thrown from place to place or from person to person under any circumstances
- Tools shall not be left lying around to pose tripping or stumbling hazards
- Tools shall not be placed unsecured on elevated places
- All hand-held power tools must be equipped with constant pressure switches that will shut off the power when the pressure is released
- Switches or valves on any type of power tools shall not be wired or tied in the open position

## **SPECIFIC REQUIREMENTS - POWER TOOLS**

Power tools should be inspected, tested, and determined to be in safe operating condition before using. Portable electric tools, equipment, and appliances must meet one or more of the following:

- The exposed noncurrent-carrying metal parts of the portable or plug-connecting equipment that may be energized must be grounded.
- The equipment must be of the approved double-insulated type and be conspicuously marked as such.
- The equipment must be self-contained and battery-operated.

Portable power tools present hazards similar to those presented by stationary machinery in addition to the risk of handling. Sources of injury include shock, particles in the eyes, fires, falls, explosion of gases, and falling tools. The following general guidelines must be followed:

- Always disconnect the power lines before changing the accessories on a portable tool, replace the guards, and put in the correct adjustment before the tool is used again.
- Suspend the power lines over the work areas in such a way as to prevent the line from being struck by people or materials moving through the area. Keep lines away from sharp edges, oils, hot surfaces, and chemicals.
- Establish and maintain a systematic inspection schedule of each tool to help prevent accidents. Tag and withdraw from service all defective tools, until repaired.

### **Portable Abrasive Wheels**

Abrasive wheels shall be used only on machines provided with safety guards and recommended for such use by the manufacturer. Before use, ensure that safety guard covers the spindle end, nut and flange projections.

### **Vertical Portable Grinders**

When using the vertical portable grinder, ensure that the safety guards in place. They must have a guard with maximum exposure angle of 180 degrees and located between the user and the wheel during use.

### **Bench Grinder**

- When using abrasive or wire wheels, wear a face shield, goggles, or safety glasses.
- Since most defective wheels break when first started, run all new wheels at full operating speed for at least one minute before work is applied. Ensure that the immediate area in front of the grinder is cleared of all people before starting.
- Do not grind on the side of a grinding wheel unless it is designed for side grinding.
- Ensure that there is no more than 1/8 of an inch between the tool rest and grinding wheel. This must be adjusted as wheel wears down.

### **Band Saw**

- Ensure that the saw table is well lighted, yet free from glare.
- Ensure that an adjustable guard is installed around the saw blade and it does not interfere with the movement of stock or the vision of the operator.
- Keep the floor around the saw clean and do not allow it to get slippery. Ensure that the working distance around the saw is ample and free of traffic to avoid any accidental bumping of either the stock or the operator into the saw.
- Wear safety glasses to protect your eyes from flying particles.
- The most common injuries from band saw are from hand contact with the saw blade.
- Clean accumulated shavings from underneath saw to prevent build up and potential hazard.

### **Electrical Drill Press**

- Always use a sharp drill bit to prevent breakage
- Keep hair and sharp clothing away from revolving parts
- Wear safety glasses
- Remove key or drift from chuck before starting drill
- Securely clamp work before drilling to prevent a frozen drill from spinning the drill material

### **Table Saw**

- Injuries from table saws are usually caused by contact with the blade or kickbacks, and by poor housekeeping practices
- Table saws must be equipped with saw blade hoods, a spreader or riving knife, and non-kickback fingers or dogs
- Keep hands out of the line of the cut while feeding
- Hold the stock against a gauge, and never saw freehand
- Clamp the filler board to the table between the gauge and the saw to guide the stock when ripping the stock with a narrow clearance on the gauge side
- Stand out of the line of the stock to avoid kickbacks. A heavy leather or plastic apron will give additional protection
- To help prevent kickbacks, set the saw blade so that no more than three teeth or 1/8" of the blade are exposed above the stock
- The lower the saw blade is set, the less chance there is of kickback
- Keep saw blades sharp to prevent material from getting pinched
- Check blades regularly for cracks, and replace the blade if necessary
- Clear sawdust and slivers away from the saw with a brush or stick, never with the hands
- Clean accumulated shavings from underneath the saw to prevent build up and a potential hazard

### **Circular Hand Saw**

- Ensure that the guard operates freely; that it encloses the teeth completely when it is not in cutting, and the unused portion of the blade when it is cutting
- Start and stop the saw outside the work
- Keep your body out of the line of the cut at the beginning and end of the stroke

### **Other Woodworking Machinery**

- Ensure that all other woodworking machinery such as swing saws, radial saws, jointers, boring and mortising machines, shapers, planers, lathes, sanders, veneer cutters, and other miscellaneous woodworking machinery are effectively guarded to protect the operator and other employees from hazards inherent to their operations.

- Provide a power control device on each machine to make it possible for the operator to cut off the power to the machine without leaving his/her position at the point of operation.
- Ensure that power controls and operating controls are located within reach of the operator while he/she is at his/her regular work location, making it unnecessary for him/her to reach over the cutter to make adjustments (This does not apply to constant pressure controls used only for setup purposes).
- Ensure that each operating treadle is protected against unexpected or accidental tripping.
- On applications where injury to the operator might result if motors were to restart after power failures, make sure that provisions are made to prevent machines from automatically restarting upon restoration of power.

### **Electric Drill**

- Adequately secure the work by using a clamp, jig, or vise, and do not hold small work in hands
- Wear adequate eye protection whenever a drill is in use, especially when the work is near head level or overhead
- Ensure that the chuck key or drift has been removed from the chuck before a drill is started

### **PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIREMENTS**

Employees must use appropriate PPE when working with tools. Consult Section 10 – "Personal Protective Equipment and Clothing" of this Accident Prevention Program for more details on selection, fitting, cleaning and maintenance of PPE. For further assistance with PPE, contact your Department's assigned Safety and Health Professional.

## **Section 17: ELECTRICAL HAZARDS**

### **INTRODUCTION**

Use of electrical equipment, such as computers, copy machines, tools or even microwave ovens occurs in almost all work areas. There are some basic procedures to follow to prevent electrical shock or fires.

Some Departments have licensed electricians who install and maintain electrical systems and equipment. See Attachments 1 and 2 of this section for procedures for electricians and HVAC engineers.

### **APPLICABILITY**

All employees have some risk of electrical shocks or fires from electrical equipment.

### **RESPONSIBILITIES**

Employees should periodically inspect the electrical equipment they use. Look for obvious problems such as breaks or cuts in cord insulation, wire insulation pulled away from plugs and exposing wires, plugs with any blades or grounding prongs damaged or missing, or any equipment that has a burning smell or is not operating correctly. Report any problems to your supervisor.

Management and supervisors must ensure the purchase of equipment that is listed by a nationally recognized electrical testing laboratory, such as Underwriter's Laboratory (UL listed). When adding business machines, appliances or other equipment that use moderate amounts of power, consult with a licensed electrician to determine if the existing circuit has adequate capacity. Items such as large copy machines, refrigerators and microwave ovens require separate circuits. Space heaters are not permitted, unless specified by a doctor, because they commonly overwhelm the circuit's capacity.

Use equipment only if it is in good condition, and only use in the way it was intended. Defective electrical equipment or improper use can cause serious or fatal injuries.

Employees who are not qualified electricians, working in an elevated position, or on the ground near overhead lines, must stay at least 10 feet away from energized power lines with voltages of 50,000 volts or less. For power lines over 50,000 volts, the minimum distance is 10 feet plus 0.4 inch for every 1000 volts over 50,000 volts. This includes any possible conductive objects.

When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, supervision must have

electricians provide protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts.

Exposed, energized equipment must be insulated or guarded in areas where there are trades workers or others who may handle conductive equipment, such as pipes or vents.

## **Attachment 1: Electrician and HVAC Engineer Safety Procedures**

The following work procedures shall be observed:

Compliance with requirements listed in the National Electrical Code (National Fire Protection Association No. 70 – American Safety Standards C2), Underwriter’s Laboratories, Washington Department of Labor and Industries standards, and King County Safety Standards. The most stringent rule or procedure should be accepted as standard operating procedures and any deviation is to be cleared through the Safety and Claims Management Office.

Whenever possible, equipment and circuits must be de-energized, locked out and tagged. Equipment and circuits must then be tested to ensure they have been entirely de-energized.

Before working on capacitor circuits, disconnect external power and discharge capacitors to ground. Use insulated tools or conductors.

Be careful around electrical equipment. Avoid assuming unstable positions, which might lead to falls into equipment.

Portable ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized parts or power lines.

Conductive articles of jewelry and clothing, such as watch bands, bracelets, rings, key chains, necklaces, cloth with conductive thread or metal rivets, shall not be worn if they might contact exposed energized parts.

Maintain adequate clearances from energized circuits and components. Minimum safe clearances are 6 inches for 750 volts or less, and 2 feet for 750 volts to 15,000 volts. The minimum distance to be maintained from energized high voltage lines without insulating barriers (rubber blankets) is 10 feet.

Make sure that non-current-carrying metal parts are grounded. Visually inspect or conduct tests as appropriate to determine the adequacy of grounds.

Immediately report to your supervisor any unsafe and hazardous facilities and equipment.

### Working on energized equipment

Live parts to which employees may be exposed, shall be de-energized before the employees work on or near them, unless it is infeasible due to additional or increased hazards, equipment design, operational limits or need for testing live

parts. Live parts that operate at less than 50 volts to ground do not need to be de-energized if there will be no increased exposure to electrical burns or arcs.

Examples of increased or additional hazards include interruption of life support equipment, deactivation of emergency alarm systems, shutdown of hazardous location ventilation equipment, or removal of illumination from an area without minimal natural light. Examples of work on or near energized circuit parts due to design or operational limits includes needed testing of energized circuits, or work on circuits that are part of much larger systems that would require shutting down the whole system in order to work on one circuit or piece of equipment.

The two major risk hazards when working on energized equipment are electrical shock and arc flash. An additional major hazard is falls caused by shocks and arcs.

The procedures and personal protective equipment required by the National Fire Protection Agency, “NFPA 70E, Electrical Safety Requirements for Employee Workplaces, 2000”, shall be followed by King County employees as a minimum to help prevent accidents and injuries. These requirements are listed in Attachment 2 of this section.

## **Attachment 2: Electrician Procedures and Personal Protective Equipment Working On or Near Live Circuits**

Working on live circuits means actually touching energized parts. Working near live circuits means working close enough to energized parts to pose a risk even though you make be working on de-energized parts. Common tasks where you need to work on or near live circuits include:

- Taking voltage measurements
- Opening and closing disconnects and breakers
- Racking breakers on and off the bus
- Removing panels and dead fronts
- Opening electric equipment doors for inspection.

There should be standard written procedures and training for these common tasks. For instance, when opening and closing disconnects, use the **left-hand rule** when possible (stand to the right side of the equipment and operate the disconnect with your left hand). For other situations where you might need to work on or near live circuits, your employer should institute a written live work permit system which must be authorized by a qualified supervisor.

### **Live-work permit system**

A live work permit should, at a minimum, contain this information:

- A description of the circuit and equipment to be worked on and location
- The date and time covered by the permit
- Why live work will be done
- Results of shock hazard analysis and determination of shock protection boundaries
- Results of flash hazard analysis and determination of flash protection boundary
- PPE to be worn and description of safe work practices to be used
- Who will do the work and how unqualified persons will be kept away
- Evidence of completion of job briefing, including description of job-specific hazards.

### **Approach distances to exposed live parts**

The National Fire Protection Association defines three approach distances for shock hazards and one for arc flash.\*\*\* **Electric shock** (see table 1).

- The **limited approach boundary** is the closest distance an unqualified person can approach, unless accompanied by a qualified person.
- The **restricted approach boundary** is the closest distance to exposed live parts a qualified person can approach without proper PPE and tools. Inside this boundary, accidental movement can put a part of your body or conductive tools in contact with live parts or inside the prohibited approach boundary. To cross the restricted approach boundary, the qualified person must:
  - (a) Have a documented plan that is approved by the manager responsible for the safety plan.
  - (b) Use PPE suitable for working near exposed live parts and rated for the voltage and energy level involved.
  - (c) Be certain that no part of the body enters the prohibited space.
  - (d) Minimize the risk from unintended movement, by keeping as much of the

body as possible out of the restricted space; body parts in the restricted space should be protected.

- The **prohibited approach boundary** is the minimum approach distance to exposed live parts to prevent flashover or arcing. Approaching any closer is comparable to making direct contact with a live part. To cross the prohibited approach boundary, the qualified person must:
  - (a) Have specified training to work on exposed live parts.
  - (b) Have a documented plan with proper written work procedures and justifying the need to work that close.
  - (c) Do a written risk analysis.
  - (d) Have (b) and (c) approved by the manager responsible for the safety plan.
  - (e) Use PPE appropriate for working near exposed live parts and rated for the voltage and energy level involved.

**Arc flash.** The **flash protection boundary** is the distance at which PPE is needed to prevent incurable burns (2nd degree or worse) if an arc flash occurs. (You still can get 1st or 2nd degree burns.) For systems of 600 volts and less, the flash protection boundary is 4 feet, based on an available bolted fault current of 50 kA (kiloamps) and a clearing time of 6 cycles (0.1 seconds) for the circuit breaker to act, or any combination of fault currents and clearing times not exceeding 300 kA cycles. For other fault currents and clearing times, see NFPA 70E.

Remember, when you have de-energized the parts you are going to work on, but are still inside the flash protection boundary for nearby live exposed parts: If the parts cannot be de-energized, you must use barriers such as insulated blankets to protect against accidental contact or you must wear proper PPE.

### **Proper Personal Protective Equipment**

When working on or around live circuits, be sure to wear the right PPE to protect against electric shock and arc flash. Never wear clothing made from synthetic materials, such as acetate, nylon, polyester, or rayon - alone or combined with cotton. Such clothing is dangerous because it can burn and melt into your skin.

The type of PPE worn depends on the type of electric work being done (see table 2).

Once the hazard/risk category has been identified, check requirements for clothing and other PPE when working on or near energized equipment within the flash protection boundary (see tables 3 and 4). These PPE requirements protect against electric shock and incurable arc-flash burns. They do not protect against physical injuries from arc blasts.

The minimum PPE required would be an untreated natural fiber long-sleeve shirt and long pants with safety glasses with side shields (hazard/risk category 0).

**For more information**, call your local union, CPWR – Center for Construction Research and Training (CPWR) (301-578-8500 or [www.cpwr.com](http://www.cpwr.com)), the National Institute for Occupational Safety and Health (1-800-35-NIOSH or [www.cdc.gov/niosh](http://www.cdc.gov/niosh)).

**Table 1. Approach boundaries to live parts for shock prevention**

Nominal system voltage range, phase to phase	Limited approach boundary		Restricted approach boundary (allowing for accidental movement)	Prohibited approach boundary
	Exposed movable conductor	Exposed fixed- circuit part		
0 to 50 volts	Not specified	Not specified	Not specified	Not specified
51 to 300 volts	10 ft. 0 in.	3 ft. 6 in.	Avoid contact	Avoid contact
301 to 750 volts	10 ft. 0 in.	3 ft. 6 in.	1 ft. 0 in.	0 ft. 1 in.
751 to 15,000 volts	10 ft. 0 in.	5 ft. 0 in.	2 ft. 2 in.	0 ft. 7 in.

Source: From a portion of table 2-1.3.4, Approach Boundaries to Live Parts for Shock Protection (NFPA 70E Standard for Electrical Safety Requirements for Employee Workplaces, 2000 edition). Tables are reprinted with permission. Copyright ©2000 National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association on the referenced subject, which is represented only by the standard in its entirety.

**Table 2. Hazard risk category classification (within flash protection boundary)**

For low-voltage tasks (600 volts and below), this table applies only when there is an available short-circuit capacity of 25 kA or less, and when the fault clearing time is 0.03 seconds (2 cycles) or less. For 600-volt-class motor control centers, a short-circuit current capacity of 65 kA or less and fault-clearing time of 0.33 seconds (20 cycles) is allowed. For 600-volt-class switchgear, you need a short-circuit current capacity of 65 kA or less and fault-clearing time of 1 second (60 cycles). For tasks not covered in this table and tasks involving equipment with larger short-circuit current capacities or longer fault-clearing times, a qualified person must conduct a flash hazard analysis (see section 2-1.3.3, Part II, NFPA 70E).

	Hazard/risk category	Voltage-rated Gloves	Tools
<b>Opening Doors and Covers</b>			
<b>Opening hinged covers (to expose bare, energized parts)</b>			
240 volts or less	0	N	N
600-volt-class motor control centers	1	N	N
600-volt-class lighting or small power transformers	1	N	N
600-volt-class switchgear (with power circuit breakers or fused switches)	2	N	N
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV	3	N	N
1 kV and over (metal clad switchgear)	3	N	N
1 kV and above metal clad load interrupter switches, fused or unfused	3	N	N
<b>Removing bolted covers (to expose bare, energized parts)</b>			
240 volts or less	1	N	N
600-volt-class motor control centers or transformers	2*	N	N
600-volt-class lighting or small power transformers	2*	N	N
600-volt-class switchgear (with power circuit breakers or fused switches)	3	N	N
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV	4	N	N
1 kV and above (metal clad switchgear)	4	N	N

1 kV and above metal clad load interrupter switches, fused or unfused	4	N	N
Opening transformer compartments for metal clad switchgear 1 kV and above	4	N	N
<b>Installing, Removing or Operating Circuit Breakers (CBs), Fused Switches, Motor Starters or Fused Contactors</b>			
Installing or removing circuit breakers or fused switches, 240 volts or less	1	Y	Y
<b>Inserting or removing (racking) CBs from cubicles, doors closed</b>			
600-volt-class switchgear (with power circuit breakers or fused switches)	2	N	N
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV	2	N	N
1 kV and above metal clad switchgear	2	N	N
<b>Inserting or removing (racking) CBs or starters from cubicles, doors open</b>			
600-volt-class switchgear (with power circuit breakers or fused switches)	3	N	N
NEMA E2 (fused contactor) Motor Starters, 2.3 kV through 7.2 kV	3	N	N
1 kV and above metal clad switchgear	4	N	N
<b>Operating circuit breaker (CB), fused switch, motor starter or fused contactor, covers on/doors closed</b>			
240 volts or less	0	N	N
>240-<600 volt panelboards/switchboards (molded case or insulated case CBs)	0	N	N
600 volt class motor control centers	0	N	N
600 volt class switchgear (with power circuit breakers or fused switches)	0	N	N
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV	0	N	N
1 kV and above (metal clad switchgear)	2	N	N
1 kV and above metal clad load interrupter switches, fused or unfused	2	N	N
<b>Operating circuit breaker, fused switch, motor starter or fused contactor, covers off/doors open</b>			
240 volts or less	0	N	N
>240-<600 volt panelboards/switchboards (molded case or insulated case CBs)	1	N	N
600 volt class motor control centers	1	N	N
600 volt class switchgear (with power circuit breakers or fused switches)	1	N	N
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV	2*	N	N
1 kV and above (metal clad switchgear)	4	N	N

## Working on Energized Parts

### Working on energized parts, voltage testing, applying safety grounds

240 volts or less	1	Y	Y
>240-<600 volt panelboards/switchboards (molded case or insulated case CBs)	2*	Y	Y
600-volt-class motor control centers	2*	Y	Y
600-volt-class switchgear (with power circuit breakers or fused switches)	2*	Y	Y
600-volt-class lighting or small power transformers	2*	Y	Y
600-volt-class revenue meters	2*	Y	Y
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV	3	Y	Y
1 kV and above metal clad switchgear	4	Y	Y
1 kV and above metal clad load interrupter switches, fused or unfused	4	Y	Y

### Working on control circuits with exposed energized parts, 120 volts or below

600-volt-class motor control centers	0	Y	Y
600-volt-class switchgear (with power circuit breakers or fused switches)	0	Y	Y
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV	0	Y	Y
1 kV and above metal clad switchgear	2	Y	Y

### Working on control circuits with exposed energized parts, over 120 volts

600-volt-class Motor Control Centers	2*	Y	Y
600-volt-class switchgear (with power circuit breakers or fused switches)	2*	Y	Y
NEMA E2 (fused contactor) motor starters, 2.3 kV through 7.2 kV	3	Y	Y
1 kV and above metal clad switchgear	4	Y	Y

### Other Tasks

Reading panel meters while operating meter switches	0	N	N
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### Metal clad load interrupter switches, fused or unfused, 1 kV and above

Outdoor disconnect switch operation (hookstick operated)	3	Y	Y
Outdoor disconnect switch operation (gang-operated, from grade)	2	N	N
Insulated cable examination, in open area	2	Y	N
Insulated cable examination, in manhole or other confined space	4	Y	N

### Removing/installing other equipment

Starter "buckets" for 600-volt-class motor control centers	3	Y	N
600-volt-class revenue meters	2*	Y	N
Covers or cable troughs for 600-volt-class revenue meters	1	N	N

2\* = A double-layer switching hood and hearing protection are required, in addition to the other hazard/risk category 2 requirements of table 3-3.9.2 of Part II of NFPA 70E. See tables 3 and 4.

kV = kilovolt

Note: Applying safety grounds after voltage testing does not require voltage-rated tools. Voltage-rated gloves or tools are rated and tested for the maximum line-to-line voltage on which work will be done. The hazard/risk category may be reduced by one number for low-voltage equipment listed here where the short-circuit current available is less than 15 kA (less than 25 kA for 600-volt-class switchgear).

Source: Adapted from table 3-3.9.1, Hazard Risk Category Classifications (NFPA 70E Standard for Electrical Safety Requirements for Employee Workplaces, 2000 edition). Tables are reprinted with permission. Copyright ©2000 National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association on the referenced subject, which is represented only by the standard in its entirety.

**Table 3. Simplified, two-category, flame-resistant clothing system**

Applicable tasks	Clothing requirement
<p>All hazard/risk category 1 and 2 tasks listed in table 2</p> <p>On systems operating at less than 1000 volts, these tasks include work on all equipment except</p> <ul style="list-style-type: none"> <li>• Insertion/removal of low-voltage motor starter "buckets"</li> <li>• Insertion/removal of power circuit breakers with the switchgear doors open</li> <li>• Removal of bolted covers from switchgear.</li> </ul> <p>On systems operating at 1000 volts or more, tasks also include the operation, insertion, or removal of switching devices with equipment enclosure doors closed.</p>	<p>Everyday work clothing</p> <p>Flame-resistant long-sleeve shirt (minimum ATPV of 5) <u>worn over</u> an untreated cotton T-shirt with FR pants (minimum ATPV of 8)</p> <p>Or</p> <p>FR coveralls (minimum ATPV of 5) <u>worn over</u> an untreated cotton T-shirt (or an untreated natural-fiber long-sleeve shirt) with untreated natural-fiber pants.</p>
<p>All hazard/risk category 3 and 4 tasks listed in table 2</p> <p>On systems operating at 1000 volts or more, these tasks include work on energized parts of all equipment. On systems of less than 1000 volts, tasks include insertion or removal of low-voltage motor-start motor control center "buckets," insertion or removal of power circuit breakers with the switchgear enclosure doors open, and removal of bolted covers from switchgear.</p>	<p>Electric "switching" clothing</p> <p>Double-layer FR flash jacket and FR bib overalls <u>worn over</u> either FR coveralls (minimum ATPV of 5) or FR long-sleeve shirt and FR pants (minimum ATPV of 5) <u>worn over</u> untreated natural-fiber long-sleeve shirt and pants <u>worn over</u> an untreated cotton T-shirt</p> <p>Or</p> <p>Insulated FR coveralls (minimum ATPV of 25, independent of other layers) <u>worn over</u> untreated natural-fiber long-sleeve shirt with untreated cotton blue jeans ("regular weight," minimum 12 oz./sq. yd. fabric weight), <u>worn over</u> an untreated cotton T-shirt.</p>

FR - flame resistant.

ATPV - arc thermal performance exposure value of the clothing in calories/cm<sup>2</sup>.

Source: Based on Table F-1 in appendix F of NFPA 70E, Electrical Safety Requirements for Employee Workplaces, 2000.

**Table 4. Flame-resistant protective clothing and equipment**

Flame-resistant protective clothing and equipment	Protective systems for hazard/risk category (4 = most hazardous)			
	1	2	3	4
Hazard/risk category number	1	2	3	4
Flash suit jacket (2-layer)				X
Flash suit pants (2-layer)				X
Head protection				
Hardhat	X	X	X	X
Flame-resistant hardhat liner			X	X
Eye protection (safety glasses + side shields or safety goggles)	X	X	X	X
Face protection (double-layer switching hood)			X	X
Hearing protection (ear canal inserts)		2* tasks		
Leather gloves or voltage-rated gloves with leather protectors		2*tasks	X	X
Leather work shoes			X	X
	As needed	X		X
	As needed	X		

Source: Based on personal protective equipment requirements of table 3-3.9.2 of NFPA 70E, Electrical Safety Requirements for Employee Workplaces. Tables are reprinted with permission. Copyright ©2000 National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association on the referenced subject, which is represented only by the standard in its entirety.

## **Section 18: LOCKOUT/TAGOUT CONTROL OF HAZARDOUS ENERGY**

### **INTRODUCTION**

Lockout/tagout is a way to make sure electricity or other energy is not turned on or released while someone is servicing or maintaining machines and equipment, including piping systems. Other energy includes mechanical, hydraulic, pneumatic, chemical, thermal, and gravity. Release of uncontrolled hazardous energy can result in serious injury or death.

### **APPLICABILITY**

This program establishes the minimum requirements for the lockout/tagout of machines and equipment, as defined by Washington Administrative Code (WAC) 296-803. It shall be used to ensure that machines and equipment are isolated from all potential energy sources and locked out and/or tagged out before employees perform servicing or maintenance activities where the unexpected energization, start-up or release of stored energy could cause injury.

### **RESPONSIBILITIES**

Each department is responsible for identifying all machines or equipment that require the use of a lockout/tagout procedure before any service or maintenance is performed. Specific protocols for machines and equipment must be prepared before service or maintenance.

Supervisors and employees shall ensure that all equipment is locked out or tagged out to protect against accidental or inadvertent operation that could cause injury. Do not attempt to operate any switch, valve or other energy-isolating device when it has been locked or tagged out.

All supervisors shall ensure that their employees affected by this procedure are trained. Retraining will be required for authorized and affected employees when there is a change in job assignment, machine/equipment change, a change in energy control procedures, or deviations in the use of energy control procedures or programs.

The Safety and Claims Management office can provide and document training.

### **TRAINING**

Persons servicing or maintaining machines and equipment, as well as persons affected by those actions, shall be trained in these procedures.

Each employee participating in activities of lockout/tagout shall be trained in the

safety significance of the lockout/tagout procedure. All affected new or transferred employees and other employees whose work operations are or may be in the area shall be trained in the purpose and use of the lockout/tagout procedure.

## **DEFINITIONS**

**Affected employee** - Any person whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to be in an area potentially influenced by the servicing or maintenance being performed.

**Authorized/designated individual** - An individual who is trained, qualified, and authorized by management to perform a specific assignment. This authority and responsibility includes deactivating and locking or tagging out equipment and/or systems, in compliance with WAC 296-803 and this Lockout/Tagout Program, when servicing or maintenance activities could create exposure for the authorized person or other affected employee(s).

**Capable of being locked out** - An energy-isolating device is capable of being locked out if it has a hasp or other attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy-isolating devices are capable of being locked out if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.

**Energized** - Connected to an energy source or containing residual or stored energy.

**Energy-isolating device** - A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently; a slide gate; a slip blind; a line valve; a block; and any similar device used to block or isolate energy. The term does not include a push button, selector switch, remote control switches, automatic circuit activating devices, and other control circuit type devices.

**Energy source** - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy, including gravity.

**Lockout** - The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

**Lockout device** - A device that utilizes a lock, either key or combination type, to hold an energy isolating device in the safe position.

**Servicing and/or maintenance** - Work activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning, or clearing of machines or equipment, and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment, or release of hazardous energy.

**Tagout** - The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

**Tagout device** - A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed in accordance with approved procedures.

## **GENERAL LOCKOUT/TAGOUT REQUIREMENTS**

1. Before an employee performs any repair, maintenance or adjustment on any equipment or utility where unexpected energizing, start up, or release of stored energy could occur, the energy source must be isolated/rendered inoperative and then locked and tagged out in that position.
2. If an energy isolating device is not capable of being locked out, the authorized servicing person shall utilize the tagout system.
3. Whenever major replacement, repair, renovation, relocation, or modification of machines or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machines or equipment shall be designed to accept a lockout device.
4. The unauthorized removal of the tag, or the operation or use of equipment or machines which have been tagged out, is cause for disciplinary action.

## **PREPARATION FOR LOCKOUT/TAGOUT**

A survey of each affected area must be completed prior to implementing the locking and tagging out procedures to identify all switches, valves, controls or other energy isolating devices that may need to be locked or tagged out. More than one energy source may be involved and in need of identification. A re-inspection of these controls or energy sources shall be done at least annually to

ensure that the procedures and requirements of this program are met. Both initial and re-inspections shall be documented. A copy of this report will be forwarded to King County's Safety and Claims Management office. A blank report is included in Attachment 1. This report shall include:

1. Identity of the machine or equipment
2. Location
3. Type of energy involved
4. Job title of employees authorized to lockout/tagout equipment
5. Job title of employees affected by lockout/tagout
6. Isolation method
7. Isolation Location

### **LOCKOUT/TAGOUT TAG**

Tags must be used for both lockout and tagout only. The tag will be completed and installed by authorized lockout/tagout personnel. Tags shall meet the following standards:

1. The tag shall be of a durable material and shall identify by name, the person applying the tag and date.
2. The tag shall warn against hazardous conditions and include a legend such as: "Do Not Start", "Do Not Operate", or other such warnings.
3. The tag will be completed and installed by the authorized locking or tagging out person.
4. Tags shall be used in conjunction with locks wherever possible. Each lock should have only one key that remains in the possession of the employee using the lock.
5. Tags and lock out devices shall be standardized.
6. Tags and locks shall be of substantial strength to prevent removal without the use of excessive force.

## **LOCKOUT/TAGOUT PROCEDURES**

Whenever a tag is used to tag out equipment or machines, the following procedures will be followed:

1. Notify all affected employees that a lockout/tagout system is going in effect and the reason. The authorized employees shall know the type and magnitude of energy that the equipment or machine uses and understand the hazards presented.
2. If the equipment or machine is operating, shut it down by the normal stopping procedures.
3. Operate the switch valve or other energy-isolating device so that the equipment is isolated from its energy source. Stored energy such as in springs, elevated machine members, rotating flywheels, hydraulic systems, air, gas, steam, or water pressure must be dissipated or restrained by repositioning, blocking, bleeding, etc.
4. Lockout/tagout the energy-isolating device with assigned individual locks/tags.
5. After ensuring that no personnel are exposed, operate the normal operating control to make certain the equipment will not operate.  
CAUTION: Return operating control to the "off" or "neutral" position after the test.

The equipment or machine is now locked out or tagged out and service or maintenance may begin.

## **RESTORING EQUIPMENT OR MACHINES TO NORMAL OPERATIONS**

1. After servicing or maintenance is complete and the equipment is operationally intact and ready for normal operations, check the area around the equipment to ensure no one is exposed to the hazard of restart. All affected employees are notified that the lockout device has been removed.
2. After all tools have been removed from the equipment or machine, the guards reinstalled, and employees are clear, remove all lockout/tagout devices. Operate the energy-isolating device to restore energy to the equipment or machine. Ensure the equipment or machine is operating correctly as specified by the manufacturer.
3. Each lockout or tagout device shall be removed from each energy-isolating device by the employee who applied the device. Exception: When the authorized employee who applied the lockout or tagout device is not

available to remove it, that device may be removed by the supervisor of the authorized employee if:

- A. The supervisor verifies that the authorized employee who applied the device is not at the facility.
- B. A reasonable effort has been made to contact the authorized employee regarding the removal of the lockout/tagout device.
- C. The removal of locks and/or tags is accomplished by an approved supervisor trained in lockout/tagout practices and following procedures 1 and 2 above.
- D. The authorized employee is informed that the device was removed when he/she returns to the facility before they resume job functions.

### **PROCEDURE INVOLVING MORE THAN ONE PERSON**

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

### **PROCEDURE INVOLVING SHIFT OR PERSONNEL CHANGE**

When lockout/tagout procedure is in use and overlaps a shift change or a change in personnel performing the job task, the oncoming employee will apply their own lockout/tagout device at the lockout position on the equipment or machine if possible prior to the removal of the device of the off going employee. Both employees must be present at the lockout/tagout change. The off going employee will strike his/her name from the warning tag check list and the oncoming employee will place his/her name on the warning tag check list. All other procedures remain the same.

### **OUTSIDE PERSONNEL**

1. Whenever outside personnel, such as contractors, are to be engaged in activities covered by this program, the King County employee and the outside employer must inform each other of their respective lockout/tagout procedures.

2. The outside employer must ensure that all outside personnel comply with all requirements of King County's lockout/tagout procedures.
3. Deviations from the King County's control program are not permissible without specific prior approval.

### **PERIODIC INSPECTION**

The supervisor or designee will conduct a periodic inspection of the energy control procedures at least annually to ensure that the procedures and requirements of this program are being followed.

- The inspection will be performed by an authorized employee other than the persons using the energy control procedure being inspected.
- The inspection and follow up action will identify and correct any deviation or inadequacies observed.
- The inspection will include a review of energy control procedures used by authorized employees for specific lockout/tagout of equipment or machines serviced, maintained or repaired by the employee.

All inspections will be documented by written report. A copy of the report will be forwarded to King County's Safety and Claims Management office, ADM-ES-0500. The report shall include:

- identity of the machine or equipment
- date of inspection
- employees included in the inspection
- the person performing the inspection.



**LOCKOUT/TAGOUT CHART**

**Date:** \_\_\_\_\_

**Dept./Div.:** \_\_\_\_\_

EQUIPMENT TYPE	LOCATION (ADDRESS, BUILDING, OR ROOM)	ENERGY HAZARD (TYPES OF POWER)	ISOLATION METHOD	ENERGY ISOLATION LOCATION	AUTHORIZED EMPLOYEES (JOB TITLE)	AFFECTED EMPLOYEES (JOB TITLE)

Example 1

Date: \_\_\_\_\_

Dept./Div.: \_\_\_\_\_

EQUIPMENT TYPE	LOCATION (ADDRESS, BUILDING OR ROOM)	ENERGY HAZARD (TYPES OF POWER)	ISOLATION METHOD	ENERGY ISOLATION LOCATION	AUTHORIZED EMPLOYEES (JOB TITLE)	AFFECTED EMPLOYEES (JOB TITLE)
Welding shop exhaust fans	Welding shop	120 Volts Rotating fan blades	Tagout	Switch box on west wall near door	Welder Electrician	Welder Electrician
2 heater fans	Welding shop near ceiling	208 Volts Rotating fan blades Hot heating elements	Lockout & Tagout	Switch box adjacent to heater	Electrician HVAC Engineer	Welder Electrician HVAC Engineer
Arc Welder	Shop Area	208 Volts	Lockout & Tagout	North wall, middle of shop	Electrician Welder	Electrician Welder

## **Section 19: CONFINED SPACE ENTRY PROGRAM**

### **INTRODUCTION**

A confined space, by legal definition, is any area that is large enough for a person to enter, has a limited means of entry or exit and is not designed or equipped for continuous occupancy.

A permit required confined space is one that has one or more of the following hazards or characteristics:

- Contains or has a potential for a hazardous atmosphere
- Contains a material that could drown or cover an entrant
- Has an internal configuration that could trap or asphyxiate an entrant by inwardly converging walls of a floor that slopes downward to a smaller cross section
- Contains any other recognized serious safety or health hazard

Confined spaces with these hazards can cause serious injuries or death for the entrant and people who may try to rescue the entrant. Rescuers who are not trained to recognize potential confined space hazards commonly succumb to the same hazard upon entry, such as a deadly atmosphere.

### **APPLICABILITY**

It is mandatory that employees enter a confined space only after they have been trained, the space has been evaluated, a confined space entry permit (County-generated) has been completed (if required), and all other safety and health considerations have been met.

### **RESPONSIBILITIES**

Each division or department that has employees who enter confined spaces must develop a written document identifying and classifying those spaces, and specifying the required entry procedures. Otherwise, the permit-required confined space procedure in this section shall be followed when entering any unclassified confined space.

Each division or department that has employees who may inadvertently enter confined spaces must identify those employees and train them to recognize the spaces, the potential hazards, and not to enter those spaces. These employees may include utility workers, construction project managers, environmental inspectors, sheriffs, and building construction inspectors.

The Safety and Claims Management office shall:

- Provide technical assistance to the departments in implementing this procedure

- Review addenda to this policy
- Assist each department in annual program evaluation

Each Department shall:

- Develop and implement the means, procedures and practices necessary for safe entry into permit spaces
- Submit a copy of their program to the Safety and Claims Management office for review
- Have the primary responsibility to identify and evaluate all confined spaces in workplaces under their control and to determine which are to be permit required
- Be responsible for implementing this policy and procedure
- Ensure that employees receive the training necessary to have the knowledge, skills and understanding to carry out the duties associated with their role in permit space entry

Supervisors shall:

- Ensure no unauthorized entry into permit spaces
- Ensure that their employees are aware of the permit spaces they may encounter and the precautions that must be followed

Employees shall:

- Be aware of the permit spaces they may encounter
- Perform only authorized entries
- Follow all procedures precisely

## **TRAINING**

All workers who may have occupational responsibility to enter confined spaces, their supervisors, and all other workers who may by chance enter a confined space must receive training.

In-depth training is required for workers who enter confined spaces (entrants), workers who assist entrants (attendants), and their supervisors. Workers who may by chance enter confined spaces need training to recognize confined spaces, the potential hazards of those spaces, and that they are not to enter those spaces.

## **DEFINITIONS**

**Confined Space** - Any location that has all of the following characteristics.

1. Is large enough and so configured that an employee can bodily enter and perform assigned work.
2. Has a limited or restricted means for entry or exit.
3. Is not designed for continuous employee occupancy.

**Permit Required Confined Space (permit space)** - A confined space that has one or more of the following characteristics.

1. Contains or has a potential to contain a hazardous atmosphere.
2. Contains a material with the potential for engulfing (drowning or covering) an entrant.
3. Has an internal configuration that an entrant could be trapped or asphyxiated by inwardly converging walls, or by a floor which slopes downward and tapers to a smaller cross-section.
4. Contains any other recognized serious safety or health hazard.
5. Includes, but is not limited to storage tanks, process vessels, pits, vats, wells, sanitary sewers, storm water sewers, sumps, boilers, ventilation and exhaust ducts, tunnels, underground utility vaults and pipelines.

**Permit Space Entry Procedures** - Steps that must be used in a permit space where atmospheric hazards are present or potential, and not entirely and safely controlled, or there are physical hazards not entirely or safely controlled.

**Alternate Entry Procedures** - Procedures that may be used in a permit space where atmospheric hazards are present or potential during the entry and can be entirely and safely controlled with the use of forced air ventilation.

**Temporary Reclassification as Non-Permit Spaces Procedures** - Steps that may be used in a permit space with potential atmospheric hazards or physical hazards that can be proven to present no hazard before entry into the space. Entries must typically be of short duration.

## **GENERAL REQUIREMENTS**

Unauthorized entry into permit spaces is forbidden.

### **Designation and Classification of Confined Spaces**

Initial evaluation and designation of permit spaces and work procedures shall be performed by a Certified Industrial Hygienist or Certified Safety Professional.

*NOTE: King County recognizes that all sanitary sewage and some storm water conveyance systems as permit spaces requiring full permit procedures.*

All underground manholes and utility vaults shall be considered permit-required spaces but may be temporarily reclassified as a non-permit space if certain specified (see Types of Confined Space and Entry Procedure) conditions are met.

Where feasible, permit spaces must have a label or sign affixed at a conspicuous location near all access points. The wording, "DANGER – PERMIT REQUIRED

CONFINED SPACE, DO NOT ENTER”, or similar wording will satisfy this requirement. If signage is not feasible, then effective training must be given to employees who may potentially enter these spaces.

### **Air Monitoring**

Air monitoring will be performed by trained and competent personnel prior to and during entry of any confined space.

The checklist forms in this document shall be used to record initial and subsequent supplemental air monitoring results.

Atmospheric testing shall be performed in the following order.

1. Oxygen (O<sub>2</sub> - 19.5% to 23.5%)
2. Flammability (< 10% LEL)
3. Carbon monoxide (CO < 35 ppm)
4. Hydrogen sulfide (H<sub>2</sub>S < 10ppm)

Readings shall be allowed to stabilize long enough to account for response time of instrument and length of sample tube.

Pre-entry testing shall be performed before removal of lid if possible, before any ventilation to assess if a hazardous atmosphere exists. Stratification or inaccessible areas must be taken into consideration. If entry is required to assess atmosphere, a full permit entry is required with extreme caution.

Testing records must be retained for at least one year, and audited during the annual program review.

Site calibration and visual inspection of the air monitoring equipment shall be according to the manufacturer’s direction on the same day just prior to use. Additional daily calibration or bump tests with calibration gas may be needed or appropriate.

### **Training**

Training shall be provided:

- Before an employee is assigned to duties under this policy
- When there is a change in confined space operation that presents a hazard for which the employee has not been trained
- When deviations from procedures or inadequacies in the program have been identified

Training shall consist of the following, as a minimum:

- The hazards, controls for entry and health symptoms for adverse effects of some of the atmospheric hazards

- The contents of this policy
- Use, requirements and limitations of the temporary reclassification as non-permit space procedures
- Personal protective equipment use
- A review of atmospheric monitoring equipment, including anticipated hazardous conditions and factors which could occur inside or outside the space
- Rescue procedures

### **Competency certification**

Each employee shall be certified as proficient in their assigned duties (Entrant, Attendant, or Entry Supervisor). The certification shall contain each employee's name, the trainer's written or electronic signature or initials, and the dates of training. The certification shall be available for inspection by employees, their authorized representatives, and authorized State regulatory representatives.

### **Contractors**

Department representatives shall inform contractors of the following, prior to permitting their entry into confined spaces:

- The workplace contains permit required confined spaces and that entry is allowed only through compliance with a permit required confined space program meeting the requirements of WAC 296-809.
- The elements that make the space a permit required confined space program.
- Any precautions and procedures that the department has implemented for the protection of employees in or near the permit required confined space where contractor personnel will be working.

Department representatives will debrief the contractor after entry tasks are completed to discuss any hazards or unusual conditions experienced.

## **TYPES OF CONFINED SPACES AND ENTRY PROCEDURES**

### **1. TEMPORARY RECLASSIFICATION—NON-PERMIT CONFINED SPACE**

A confined space may be temporarily reclassified as a no-permit confined space if it meets the qualifications and follows the procedures outlined below:

#### **Qualifications**

1. It must be demonstrated that hazardous atmospheres and physical hazards are not present or can be eliminated as a possibility during the duration of the entry.

2. Physical hazards, such as electrical, mechanical, natural gas, drowning and engulfment must be controlled by lock out or blank out procedures.
3. Temporary reclassification may only be authorized for a maximum of one work shift. A new authorization must be made for each work shift.
4. If entry into a permit space is required to obtain the documentation needed to characterize and control hazards in the space, the entry shall be done using the full permit space entry procedures.
5. Non-permit reclassification entry procedures are not authorized if activities occurring in the confined space introduce atmospheric hazards. Some examples of these activities are painting, sand blasting, welding or the use of solvents.
6. This entry procedure is not acceptable if respiratory protection is required for entry or for the work performed.
7. Only trained employees shall be allowed to enter the confined space.

### **Entry Procedures**

1. The non-permit reclassification entry checklist shall be used to document the date, location, procedures and conditions. This checklist must be kept available to all entrants.
2. The space to be entered shall be isolated using all appropriate means to prevent the introduction of materials or hazardous energies into the confined space. The space shall be cleaned, purged, flushed or ventilated to eliminate hazardous atmospheres or conditions.
3. Floor or surface openings shall be promptly guarded to prevent accidental falls of persons or materials.
4. The internal atmosphere shall be tested and documented in accordance with the air monitoring procedures in Section 4 in General Conditions and Requirements.
5. Any re-entry requires new air monitoring. During entry, the atmosphere should be frequently retested or continuously monitored to ensure no hazardous atmosphere.
6. Continuous, forced ventilation is always recommended if feasible for comfort issues.

## **Safety Equipment**

Departments shall supply the following equipment and any additional equipment necessary for safe entry:

- Barriers for floor or surface openings
- Personal protective equipment – PPE shall be specified
- Illumination shall be provided to give adequate light to work safely and exit quickly in case of an emergency

Departments shall be responsible for ensuring that all employees are properly trained in using such equipment. Protective clothing and equipment shall be carefully examined to ensure it is in good working order.

**TEMPORARY RECLASSIFICATION AS NON-PERMIT SPACE**

(For a period not longer than one work shift)

Date \_\_\_\_\_ Evaluator/Competent person \_\_\_\_\_

Location of work \_\_\_\_\_

Description of space \_\_\_\_\_

Purpose of entry \_\_\_\_\_

Time in / time out \_\_\_\_\_

Entrant(s) \_\_\_\_\_

Potential atmospheric hazards \_\_\_\_\_

Physical hazards

- \_\_\_\_\_ Engulfment
- \_\_\_\_\_ Fire
- \_\_\_\_\_ Electrical
- \_\_\_\_\_ Internal configuration
- \_\_\_\_\_ Pneumatic
- \_\_\_\_\_ Thermal
- \_\_\_\_\_ Mechanical
- \_\_\_\_\_ Stored energy
- Other \_\_\_\_\_

Abatement of physical hazards \_\_\_\_\_

PPE required \_\_\_\_\_

Atmospheric test results

Equipment model \_\_\_\_\_ Serial # \_\_\_\_\_

Calibration date \_\_\_\_\_

Location	Time	Oxygen (19.5 – 23.5)	LEL (<10%)	H <sub>2</sub> S (<10%)	CO (<35 ppm)

Tests performed by \_\_\_\_\_

Other pertinent information

## **2. ALTERNATE ENTRY PROCEDURES**

A confined space may be entered using an alternative procedure instead of the full permit-required confined space procedures if it meets the qualifications and follows the procedures below:

### **Qualifications**

1. It must be demonstrated that hazardous atmospheres are the only hazards present and that continuous forced ventilation alone is sufficient to control the hazardous atmosphere.
2. Physical hazards, such as electrical, mechanical, natural gas, drowning and engulfment must be eliminated by lock out or blank out procedures.
3. Alternate entry procedures may only be authorized for a maximum of one work shift. A new authorization must be made for each work shift.
4. If entry into a permit space is required to obtain the documentation needed to characterize and control hazards in the space, the entry shall be done using the full permit space entry procedures.
5. If activities occurring in the confined space introduce atmospheric hazards, they must be carefully assessed to insure no hazard will occur. Some examples of these activities are painting, sand blasting, welding or the use of solvents.
6. This entry procedure is not acceptable if respiratory protection is required for entry or for the work performed.
7. Only trained employees shall be allowed to enter the confined space.

### **Entry Procedure**

1. The alternate entry checklist shall be used to document the date, location, procedures and conditions. This checklist must be kept available to all entrants.
2. The space to be entered shall be isolated using all appropriate means to prevent the introduction of materials or hazardous energies into the confined space. The space shall be cleaned, purged, flushed or ventilated to eliminate hazardous atmospheres or conditions.
3. Floor or surface openings shall be promptly guarded to prevent accidental falls of persons or materials.

4. The internal atmosphere shall be tested and documented in accordance with the air monitoring procedures in Section 4 in General Conditions and Requirements.
5. Any re-entry requires new air monitoring. During entry, the atmosphere should be frequently retested or continuously monitored to ensure no hazardous atmosphere.
6. Continuous, forced ventilation shall be used throughout the entry into the space. The ventilation shall be directed to ventilate the immediate area where the employee is or will be present.

### **Safety Equipment**

Departments shall supply the following equipment and any additional equipment necessary for safe entry:

- Continuous forced air ventilation supplied by electric or gas powered blowers of sufficient volume to prevent hazards. Gas powered blowers must have air intakes located away from motor exhaust to prevent any uptake of exhaust. All air intakes must be located in clean air areas.
- Barriers for floor or surface openings
- Personal protective equipment – PPE shall be specified
- Illumination shall be provided to give adequate light to work safely and exit quickly in case of an emergency

Departments shall be responsible for ensuring that all employees are properly trained in using such equipment. Protective clothing and equipment shall be carefully examined to ensure it is in good working order.

**ALTERNATE ENTRY PERMIT SPACE**  
(For a period not longer than one work shift)

Date \_\_\_\_\_ Evaluator/Competent person \_\_\_\_\_

Location of work \_\_\_\_\_

Description of space \_\_\_\_\_

Purpose of entry \_\_\_\_\_

Time in / time out \_\_\_\_\_

Entrant(s) \_\_\_\_\_

Potential atmospheric hazards \_\_\_\_\_

Physical hazards

Engulfment                       Internal configuration                       Mechanical  
 Fire                                       Pneumatic                                       Stored energy  
 Electrical                               Thermal                                      Other \_\_\_\_\_

Abatement of physical hazards \_\_\_\_\_

Ventilation equipment \_\_\_\_\_

Space fully ventilated? \_\_\_\_\_

PPE required \_\_\_\_\_

Atmospheric test results

Equipment model \_\_\_\_\_ Serial # \_\_\_\_\_

Calibration date \_\_\_\_\_

Location	Time	Oxygen (19.5 – 23.5)	LEL (<10%)	H <sub>2</sub> S (<10%)	CO (<35 ppm)

Tests performed by \_\_\_\_\_

Other pertinent information

### **3. FULL PERMIT-REQUIRED ENTRY PROCEDURES (HIGH HAZARD ENTRY)**

#### **Entry Procedure**

1. Prior to entry, the permit space shall be evaluated for potential hazards and the controls necessary to allow safe entry shall be specified.
2. A Confined Space Entry Permit shall be issued prior to entering any high hazard permit required space.
3. Pre-Entry Inspection – Immediately preceding entry to the space, the authorized entrant, attendant and entry supervisor shall thoroughly examine the entry permit and be knowledgeable with the terms, conditions and contents. This shall be done at the entry location.
  - a) The pre-entry inspection shall consist of verifying that all conditions of the permit have been met and all atmospheric monitoring and other testing has demonstrated acceptable entry conditions.
  - b) The entry supervisor shall sign the permit after having completed the pre-entry inspection.
  - c) Review emergency and evacuation signals.
4. The space to be entered shall be isolated using all appropriate means to prevent the introduction of materials or hazardous energies into the confined space. Isolation steps shall be specified on the permit. This shall include lockout/tagout procedures.
5. The permit space shall be cleaned, purged, flushed or ventilated to eliminate or control hazardous atmospheres.
6. Any condition which makes it unsafe to remove an entrance cover, such as pressure or high temperature, shall be eliminated before the cover is removed.
7. The opening shall be promptly guarded to prevent accidental falls of persons or materials into the opening.
8. The atmosphere within the space shall be tested and recorded on the permit in accordance with the Air Monitoring procedures specified previously. The readings shall be recorded on the permit.
9. Continuous forced ventilation shall be used throughout the entry into the confined space. The ventilation shall be directed to ventilate the immediate area where the employee is present.

10. The atmosphere shall be continuously or periodically tested to ensure that ventilation is preventing a hazardous atmosphere. The frequency of testing shall depend on the initial values measured and expected hazard and documented on the permit.
11. Entry into the confined space shall be prohibited until the entry permit, all necessary tools, equipment, and retrieval systems are available, in place and ready for use.
12. The use of retrieval systems is mandatory for permit space entry.

### **Duties of Entry Supervisor**

The entry supervisor must perform the following:

1. Know all the potential hazards, including the mode, signs or symptoms and consequences of exposure and the methods to control the hazards.
2. Verify that the entry permit has been properly filled out, that atmospheric and other testing has been performed with acceptable results, that the procedures to be used will allow for safe entry and that all necessary equipment is available and in place before authorizing entry.
3. Terminate entry and cancel the permit when the work has been completed or when acceptable entry conditions are not met.
4. Verify that rescue service is available and that the attendant has the means to quickly summon the service.
5. Remove unauthorized individuals who enter or attempt to enter the permit space.
6. Determine, at intervals dictated by the hazard, that acceptable entry conditions are maintained throughout the permit space entry.

### **Duties of Authorized Entrant**

The entrant must perform the following:

1. Know all the potential hazards, including the mode, signs or symptoms and consequences of exposure and the methods to control the hazards.
2. Properly use all equipment required.
3. Communicate with attendant.
4. Alert the attendant whenever:
  - a) Any warning sign or symptom of exposure to dangerous situations is recognized.
  - b) A prohibited condition is detected.
5. Exit from the permit space as quickly as possible whenever:
  - a) Ordered to evacuate by attendant or entry supervisor.
  - b) Any warning sign or symptom of exposure to dangerous situations is recognized.
  - c) A prohibited condition is detected.

- d) Any other reason which would prevent safe entry or exit is detected.

If the space is evacuated for any of the above reasons, the permit is void and re-entry is not allowed. The conditions which caused the evacuation shall be recorded on the canceled entry permit. Re-entry is not permitted until the conditions which caused the evacuation are evaluated, the control procedures and acceptable entry conditions are modified and new permit is issued.

### **Duties of Entry Attendant**

The attendant must perform the following:

1. Know all the potential hazards, including the mode, signs or symptoms and consequences of exposure and the methods to control the hazards.
2. Know possible behavioral effects due to hazardous exposure.
3. Maintain an accurate count of authorized entrants in the permit space and ensures that the authorized entrants identified on the entry permit are the only people in the space.
4. Remain at the permit space entry during an entry until relieved by another attendant.
5. Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.
6. Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders entrants to evacuate the permit space if:
  - a) A prohibited condition is detected.
  - b) A behavioral effect of hazard exposure is detected.
  - c) A situation outside the space that could affect entrants is detected.
  - d) The attendant cannot effectively and safely perform all these duties.
7. Know how to contact rescue and emergency services and able to convey detailed directions to the site.
8. Summon rescue and other emergency services as soon as it is determined the entrants may need assistance to escape the space.
9. Take the following actions when unauthorized persons approach or enter a permit space:
  - a) Warn the unauthorized person that they must stay away from the permit space.
  - b) Advise the unauthorized person that they must exit immediately if they have entered the space.
  - c) Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the space.
  - d) Document the action on an incident form.
10. Perform non-entry rescue
11. Does not perform any other duty that may interfere with the primary duty to monitor and protect the authorized entrants.

Using a single attendant to monitor entry into multiple spaces is not authorized.

## **Entry Permit**

The entry permit shall be issued prior to entering the permit-required confined space. The entry permit shall be posted at the entrance to the permit space at all times during entry activities if feasible.

The entry permit shall be completely filled out. It shall list:

1. The phone number and any necessary contact information for rescue and emergency response
2. The location, specific description and identification of the space to be entered
3. The anticipated hazards
4. The entry purpose and work to be performed
5. Date, times and duration of the entry. The duration must not be longer than one work shift. A new permit must be completed for each work shift.
6. Atmospheric testing must be completed before any ventilation or disturbance of the space to determine hazard potential
7. Initial and subsequent testing must be recorded on the permit or additional data sheets. Frequency of testing must be determined and recorded on permit
8. Any additional concerns such as lockout locations, isolation procedures or affected departments
9. Entry supervisor's signature, to be added after reviewing the permit with entrants and attendants and ensuring conditions are fulfilled and safe entry can proceed

## **Other Conditions**

### **Specific atmospheric hazards:**

Employees shall not enter or work in any permit space which contains an oxygen deficiency or excess (<19.5% or > 23.5% oxygen), a flammable hazard (>10% LEL) or any other contaminants which would require the use of supplied air respirators.

When exposures may exceed state permissible exposure limits (PEL), and the use of air purifying respirators is legally permitted, then they may be used in conformance with DOSH regulations. Use of air purifying respirators and filters must be approved by an industrial hygienist with Safety and Claims Management (206-477-3350).

### **Communication Equipment**

Communication between entrants and attendant shall be made by voice or radio. A cell phone, at a minimum, must be used by the attendant for possible communication with rescue or emergency services. Entry is prohibited if no form of immediate communication can be made by phone or radio.

### **Retrieval System – Harness and Retrieval lines**

1. A personnel retrieval tripod or other approved personnel lifting device shall be used if the permit space is a vertical type entry greater than 4 feet deep.
2. A full body, fall protection harness shall be worn in vertical type permit spaces. This harness shall be equipped with a quick release device to remove the retrieval line in case of entanglement.
3. Harnesses shall not contain conductive attachments if work is to be performed on electrical utilities.
4. The harness shall be connected to a retrieval line. The retrieval line shall be attached so the non-entry rescue can begin as soon as the attendant becomes aware of an emergency.

### **Illumination and tools**

Illumination shall be provided to give adequate work and emergency exiting light. Temporary lighting shall be equipped with adequate guards to prevent contact with the bulbs.

If there is a potential for flammable vapors or gasses, then all lighting shall be approved for Class 1, Division 1 atmospheres. Tools may also need to be spark resistant and intrinsically safe.

### **Emergencies**

1. Under no circumstances shall King County employees attempt to enter a confined space to perform rescue operations. If an emergency requires an entry rescue, the attendant shall immediately notify the designated rescue service.
2. It shall be determined that a rescue service is available well before entry.
3. If non-entry rescue can be performed by means of the retrieval line and harness, the attendant shall utilize such equipment for this purpose.
4. If a rescue service is not available, this situation must be discussed with Safety and Claims Management well in advance before any entry is planned.
5. Before designating a rescue service, it must be determined if the service is able to respond in a timely manner and is properly trained and equipped.
6. Inform the rescue service of the hazards they may confront when called upon to perform a rescue.
7. Provide the rescue service with access to all permit spaces so they may develop appropriate rescue plans and practice operations.

## PERMIT SPACE ENTRY PERMIT

Location of space \_\_\_\_\_

Description of space \_\_\_\_\_

Purpose of entry/work \_\_\_\_\_

Date \_\_\_\_\_ Time/shift \_\_\_\_\_

Hazard(s) \_\_\_\_\_

Emergency/Rescue phone # \_\_\_\_\_ Name \_\_\_\_\_

### Required PPE/Equipment

<input type="checkbox"/> Head protection	<input type="checkbox"/> Respirator	<input type="checkbox"/> Eye protection
<input type="checkbox"/> Hearing protection	<input type="checkbox"/> Gloves	<input type="checkbox"/> Boots
<input type="checkbox"/> Coveralls	<input type="checkbox"/> Full body harness	<input type="checkbox"/> Tripod/Fall arrester
<input type="checkbox"/> Communication tools	<input type="checkbox"/> Blower	Others _____

Air Monitor Model \_\_\_\_\_ Serial # \_\_\_\_\_

### Pre-Entry Monitoring

	O <sub>2</sub> 19.5% – 23.5%	CO < 35 ppm	LEL < 10%	H <sub>2</sub> S < 10 ppm	Other
Before entry opening					
After entry opening					
After ventilation					

Blower type/CFM \_\_\_\_\_

Blower placement/efficiency \_\_\_\_\_

Other requirements \_\_\_\_\_



## **PERMIT-REQUIRED CONFINED SPACE LOCATIONS LIST**

NOTE: Each department must identify permit-required confined spaces and their locations if employees may enter either intentionally or non-intentionally. The spaces and locations (if feasible) need to be specifically identified, unless a very similar type of the space exists in many multiple locations. In the case of a very similar type of space (for instance similar size and depth public sewer manhole pits) that type of space can be identified by specific description. Please check with Safety and Claims Management (206-477-3350) for advice and direction for classifying spaces and locations.

## **Section 20: FALL PROTECTION**

### **INTRODUCTION**

Employees who work or walk on elevated surfaces where there may be a fall hazard must have an approved form of protection from falls. Permanent types of protection, such as guardrails, walls, parapets, or covers for surface openings should typically be present. Construction, maintenance or inspection work may take workers to areas or situations where permanent protection is not present. In those cases, and any others, an adequate form of fall protection is required.

### **APPLICABILITY**

This program applies to all King County employees who are exposed to:

- fall hazards of four (4) feet or more
- any significant openings in walking/working surfaces
- any height where there could be a fall onto projections, items or machinery that could cause serious injury

Exemptions to the four foot height are described below. If there is any conflict or overlap between this program with any other regulations or policies, the provision more protective of the employee and/or public safety shall apply. This program supplements, but does not replace, state regulations regarding fall protection and prevention.

All employees must be trained before being assigned to or allowed to go to any area of a work site that involves exposure to fall hazard, as defined by this program.

A written Fall Protection Work Plan is required where a fall hazard of 10 feet or greater exists.

### **RESPONSIBILITIES**

#### **Management**

Department Directors, Division Managers and Section Managers oversee compliance, including providing adequate funding for training and equipment required by this program.

#### **Supervisors and Leads**

- Consult with the Safety and Claims Management office for technical assistance with more complex Fall Protection Plans
- Coordinate with Safety and Claims Management to arrange for required training for employees who may be exposed to fall hazards during

- construction or maintenance activities
- Maintain copies of training completion records
- Provide for refresher training when there is a change in the fall protection regulations, new fall protection equipment is purchased, and when any deficiencies are noted in the fall protection procedures
- Assist employees under their supervision in becoming familiar with and in adhering to all provisions of this program and any relevant regulations
- Require that a Fall Protection Work Plan is completed for each construction or maintenance-related activity where a fall potential of greater than 10 feet exists

## **Employees**

- Follow the provisions of this program and all applicable Fall Protection Work Plans
- Daily inspect their assigned equipment prior to use at each job site
- Read and be familiar with manufacturers' operating manuals for all fall protection equipment they use
- Report immediately to their Supervisor or Crew Chief any fall protection equipment, facility, structure, or work practice that poses a fall hazard to themselves or other employees

## **Safety and Claims Management**

- Coordinate with Supervisors and Leads to plan, schedule and implement training required according to this program.
- Provide technical assistance as requested to managers, supervisors or crew leads designing more complex Fall Protection Plans

## **DEFINITIONS**

**Construction Activity:** Any activity that consists of the following: construction, alteration, demolition, and related inspection and/or maintenance and repair work. (If requirements of the fall protection regulations for construction conflict with regulations listed for general industry, the provisions of the Construction Safety Standards shall prevail during construction activities).

**Fall Arrest System:** A system designed to stop a free fall from elevation. A fall arrest system can be a personal fall arrest system worn by the employee, safety nets, or catch platform.

**Fall Protection Work Plan:** A written planning document which identifies all areas on the job site where a fall hazard of 10 feet or greater exists. The plan describes the methods of fall protection to be utilized to protect employees, and includes the procedures governing the installation, use, inspection, and removal of the fall protection method(s) selected by King County (see Attachment 1).

**Fall Restraint System:** An approved device and any necessary components that function together to restrain an employee in such a manner as to prevent that employee from falling. Fall restraint systems include guardrails, walls 39” or higher, or personal fall protection systems.

**Personal fall arrest system:** Restraint system with approved safety equipment components such as body harnesses, shock absorbing lanyards, deceleration devices, horizontal and/or vertical lifelines and anchorages, interconnected and rigged as to arrest a free fall. A body belt shall not be used as part of a personal fall arrest system. Properly designed and placed nets or catch platforms can be fall arrest systems.

**Walking/Working Surface:** Any surface, whether vertical or horizontal, on which an employee walks or works to perform his/her job duties including, but not limited to, floors, roofs, ramps, or bridges.

**Wall Opening:** An opening at least 30 inches in height and 18 inches wide, in any wall or partition, through which persons may fall, such as an opening for a window or chute.

## **REQUIRED USE**

An appropriate type of fall protection is required for the following:

- Any walking/working surface with edges 4 feet or higher. Guardrails are required unless they are infeasible.
- Any walking/working surface of any height where there could be a fall onto projections, items or machinery that could cause serious injury. Guardrails are required unless they are infeasible.
- Openings or holes in walking/working surfaces must be covered or have guardrails.
- Wall openings, from which there is a drop of more than 4 feet, and the bottom of the opening is less than 39 inches above the working surface, shall be guarded.

Exceptions to the 4-foot rule, which require fall protection at 10 feet and higher apply to the following:

- For roof installation or maintenance work on low pitched roofs of 4-in-12 pitch or less. Personal fall arrest/restraint systems or a warning line system may be used.
- For top plate, structural steel, joist, truss installation/work or work on scaffolds.
- Leading edge work, where floor or roof surfaces are being attached and the height over the edge of the surface is 10 feet or more. Personal fall arrest/restraint systems or a warning line system may be used.

Personal fall arrest systems are required in articulated boom lifts and as required

by manufacturers of scissor lifts (usually scissor lifts that lift extraordinarily high).

## **PROCEDURES**

### **Engineering Controls**

Where feasible, fall hazards will be eliminated by installing temporary guardrails or covering floor openings.

### **Fall Protection Work Plan**

A Fall Protection Work Plan shall be developed for any job task (construction or maintenance activity) that exposes an employee to a fall hazard of 10 or more feet. The Fall Protection Work Plan must be developed and evaluated on a site-by-site basis and shall address:

1. A brief description of the work site and location of all fall hazards in the affected work area
2. Description of the method of fall arrest or restraint to be provided
3. Description of the correct procedures for the assembly, maintenance, inspection and disassembly of the fall protection system to be used
4. Description of the correct procedures for the handling, storing, and securing of tools and materials
5. Description of the method of providing overhead protection for workers who may be in, or pass through, the area below the work site
6. Description of the rescue plan for prompt, safe removal of injured workers, including, but not limited to, the following:
  - a) Emergency telephone numbers for medical and rescue assistance
  - b) Site address and specific directions for getting to the site
  - c) Location of first-aid kit
  - d) Special equipment needed for rescue, such as cranes, ladders, etc.
  - e) Location and availability of personnel trained and competent in rescue procedures

## **Equipment**

Each employee who is assigned to work in an area where there is a fall hazard of 10 feet or more shall be trained by their supervisor or lead on the specific equipment that will be used at that site, as identified in the fall protection work plan.

The manufacturer's written instructions on the use, inspection and maintenance of all fall protection equipment must be kept in a specific and easily-accessible location (e.g., the Crew office), and the employees must be aware of the instructions.

A Class III full body harness is the only personal fall protection device approved by this policy for fall arrest protection.

## **General Provisions**

The Fall Protection Work Plan must be available on the job site for inspection by on-site workers, the Department of Labor and Industries, or Safety and Health Professionals.

If at any time an employee has a question concerning his/her safety in a fall hazard situation, the employee shall leave the area and discuss the concern with his/her Supervisor or Lead. If the employee feels unsafe in a situation requiring fall protection equipment, he/she should immediately discuss this concern with the supervisor and/or consult with Safety and Claims Management at **(206) 477-3350**.

Employees must receive training required by the fall protection program and be trained on the specific equipment used before performing work involving falling hazards. If employees are not trained in the use of fall protection equipment, they shall not work in areas in which a fall hazard exists.

## **TRAINING**

Supervisors and Leads will coordinate with Safety and Claims Management to provide training for employees who may be exposed to fall hazards during construction activities. Supervisors and Leads shall maintain records of training.

Fall prevention and protection training shall include instructions on the following topics:

1. Types of fall hazards that may be encountered in the course of various field activities
2. Components of the written fall prevention and protection program
3. Components of the Fall Protection Work Plan form and instructions on how to

- complete a Fall Protection Work Plan form
4. Fall arrest and fall prevention equipment required, including its use, handling, storage, maintenance and inspection
  5. Procedures employees must follow in the event of a fall-related accident

**RECORD KEEPING**

Copies of all Fall Protection Work Plans, revisions to existing plans and training records shall be kept by supervisors or leads.



**Fall Hazards:** (check all that apply)

Roof:

- 1. Roof over 10' above next level \_\_\_\_\_
- 2. Flat or sloped with 4/12 pitch and under \_\_\_\_\_
- 3. Sloped with over 4/12 pitch \_\_\_\_\_
- 4. Leading edge work (within 6') \_\_\_\_\_

Openings:

- 5. Unguarded sides/edges \_\_\_\_\_
- 6. Skylights \_\_\_\_\_
- 7. Hatches \_\_\_\_\_
- 8. Shafts \_\_\_\_\_
- 9. Other \_\_\_\_\_

Access:

- 10. Roof Hatch \_\_\_\_\_
- 11. Portable ladder \_\_\_\_\_
- 12. Fixed ladder \_\_\_\_\_
- 13. Scaffolding \_\_\_\_\_
- 14. Powered personnel lift \_\_\_\_\_
- 15. Swing staging \_\_\_\_\_
- 16. Bosun chair \_\_\_\_\_

Other:

- 17. Potential overhead hazard \_\_\_\_\_
- 18. Electrical hazard \_\_\_\_\_
- 19. Other \_\_\_\_\_

**Methods of Protection:** (check all that apply)

- 1. Parapet walls 36-42" high \_\_\_\_\_
- 2. Guardrails \_\_\_\_\_
- 3. Top rail, mid rail, toe boards \_\_\_\_\_
- 4. Vertical/horizontal lifeline \_\_\_\_\_
- 5. Equip safety line/backstay \_\_\_\_\_
- 6. Lifeline/Backstay anchor points \_\_\_\_\_
- 7. Lanyard and harness \_\_\_\_\_
  - (a) Fall arrest \_\_\_\_\_
  - (b) Fall restraint \_\_\_\_\_
- 8. Warning line \_\_\_\_\_
- 9. Catch platforms/safety nets \_\_\_\_\_
- 10. Hard hats \_\_\_\_\_
- 11. Pedestrian barricades \_\_\_\_\_
- 12. Fully decked work surface \_\_\_\_\_
- 13. Fully decked overhead barrier \_\_\_\_\_
- 14. Guardrail screen barrier \_\_\_\_\_
- 15. Equipment tag/safety lines \_\_\_\_\_
- 16. Radio \_\_\_\_\_
- 17. Other \_\_\_\_\_

[If "other" is marked under Fall Hazards or Methods of Protection, provide a detailed description in Safety System or on an attached sheet.]

**Engineering:**

Does this job/building require design/engineering changes for safe work?

NO \_\_\_\_ YES \_\_\_\_

**Installation Checklist:**

- System and components installed \_\_\_\_\_
- Overhead hazard protection installed \_\_\_\_\_ Not required \_\_\_\_
- Electrical/Mechanical protection installed \_\_\_\_\_ Not required \_\_\_\_
- Designated loading area established \_\_\_\_\_ Not required \_\_\_\_
- Material storage 10 feet from perimeter \_\_\_\_\_
- System and components inspected \_\_\_\_\_
- Personal protection equipment inspected \_\_\_\_\_

**Safety System:**

(Describe system and component assembly, especially for a temporary installation.) \_\_\_\_\_  
\_\_\_\_\_

**Overhead Hazard Protection:**

(Briefly describe additional steps needed for overhead hazard protection such as barriers, ground fencing, scaffold fencing)

\_\_\_\_\_  
\_\_\_\_\_

**Electrical/Mechanical Safety:**

(Briefly describe additional steps needed to provide electrical and/or mechanical safety.)

\_\_\_\_\_  
\_\_\_\_\_

**Emergencies:**

Radio the King County or Department/Division Communications center or telephone 911.

If in the City of Seattle and the worker is suspended by fall protection equipment, ask for a Seattle Fire Department LINE RESCUE. This phrase will alert them that to dispatch the High Angle Hazard Rescue Unit.

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

Signature of supervisor or lead \_\_\_\_\_ Date \_\_\_\_\_

## **Section 21: TRAFFIC CONTROL AND FLAGGING**

### **INTRODUCTION**

Many King County employees perform work on public roads and highways. Often, the work performed affects the usual flow of traffic. If work is occurring where vehicle traffic is possible, traffic control procedures and devices must be used in accordance with Part VI of the Manual on Uniform Traffic Control Devices (MUTCD) and Washington State WAC 296-155-305.

Flaggers may be a component of a traffic control plan. If signs, signals and barricades do not provide necessary protection at work zones, then flaggers or other appropriate traffic controls must be used. However, flaggers are to be used only when other reasonable traffic control methods will not adequately control traffic in the work zone.

### **APPLICABILITY**

This section applies to any County employee who may have traffic control responsibilities. This includes employees who have traffic control duties only occasionally, such as temporarily relieving another crew member.

### **RESPONSIBILITIES**

#### **Supervisors are to:**

- Determine what traffic control measures and equipment are needed, taking into account traffic conditions, road conditions, time of day, weather and other factors. These duties may be delegated to others, as appropriate.
- Ensure that job site workers with specific traffic control responsibilities are trained in traffic control techniques, device usage, and placement.
- Ensure that each traffic control flagger has the qualifications, training and equipment necessary to perform the assigned task in accordance with the MUTCD.

At a minimum, traffic control flaggers must have a stop/slow paddle, an ANSI Class 2 high-visibility garment (vest or shirt), safety shoes and a hard hat before approaching any right-of-way to control traffic.

During hours of darkness (1/2 hour before sunset until 1/2 hour after sunrise), traffic control flaggers must also wear white coveralls, or coveralls or trousers having retro-reflective banding on the legs. Rain gear pants often meet this requirement. Additionally, the hard hat must be marked with at least 12 square inches of retro-reflective material

applied to provide 360 degrees of visibility. Flagger stations shall be illuminated during hours of darkness by floodlights that do not create glare that poses a hazard for drivers.

WAC 296-155-305 also requires a series of 3 or 4 advance warning signs for all flagging operations.

- Ensure Flagger stations are positioned appropriately.

Flagger stations must be located far enough in advance of the work space so that the approaching road users will have sufficient distance to stop before entering the work space.

Flaggers must stand either on the shoulder or in a closed lane prior to stopping road users. A flagger may only stand in the lane being used by moving road users after road users have stopped. A flagger shall not flag traffic from within an intersection. Further, flaggers must be positioned so they are not exposed to traffic or equipment approaching them from behind.

**Employees are to:**

- Perform traffic control/flagging duties in accordance with the MUTCD and WAC 296-155-305.
- Report any deficiencies that affect their ability to adequately control traffic in compliance with the MUTCD and WAC 296-155-305.

**King County Safety and Health Trainers are to:**

- Provide training, on request, to employees in King County departments, divisions, and agencies whose job duties include traffic control.

**TRAINING**

King County Safety and Claims Management offers the State of Washington Flagger Certification Course. This is required for any employee whose duties include temporary traffic control. Training must be updated every three years.

**REFERENCES**

Manual on Uniform Traffic Control Devices  
WAC 296-155-305  
WAC 468-95-302

## **Section 22: HEAT-RELATED ILLNESS (HRI) PREVENTION**

### **INTRODUCTION**

Exposure to excessive heat can result in heat-related illnesses (HRI) such as heat rash, fatigue, heat exhaustion, fainting or heat stroke. Employees engaged in strenuous activities at high temperatures are susceptible, and exposure to direct sunlight increases the heat effect. Heat-generating equipment or surfaces can amplify the temperature, and increased relative humidity hampers the body's ability to release internal body heat.

### **APPLICABILITY**

This program applies to all employees who perform physically-demanding jobs in areas with high temperatures and humidity. Outdoors, these are generally temperatures in the upper 80's and above. The program is in effect only from May 1 through September 30 of each year.

This program complies with WAC 296-62-095 and takes effect when the outdoor temperature is 89 degrees Fahrenheit or above, for personnel performing outdoor work wearing regular work clothes. It takes effect at 77 degrees for employees wearing coveralls, jackets and sweatshirts, and at 52 degrees for employees wearing non-breathing clothes (vapor barriers) such as Tyvek suits.

This program does not apply to incidental exposure, defined as work activity outdoors for not more than fifteen (15) minutes in any sixty (60) minute period.

### **RESPONSIBILITIES**

County Safety and Health Professionals:

- Develop written HRI programs
- Provide technical assistance to supervisors and managers
- Provide employee training

Supervisors and Managers:

- Evaluate, with assistance from Safety and Health Professionals, HRI hazards, including temperature, relative humidity, radiant heat (sun or hot surfaces), degree of physical workload, and clothing or PPE contribution
- Ensure compliance with this program
- Provide adequate water (minimum of one quart per hour per employee) and a shaded area (canopies, truck cabins, air conditioned vehicles, etc.) for employee rest when needed to prevent HRI
- Relieve employees showing symptoms of HRI from duty and provide sufficient means to reduce body temperature if needed
- Carefully evaluate employees removed from work before return to work
- Ensure medical attention for employees experiencing signs of serious HRI

Employees:

- Comply with management directives for prevention of HRI
- Recognize symptoms of HRI
- Recognize the following personal factors that affect susceptibility to HRI:

○ lack of physical fitness	○ lack of acclimatization
○ age (either young or older)	○ dehydration
○ obesity	○ alcohol use (even night before)
○ nicotine use	○ use of prescription or nonprescription diuretic (antihypertensive) drugs
○ diarrhea	○ chronic disease

- Drink adequate amounts of water (up to one quart per hour)
- Notify management when symptoms of HRI emerge
- Ask for breaks when needed to reverse possible onset of HRI
- Attend training on assessment, prevention, and treatment of HRI

## **TRAINING**

Every King County employee engaged in strenuous outdoor activities during the summer months or strenuous activities indoors at high temperatures shall be provided annual training prior to work assignment.

The employee training will contain the following information:

1. The environmental factors that contribute to the risk of HRI;
2. Personal factors that may increase susceptibility to HRI;
3. King County's procedures for identifying, evaluating, and controlling exposure;
4. The importance of removing personal protective equipment during all breaks;
5. The importance of frequent consumption of small quantities of water.
6. The importance of acclimatization;
7. The different types of heat-related illness and the common signs and symptoms of heat-related illness;
8. The importance of immediately reporting to the supervisor symptoms or signs of heat illness in themselves or in co-workers;
9. King County's procedures for responding to symptoms of possible heat-related illness, including how emergency medical services will be provided should they become necessary; and
10. The purpose and requirements of the State standard.

The supervisor or lead for these employees will receive the following additional training:

1. The King County HRI Prevention program;
2. The procedures the supervisor is to follow to implement the program;

3. The procedures the supervisor is to follow when an employee exhibits signs or symptoms consistent with possible HRI, including emergency response procedures;
4. Procedures for moving employees to a place where they can be reached by an emergency medical service provider, if necessary; and
5. How to provide clear and precise directions to the emergency medical provider who needs to find the work site.

## **HEAT-RELATED ILLNESSES AND KING COUNTY PREVENTION ACTIONS**

<i><b>Heat-related illness</b></i>	<i><b>Signs and Symptoms</b></i>	<i><b>Treatment</b></i>	<i><b>Prevention</b></i>
<b>Heat Rash</b>	<ul style="list-style-type: none"> <li>- Red, itchy skin</li> <li>- Bumpy skin</li> <li>- Skin infection</li> </ul>	<ul style="list-style-type: none"> <li>- Cool skin</li> <li>- Keep affected area dry</li> <li>- Control itching and infection with medication</li> </ul>	Sleep in cool quarters to allow skin to dry between heat exposures
<b>Heat Cramps</b>	<ul style="list-style-type: none"> <li>- Muscle cramps or spasms</li> <li>- Grasping the affected area</li> <li>- Abnormal body posture</li> </ul>	<ul style="list-style-type: none"> <li>- Drink salted water or sport drinks</li> <li>- Rest, cool down</li> <li>- Massage affected muscle</li> <li>- Get medical evaluation if cramps persist</li> </ul>	Adequate salt intake with meals.
<b>Heat Exhaustion</b>	<ul style="list-style-type: none"> <li>- High pulse rate</li> <li>- Extreme sweating</li> <li>- Pale face</li> <li>- Insecure gait</li> <li>- Headache</li> <li>- Clammy and moist skin</li> <li>-Weakness</li> <li>- Fatigue</li> <li>-Dizziness</li> </ul>	<ul style="list-style-type: none"> <li>- Move to shade and loosen clothing</li> <li>- Initiate rapid cooling</li> <li>- Lay flat and elevate feet</li> <li>- Monitor recovery</li> <li>- Drink small amounts of water</li> <li>- Evaluate mental status (ask who? where? when? questions)</li> <li>- Keep at rest until urine volume indicates that water balances have been restored.</li> <li>- If no improvement call 911</li> </ul>	Acclimatize workers using breaking in schedule, ample drinking water to be available at all times and taken frequently during work.

<i>Heat-related illness</i>	<i>Signs and Symptoms</i>	<i>Treatment</i>	<i>Prevention</i>
<b>Heat Stroke</b>	<ul style="list-style-type: none"> <li>- Any of the above but more severe</li> <li>- Hot, dry skin (25-50% of cases)</li> <li>- Altered mental status with confusion or agitation</li> <li>- Can progress to loss of consciousness and seizures.</li> <li>- Can be fatal</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Call 911</b></li> <li>- Immediately remove from work</li> <li>- Start rapid cooling</li> <li>- Lay flat and elevate feet</li> <li>- <b>If conscious</b> give <b>sips</b> of water</li> <li>- Monitor airway and breathing – administer CPR if needed</li> </ul>	<p>Pre-employment medical screening of workers, selection based on health and physical fitness, acclimatization for 5-7 days by graded work and heat exposure, monitoring employees during sustained work in severe heat.</p>

**HRI PREVENTION**

The supervisor will notify the work group at dispatch of the possibility of **HEAT-RELATED ILLNESS (HRI)** and remind them of the preventative measures to be taken and selected treatments.

This must occur when the following conditions are expected at any time during any day from May 1 through September 30 in any given year:

- When temperature is expected to be 89°F or greater; or
- When employees are required to wear coveralls, jackets and sweatshirts and temperature is expected to be 77°F or greater; or
- When temperature is expected to be 52°F degrees or greater and employees are required to wear non-breathing clothes (vapor barriers) such as Tyvek suits.

**PRACTICAL FIELD IMPLEMENTATION ACTIONS FOR OUTSIDE WORK**

The following actions are required when the program is in effect:

- Leads will add at least one additional rest break during the first and second halves of the work shift and will instruct workers to rest sitting or lying down in shade.
- If possible, a worker buddy system will be used to monitor each other.
- All workers must be supplied with, or have easy access to, one quart of water per hour.
- Workers should be reminded to look out for HRI symptoms in themselves and fellow workers.
- Workers need to take their regularly-scheduled breaks in a shaded area.

- Hot surfaces, restrictive PPE, and heavy workloads need to be taken into consideration for possible further restrictions.

## **REFERENCES**

WAC 296-62-095

## **Section 23: WORKPLACE VIOLENCE**

### **INTRODUCTION**

Many King County employees interact directly with the public daily. Occasionally county employees may encounter individuals who respond to staff in an intimidating, threatening, or dangerous manner. Violent behavior at work is now recognized as a serious occupational hazard, and efforts to control this workplace hazard are shared by safety and health professionals, employees, and management. Consequently, the King County Executive ordered all county departments to enact administrative policies necessary to implement a Workplace Violence Prevention program PER 18-7 (AEO).

### **APPLICABILITY**

The Workplace Violence Prevention policy covers all Executive Branch managers and employees.

### **RESPONSIBILITIES**

Managers and Supervisors are to:

- Take reasonable steps to protect employees and others from acts of violence in county facilities or related to county business.
- Respond to reports of or knowledge of violence.
- Initiate the investigation process when necessary.
- Notify the law enforcement agency having jurisdiction, if appropriate, and take suitable disciplinary action if it is determined that an employee has committed an act of violence.
- Keep records of all violence incident reports.
- Consider using the Alternative Dispute Resolution Program as a resource to mediate disputes in the workplace.
- Develop and make available training on the issues of workplace violence.

All executive branch employees are to:

- Report all known threats or acts of physical violence.
- Report concerns regarding any person outside the workplace who might harm them.

## **TRAINING**

As stated above, departments are responsible for making available training on the issues of workplace violence. Such training may include information on:

- Thorough hiring practices to include background checks as necessary
- Preserving employees' dignity during discipline and termination
- Improving communication skills of supervisors, with emphasis on proper administration of progressive discipline and dealing with terminations and layoffs
- Dealing with disgruntled citizens and perceived threats
- Identifying warning signs of potential violence
- Personal safety training – how to prepare for and survive acts of workplace violence
- Stress reduction programs

Workplace Violence Prevention classes are available from Safety and Claims Management. Additionally, Risk Management offers an on-line class for supervisors.

## **INCIDENT RESPONSE PROCEDURES**

Immediately after a violent incident or threat occurs, a manager in the affected department should focus first on providing for the medical, psychological, and family needs of affected victims. Other immediate steps that a manager should consider taking, where appropriate, include:

- Call 911. Report the incident to the local police department and support law enforcement activities (e.g. crime scene investigation, interviewing witnesses, victims and others).
- Assist the victim.
- Secure work areas where the disturbance occurred.
- Account for all employees and others, including those who may still remain in the area where the disturbance occurred.
- Notify Safety and Claims Management (206-477-3350) of the incident.
- Fill out incident reports and claims forms, as required.

Following the event, additional attention to victims' medical and psychological needs should be considered.

## **RESOURCES**

The following King County documents offer additional information on how to prevent workplace violence. They can be accessed via the King County Safety and Claims Management web site:

<http://kingcounty.gov/employees/HumanResources/SafetyClaims/Safety/Policies/WorkplaceViolence.aspx>

### **King County Workplace Violence Prevention Policy PER-18-8 (AEP)**

The policy enumerates examples of prohibited acts and inappropriate conduct. It also lists information that should be gathered should an incident occur. The policy also has two useful appendices:

Appendix 10-1: Preventing and dealing with Workplace Violence – a Manager’s Checklist. In addition to a 12-point checklist, a list of possible warning signs of violence is included.

Appendix 10-2: Violent Incident/Threat Report Form.

### **Workplace Violence: Prevention, Intervention, and Response. A Handbook for King County Directors, Managers, Supervisors and Leads**

This 11 page manual covers the county’s policy, and includes sections on learning to identify the potential for violence, setting the tone in your workplace, and diffusing threats.

## **REFERENCES**

Executive Order PER 18-7 (AEO) – Workplace Violence Prevention

Executive Policy PER 18-8 (AEP) – Workplace Violence Prevention

Executive Policy PER 18-5 (AEP) Domestic Violence in the Workplace

## **Section 24: VEHICLE SAFETY**

### **INTRODUCTION**

As a King County employee, you may need to drive during the course of your job. The safe operation of a motor vehicle is of critical importance, as you are a representative of King County on the roads.

### **APPLICABILITY**

To drive on King County business, you must possess a valid driver's license.

Drivers of the following vehicles must have Commercial Driver's Licenses (CDLs):

- All single vehicles with a manufacturer's weight rating of 26,001 pounds or more
- All trailers with a manufacturer's weight rating of 10,001 pounds or more, and a combined vehicles' gross weight rating of 26,001 pounds or more
- All vehicles designed to transport 16 or more persons (including the driver)
- All school buses, regardless of size
- All vehicles used to transport any material that requires hazardous material placarding or any quantity of a material listed as a select agent or toxin in 42 CFR 73

Additionally, all employees routinely assigned to drive a vehicle must be trained in defensive driving. Routinely assigned to drive has been defined as at least once per month. The Safety and Claims Management office provides training on this topic. It is recommended that you take the course every three years.

### **RESPONSIBILITIES**

Employees who drive should operate vehicles in a manner that reflects the highest regard for safety of the public, other King County employees, and property. There are a few major points to remember when using vehicles:

- Before operating any vehicle, take time to familiarize yourself with it: locate the controls for shifting, braking, lights, heater, windshield wipers, and so on. You also need to check the vehicle to ensure that everything is operating properly. If you find any defects, report them to your supervisor and to the King County maintenance shop responsible for your vehicle so repairs can be made. No vehicle should be used with operating defects.
- When operating any vehicle you are expected to obey all traffic rules and regulations, including wearing seat belts, observing speed limits and refraining from using hand-held cellular telephones. You are responsible for any penalties, with a few exceptions, for violations of traffic regulations.

- Bicycle riders are expected to observe the same laws and regulations as motor vehicles when ridden on the road. If you must ride on routes used by pedestrians, such as sidewalks, the pedestrian has the right of way. When approaching a pedestrian from behind, a bicycle rider should use an audible voice or mechanical signal. Any employee using a bicycle at work must wear a helmet. When not in use, bicycles should be parked in racks or other approved storage areas; they should not be taken into buildings and stored in offices, shops, halls or other areas of general use.
- Motorcycles, scooters and similar vehicles are subject to the same rules and regulations as motor vehicles. They are not permitted on paths, sidewalks, in buildings or other areas of general use. Motorcycle riders must wear helmets.
- Accidents involving King County vehicles shall be reported to Risk Management (206-263-2250) no later than the end of the workday following the accident. Managers or supervisors must ensure that each employee involved fills out a King County Accident Reporting Form.

## **TRAINING**

As stated above, employees who are routinely assigned driving responsibilities shall be trained in defensive driving. This includes employees who drive their personal vehicles on County business. This 4-hour training is conducted by Safety and Claims Management. These classes are offered once or twice each month. Additionally, classes can be arranged for work groups, at their locations, by contacting a Safety Trainer at Safety and Claims Management at 206-477-3371 or 206-477-3370.

## **Section 25: SECURING LOADS**

### **INTRODUCTION**

King County employees perform many types of work, including construction and maintenance of roads, parks, and facilities. Many employees transport work-related materials and equipment from place to place. Unsecured loads pose a danger to all people on the roadways. The King County Executive has codified Washington State code, RCW 46.61.655, and ordered all King County departments to implement Executive Order PER 18-9 (AEO) - King County Employees Required to Secure Loads.

### **APPLICABILITY**

This program applies to all King County employees who use King County vehicles and load or operate any mobile equipment for their work.

### **RESPONSIBILITIES**

**Managers and Supervisors** are to:

- Work with Safety and Claims Management and/or your agency's Safety and Health Professionals to provide general training for employees, including applicable secured-load laws, employees' responsibilities, and examples of how to secure a load.
- Determine whether employees need additional specific secured-load training beyond the general training.
- Provide additional specific secured-load training to their employees if the agency determines that such training is needed.
- Document and track all secured-load training received by each employee.
- Inform employees that violation of this Executive Order may lead to discipline, up to and including termination.

**All King County agencies that own or operate a fleet of vehicles** are to:

- Purchase and stock equipment/supplies appropriate for securing loads for all vehicles in their fleet and outfit each vehicle with equipment/supplies to secure loads.
- Ensure that information about County employees' responsibility to secure loads is included with the operating manual for each vehicle.

- Place a secured-load message inside the passenger compartment of each vehicle and with load-securing equipment/supplies, to remind drivers to secure their loads.

**Employees** are responsible for:

- Ensuring that their load is secure.
- Inspecting their vehicles and equipment prior to operating it, and reporting any deficiencies that would affect their ability to secure their load.
- Following existing agency procedures to correct any deficiencies found.

**County Safety and Health Professionals** are to:

- Where requested, provide and document general training to employees in King County departments, divisions, and agencies whose job duties include loading, securing, or transporting loads.
- Include information on secured load laws and employees' responsibilities in the Defensive Driving course offered to County employees.

## **TRAINING**

King County provides employees with various training opportunities, including a New Employee Safety Orientation (Section 2) and more specific or topical safety training, such as "Secure Your Load" as required for their jobs. The "Secure your Load" training covers:

- Applicable secured load laws,
- Employees' responsibilities, and
- Examples of how to secure a load

## **REFERENCES**

Executive Order PER 18-9 (AEO)-King County Employees Required to Secure Loads,

RCW 46.61.655.

## **Section 26: MATERIAL HANDLING AND PERSONNEL LIFTING EQUIPMENT**

### **INTRODUCTION**

Material handling and personnel lifting equipment is specialized equipment that is potentially hazardous. Many hazards are unique to this type of equipment, and training specific to the operation of each piece of equipment is required.

### **APPLICABILITY**

There are many types of material handling and personnel lifting equipment. This procedure covers all, including forklifts, cranes, articulated boom lifts, scissor lifts and any other similar equipment.

### **RESPONSIBILITIES**

Each Department's managers and supervisors are responsible to ensure that all operators and other affected employees operate material handling and personnel lifting equipment in the correct and safe way. Managers and supervisors must also ensure that employees receive adequate training, whether they have experience or not.

### **TRAINING**

Training is required before operating any piece of equipment. The training must include all relevant items contained in the specific equipment operator's manual, including inspection, application and operation. Practical training on the specific equipment or equipment with similar controls is required. The trainer must determine that the trainee can properly operate the equipment.

Trainers must have the knowledge, training and experience to perform the training and then evaluate the competency of the operator.

Safety and Claims Management can assist departments with determining the adequacy of training programs, whether they are in-house or from vendors. In some cases, Safety and Claims Management can assist in developing an in-house training program.

### **FORKLIFTS**

WAC 296-863, Powered Industrial Trucks, sets forth the Department of Labor and Industries rules regarding the operation of forklifts. This includes the sit-down, counter-balanced type of forklift, as well as the stand-up type, the order-picker (in which the employee is raised along with the forks), and powered pallet jacks.

## Training

Training is required before an employee may operate a forklift. This training must include formal instruction, practical training, AND a hands-on performance evaluation. This training is offered by Safety and Claims Management. Forklift operator performance must be evaluated at least every 3 years.

## Pre-shift inspection

Forklifts must be inspected daily, before being put into service. Any deficiencies found should be immediately reported to the supervisor.

## Forklift operation

Forklifts often operate in tight quarters, and are therefore often driven in reverse. Operators should look in the direction of travel, and must slow down and sound the horn at cross aisles and other locations where vision is obstructed.

Keep a safe distance from the edge of docks or loading platforms. Forklifts differ from automobiles in that they have rear wheel steering. This provides greater maneuverability, but also results in tail-swing. Steering sharply away from the edge of a dock or platform will cause the rear of the forklift to swing over the edge.

## Stability

Forklifts are at their most stable when the load is low and close to the mast. Therefore, the forks must be placed under the load as far as possible, and the mast must be tilted carefully backwards to stabilize the load. Carry the load as low as possible; do not travel while the load is elevated.

## Overloading

Do not overload the forklift. The rated capacity of the forklift will be shown on the capacity plate, typically located in the driver's compartment. The exact weight of the load to be lifted is not always readily available. However, if the rear wheels of the forklift come off the ground when attempting to lift a load, it is certainly beyond the forklift's capacity. Do not add unauthorized counterweight to the forklift. Do not attempt to move a load if it is so heavy that the rear wheels don't maintain full, constant contact with the ground. Remember, the rear wheels are the steering wheels of the forklift – loss of rear wheel contact means loss of steering.

### Leaving the normal operating position

When getting off the forklift, lower the forks, place the controls in neutral and set the parking brake. The operator must shut off the power any time the forklift will be more than 25 feet away, or any time the forklift cannot be seen by the operator.

### **AERIAL LIFT PLATFORMS**

The two common types of mobile aerial lifts are articulated boom lifts and scissor lifts. They are commonly used by maintenance and construction employees as elevated work platforms both inside and outside.

Training must include a thorough review of the operation manual and hands-on operation of the equipment. Some equipment is owned by King County departments, but equipment is commonly rented. The same training requirement applies to rented equipment. Experienced, trained operators may review the operator's manual before use if the equipment is similar to what they have used previously.

It is required by this program, and all operator manuals, to perform a function test of the equipment from the ground controls before each daily use. It is important to do this before operation, rather than find out during operation that a critical function does not work.

The primary hazards are

- falls from an elevated platform;
- the entire lift falling over;
- contact with electrical conductors; and
- striking overhead obstacles while raising the platform.

### Falls from an Elevated Platform

Personal fall-arrest systems are required for articulated boom lifts and some scissor lifts. A fall-arrest system is required if it is recommended by the scissor lift manufacturer, usually for lifts that are extraordinarily high. A personal fall-arrest system consists of a full body harness and a shock-absorbing lanyard connected to the anchorage specified by the manufacturer. See Section 20, Fall Protection, for the training and equipment requirements for using fall protection equipment.

Employees must never climb on the railing. Do not climb out of the platform to another surface (this can only be done under special circumstances where fall protection is always hooked up and the surface is safe). Do not stand on anything higher than the floor of the platform.

## Lift Falling Over

Lifts can fall over when operated in a way that exceeds their capabilities. Newer lifts have safety devices that usually will not allow them to be operated if the lift's capabilities are exceeded, but the safety devices can fail.

Larger lifts have extendable axels, or outriggers, that increase the wheel base. If these are not extended while in use, the platform can tip over. This can happen with a boom extended towards the horizontal, on uneven ground, too much weight in the platform or a combination of these. On equipment without outriggers, the same conditions exist.

Always inspect the ground surface to be traveled. Surface irregularities, such as potholes, slopes or soft soil can cause tip-overs, damage or getting stuck. With an articulated boom lift the platform must always be in the lowered position when traveling. Travel is allowed in most scissor lifts while raised, but only on smooth surfaces that will not cause the elevated platform to sway.

## Electrical Hazards

Never operate lifts near electrical lines. Electrical lines on poles and to buildings are not adequately insulated to prevent electrical shock. A 10 foot clearance from most lines to buildings is required. Distances of up to 45 feet, depending on the voltage carried, is required from lines on poles.

If using electrical equipment on the platform, use caution with cords and connections, as the lifts are metal.

## Overhead Obstacles

Always be aware of the environment you are working in. Any overhead obstacles, such as structures or trees, can be a hazard while raising the platform. It is sometimes easy to forget them while working.

## **CRANES**

Rigorous and very detailed regulations, unique to the State of Washington, apply to cranes. These regulations are from the State of WA Dept. of Labor and Industries, Safety Standards for Construction Work, WAC 296-155, Part L, Cranes, Rigging and Personnel Lifting.

A few of the major elements of the requirements are:

- State certification of crane operators for types of cranes operated
- Rigorous qualifications for riggers, signal persons, maintenance and repair
- Annual crane inspection by State-certified persons

There are some exemptions for certain types of cranes, such as cranes with a capacity of one ton or less and vehicle tow trucks. These exemptions are listed in WAC 296-155-52900. There are still rules for safe operation of these exempted cranes.

Each County-owned crane covered by these regulations is required to have written safe operating procedures unique to the type of crane. Safe operating procedures may be in the operation manual for the crane. Additional Washington State requirements must be added to the program.

Please contact Safety and Claims Management at 206-477-3350 for advice and assistance regarding material handling and lifting equipment.

## **Section 27: ERGONOMICS AND BODY MECHANICS**

### **INTRODUCTION**

Ergonomics is the scientific study of human work. A goal of ergonomics is to reduce work-related musculoskeletal disorders by adapting the work to fit the person, instead of forcing the person to adapt to the work. This can involve desks, chairs, and computer terminals in offices; vehicles; tools and equipment; and other aspects of work.

Body mechanics involves positioning, posture, and movement. Body mechanics is important in strenuous activities such as lifting, hammering, shoveling, and climbing, as well as in less-active office work.

Musculoskeletal disorders are illnesses or injuries that affect one or more parts of the musculoskeletal system. They are also known as cumulative trauma disorders, repetitive trauma disorders, repetitive strain injuries, or repetitive motion disorders. Prevention of these injuries is possible through use of good ergonomics and body mechanics.

### **APPLICABILITY**

This program applies to all King County employees, regardless of their job duties. The Safety and Claims Management office provides no-cost ergonomics training, body mechanics training, and individual ergonomics consultations. Jobs involving awkward postures; high hand force; highly repetitive motion; repeated impact; heavy, frequent, or awkward lifting; or vibration should be evaluated for feasible modifications.

Individual workstation or job evaluations may be requested for employees by Claims Officers, managers, or the employees themselves. If work-related musculoskeletal disorders (repetitive motion injuries) have occurred in a work area, it is especially important to have the area evaluated to determine if changes can be made to prevent future injuries. Training and workstation or job evaluations are available by submitting a request online at:

<https://kc1.sharepoint.com/sites/HRD/Pages/Ergonomic-Evaluation-Request.aspx>

When offices are moved or remodeled, it is important to incorporate ergonomics into the design. Safety and Claims provides free ergonomic design consultation services for remodel and new building projects, on request. Safety and Health Professionals work in conjunction with Project Managers in the Facilities Management Division to design ergonomic workstations that can be adjusted to different users.

## **RESPONSIBILITIES**

Managers and supervisors are responsible for:

- Recognizing potential ergonomic issues and requesting assistance
- Referring employees with musculoskeletal injuries to the Safety and Claims Management Office
- Enlisting the assistance of the Safety and Claims Management Office when re-locating or remodeling offices

Employees are responsible for:

- Recognizing the symptoms of possible musculoskeletal disorders and seeking medical assistance and advice from the Safety and Claims Management Office.
- Following body mechanics and ergonomics advice to reduce musculoskeletal symptoms

Safety and Health Professionals are responsible for:

- Responding to requests for assistance by providing job and workstation ergonomic evaluations
- Providing written recommendations for body mechanics and ergonomic improvements

## **FIELD ERGONOMICS**

There is much potential for ergonomic and body mechanics hazards in field jobs. In particular, work that involves awkward postures; high hand force; highly repetitive motion; repeated impact; heavy, frequent, or awkward lifting; or vibration should be evaluated to determine if changes can be made to improve ergonomics or body mechanics. If one or more employee in the work group experiences musculoskeletal injuries from the work an ergonomic evaluation should be requested by the supervisor, the employee, or the Claims Officer.

Factors to consider in field ergonomics are workspace layout; work surfaces; walking and standing surfaces; materials handling/movement; static or awkward postures; tool size, weight, and balance; handle size and position; power control; and controls and displays. These factors need to be evaluated on a case-by-case basis to determine proper modifications and alternatives.

## **LIFTING AND MOVING MATERIALS**

Work may require lifting and moving materials from one location to another. Improper lifting techniques and overexertion can cause sprains, strains and other injuries to the body. Sprains and strains of the back are the most common injury. Employees who are required to lift, carry, push, or pull items weighing over 20 pounds should receive training on proper lifting techniques to help reduce the risk of injury. Staying in good physical condition will help employees

reduce the chance of soreness, stiffness, and injury, and will help speed recovery if they do have an injury. The Safety and Claims Management office provides lifting and back care training to help employees lift and move using proper body mechanics. Call 206-477-3371 or 206-477-3370 for more information on this training class.

In general, remember to:

- Never attempt to move any item by yourself if the size and/or weight is beyond your capabilities. Instead, you should use mechanical assistance or get help from a co-worker.
- Think and plan before you attempt to move any item, even if it looks like a routine task.
- Use the proper method to make the lift and move, bending from your hips and keeping your back in alignment, keeping knees bent, and lifting with your leg muscles.
- Move your feet to turn, rather than twisting your torso. Haste and improper lifting methods can result in a life-altering injury.

## **OFFICE ERGONOMICS**

An ergonomic office workstation may include various components, depending on the employee's needs. Major factors include computer keyboard height, mouse position, monitor height, and chair height and positioning. In some cases adjustments to the existing workstation can be made without buying new equipment, or by buying relatively inexpensive wrist rests and document holders. Sometimes a new chair or a computer table is required. Properly fitted workstations should be considered required equipment, especially for people who work at their computers or desks all day long.

### **Keyboard and Mouse**

The computer keyboard should be positioned directly in front of the user, at approximately waist level or slightly lower. Elbows should be kept close to the body, and shoulders and arms should be relaxed. Wrists should be neutral, or flat, and should not be bent to either side. Split keyboards, also known as “ergonomic” keyboards, may help some people keep their hands in a neutral position, especially those with wide shoulders or a wide arm stance. Keyboards with a built-in pointing device are helpful in keeping the arms close to the body. Mouse alternatives such as trackballs or touchpads may help relieve hand and wrist discomfort. The mouse should be placed close to the keyboard at a height that allows for a neutral wrist. Raising the mouse with a book under the mouse pad can improve the wrist angle during mouse use. The elbow should be

supported with the chair armrest when using the mouse or trackball. Varying the fingers used to click the mouse, and using the mouse on the left side of the keyboard can help reduce repetitive motions.

### Keyboard Holders

Desktops are often too high for users to position their arms properly. Adjustable keyboard holders may be installed by removing the center desk drawer, or under an open desk or table area. A keyboard holder should be both height adjustable and angle adjustable. The keyboard holder should be at least 11 inches deep by 26 inches wide, and include space or an attachment for a mouse or trackball. The keyboard holder should include a built-in padded wrist rest.

### Wrist Rests

Most computer users should use a padded wrist rest to keep their wrists in a neutral position. Wrist rests are available for keyboards, mice, notebook computers, and adding machines. The wrist rest provides support between keystrokes, preventing overextension of the wrists. The wrist rest should be soft and well-padded, and should be the same height as the keyboard space bar. The wrists should not be planted on the wrist rest while typing - they should "float" just above the wrist rest and rest only occasionally.

### Monitor

Monitors are typically height-adjustable, so monitor risers are not required. The top of the monitor should be at or slightly below the user's eye level. The user should check while working to ensure the head is positioned looking just slightly downward. The ideal position for the monitor is directly in front of the keyboard. Dual monitors can be centered in front of the keyboard. Tipping the bottom of the monitor up slightly will make it easier to see the bottom of the screen, and will help keep the head in proper position. A document holder positioned either between the keyboard and monitor(s) or next to a monitor should be used to hold paperwork.

### Chairs

The chair should have a five-star base and pneumatic lift for height adjustment. It is important for users to sit with feet firmly on the floor. This will provide support and reduce back discomfort.

The seat should have a contoured surface, with a downward curve to the front edge. The seat pan should end about one to two inches behind the user's knees. A seat pan that adjusts horizontally can provide variable seat pan depth for multiple users. The seat pan should have adjustable tilt. A slight forward tilt to the seat pan reduces pressure on the thighs, helps maintain a good lumbar

curve, and helps keep the feet firmly on the floor.

The chair back should have an outward curve near the base to provide lumbar (low back) support. The lumbar support should be positioned so that it is waist height for the user. The chair back should adjust up and down so that the lumbar support can be individually fit to the user. The chair back angle should be adjustable to provide support in several positions. High chair backs can be beneficial for individuals with upper back or neck pain.

Adjustable armrests are recommended, especially for individuals who have shoulder or upper back pain. Armrests should adjust for both height and width to provide the proper support. Some armrests rotate as well. Shorter armrests will be less restrictive to the user, while still providing the necessary support. Individuals should not lean too heavily on their arms, as this can gradually result in injury. Armrests should be padded, and may be used while typing if the arms can be kept close to the body while on the armrest, or if a split keyboard is used. The mousing arm should rest on the armrest while using the mouse.

Generally, the individual who will be using the chair should choose it. If this is not possible, then fully-adjustable chairs will be more likely to fit more users. Fully-adjustable chairs should be provided for all multiple-user workstations. This means seats, backs and armrests must be adjustable as described above. Chairs should be sturdy and able to accommodate larger individuals without breaking down.

### Computer Desks

If separate workstations for computers are purchased, the keyboard and mouse area should be height adjustable. If the workstation is shared by two or more users, monitor height and keyboard/mouse height should be easily adjustable for each user. A workstation at least 36 inches wide is recommended to accommodate the monitor, paperwork, keyboard, and mouse. The keyboard area should be at least 11 inches deep by 26 inches wide to hold various keyboard and mouse combinations. Rounded desk edges are preferable to reduce nerve compression in the wrists and arms.

Sit/stand workstations are becoming more common, as many employees prefer to stand for at least part of the day. There are various ways to modify a desk to a sit/stand workstation, including pneumatic lifts, electric lifts, and desktop monitor and keyboard holder devices. Safety and Health Professionals can provide assistance in determining sit/stand options.

### Modular Workstations

Modular workstations (wall-hung or panel-hung) are recommended for their adaptability and height-adjustability. An L-shaped or U-shaped workstation is

good for computer and paperwork tasks. Drawer pedestals should be located at the ends of the workstation so they do not impede leg movement. The basic pedestal should be 26 inches high or less, and should be mobile or hanging to allow for maximum height adjustability of the desktop. A pencil/box/file pedestal configuration works well for all workstation heights. Edges of the desktop should be rounded.

### Telephones

If the telephone is used while writing or working on the computer, a telephone headset may be appropriate, especially if neck pain is a problem. Cordless telephone headsets are available for users who need to move away from the desk frequently. Another alternative is to use a speaker phone (if in a private office). Neck rests that attach to the back of the handset are less desirable, since they do not eliminate the neck-to-shoulder position, but they can help if the telephone is not used frequently.

### Lifting/Reaching/Filing

Notebooks, reference materials, and other often-used information should be kept close at hand, and books should be pulled close to the body before lifting. Lifting with an outstretched arm can cause stress on the elbow, shoulder, and back. Standing up to lift items is another way to get close to the item. The whole body should be used when pulling files, to place less stress on the arms. The arms should be positioned close to the body, and the body is used to pull the file. This is especially important with tight files.

### Task Breaks

Task breaks should be taken at least every half hour. This may include getting up to walk to the printer, making copies, or doing other work. Positions should be changed frequently, and short stretch breaks should be taken often.

### Other Equipment

Equipment such as keyboards with integrated pointing devices, document holders, height-adjustable monitor arms, and slant boards may also be desirable. Additional equipment information, specific examples of and sources for appropriate equipment, and individual workstation evaluations are available by calling the Safety and Claims Management office at 206-477-3350.

## **Section 28: AIR QUALITY**

### **INTRODUCTION**

Air quality concerns may occur when employees are involved in activities such as welding, cutting, and construction work. Typical air quality hazards include dusts, fumes, chemicals, solvents, and carbon monoxide. Air quality issues can occur in all types of workplaces, and may result from inadequate ventilation or other control measures, water intrusion, or remodeling/painting activities. Usually there is a way to evaluate and measure these substances to determine the appropriate protective measures to take. Sometimes a specific contaminant or deficiency is not identifiable, even though occupants have symptoms.

### **APPLICABILITY**

This section applies to all King County work areas, including office and field work.

### **EVALUATION OF AIR QUALITY**

Some air contaminants, such as fumes and solvents, have specific regulated allowable exposure limits. Various instruments are available to measure the amount of these contaminants in the air. Typically, compounds found in indoor air environments are not regulated. However, there are certain protocols, guidelines and criteria for evaluating indoor air quality concerns.

If you or your colleagues have concerns about your workplace air quality, contact Safety and Claims Management at 206-477-3350. A Safety and Health Professional will discuss the situation with you and take the appropriate course of action, possibly including an air quality evaluation of your work area.

## **Section 29: REPORTING WORK-RELATED ACCIDENTS, INJURIES AND ILLNESSES**

### **INTRODUCTION**

This procedure applies to all King County employees, and includes jurors, witnesses, and all reserve Sheriff's Deputies. It outlines the procedure for reporting work-related accidents, injuries or illnesses, and filing a workers' compensation claim. These requirements are in accordance with applicable county, state and federal law and must be strictly followed. These procedures also apply to people who are not in the payroll system, such as witnesses and jurors, paramedic trainees, and election officials.

### **EMERGENCY SITUATIONS**

For emergencies involving serious injuries or fatalities, call 911 immediately.

Any accident that results in a fatality or probable fatality, or any accident that results in the in-patient hospitalization of an employee, must be reported to **Safety and Claims Management** immediately, regardless of time or day.

Call **(206) 477-3350** M – F 8:00 a.m. to 4:15 p.m.

For **EMERGENCIES** during hours other than the office hours above, call **Facilities Management Division (FMD) Security**, which is open 24 hours a day and will act as an emergency contact. They will notify **Safety and Claims Management** personnel of any emergencies called in. The emergency number to call is:

**FMD Security: (206) 296-5000**

In addition, any accident involving a potential or actual fatality, or any in-patient hospitalization, must be reported to the state Department of Labor and Industries within 8 hours of the accident. The toll-free central reporting telephone number is:

**Department of Labor and Industries:  
1-800-423-7233**

L&I also requires reporting of non-hospitalized loss of eye and non-hospitalized amputations within 24 hours.

For emergencies involving **DOT Roads Services** employees, call Renton Roads Division emergency number, 206-296-8100.

For emergencies involving **DOT Transit**, call the Transit Division Control Center at 206-684-1705.

For all **DNR Wastewater Treatment Division** emergencies call the WTD Safety Emergency Response Hotline Number 206-263-3744.

For **DNR Solid Waste Division** emergencies see the *Emergency Call-Out List*, and Notify the Scale House 206-263-1098 and the Main Office 206-263-1000.

When notified of an emergency incident, the appropriate Safety and Health Professional will respond to the scene of the accident.

1. When the Safety and Health representative arrives, s/he will assist the supervisor in conducting the accident investigation. Witnesses and an employee representative (shop steward, employee-elected safety committee member, or other employee-designated representative) will be included in the preliminary investigation.
2. Equipment or materials must not be moved until released by the State of Washington Department of Labor and Industries or the Safety and Claims Management representative, except if victims need to be extricated or to prevent further accident or injury.
3. In the case of vehicle accidents, law enforcement agencies responsible for investigating shall be called as soon as practicable. Investigating police officers shall be in charge.
4. Once the emergency has been resolved, the supervisor will review the contents of the worker's compensation packet with the injured employee(s).

### **REPORTING A WORK-RELATED INJURY OR ILLNESS**

1. Employees must report all work-related near-misses, injuries or illnesses to their immediate supervisor.
2. If the injury or illness is not serious or requires simple first aid, the injured or ill worker does not necessarily need to go to a doctor. But in all cases, the worker and supervisor must fill out a Work-Related Illness/Injury Supervisor Report. This report establishes that an injury or illness has occurred, should the injured worker eventually see a doctor and want to file a workers' compensation claim.
3. Employees exposed to bloodborne pathogens should fill out the claims forms

and submit a claim to Safety and Claims Management, even if they choose not to seek medical attention. This enters the incident into the claims system for any future illness that may result from the exposure, and ensures compliance with state reporting requirements. See Section, 14, Bloodborne Pathogens Exposure Control.

4. If the injured worker wants workers' compensation benefits, s/he must see a doctor or other health-care professional for treatment.

### **REPORTING VEHICLE ACCIDENTS**

In addition to the above procedures, accidents involving King County vehicles must be reported to the Office of Risk Management (206-263-2250) no later than the end of the next work day.

### **WORKERS' COMPENSATION (INDUSTRIAL INSURANCE)**

Industrial Insurance, more commonly called workers' compensation, is a no-fault insurance program that covers work-related accidents and illnesses. Workers' compensation is designed to cover medical expenses and to partially pay for wages lost while an employee recovers from a work-related injury or illness.

King County is self-insured, which means that the County, rather than the Department of Labor & Industries, provides workers compensation insurance for County employees. Employees file all claims for work-related injuries or illnesses with the County, which covers the costs of allowed work-related injuries and illnesses.

If an injured employee receives medical treatment, the employee or the immediate supervisor must notify Safety and Claims Management (206-477-3350).

### **HOW TO FILE A WORKERS' COMPENSATION CLAIM**

1. If medical treatment is needed, the supervisor gives the injured employee a workers' compensation packet, which is available in most departments or by calling the workers' compensation section at (206) 477-3350. It's best to provide the packets to the employee before s/he goes to the doctor the first time. The packet contains detailed instructions for the employee, supervisor and the doctor.
2. The Work-Related Illness/Injury Supervisor Report must be completed by the supervisor and sent to Safety and Claims Management, Mail Stop ADM-ES-0500, or faxed to 296-0514.
3. The injured employee takes the packet along while visiting the treating

physician. Inside is a Medical Release - Physical Capacities Evaluation, which must be filled out by the treating physician and the injured worker. It is important to let the treating physician know the illness or injury is work-related and that King County is self-insured. Do not fill out a Department of Labor & Industries State Fund form.

4. The completed Medical Release - Physical Capacities Evaluation needs to be returned, or the information on it relayed, to the injured worker's immediate supervisor within 24 hours after initial medical treatment. The supervisor notifies the Safety and Claims Management office (206-477-3350) of the physician's directions, such as whether the injured worker can return to work or has physical restrictions.
5. Two other forms are inside the packet: a Physicians Initial Report, which must be completed by both the physician and injured worker; and a Self-Insurer Accident Report (SIF-2), which needs to be filled out by the injured worker. Return both forms to the Safety and Claims Management office, Mail Stop ADM-ES-0500. The claim number in the upper right hand corner of the SIF-2 form is very important when referencing the workers' compensation claim.
6. If the employee does not have a workers compensation packet, the physician may have the Physician's Initial Report form in his/her office. Be sure that the physician sends the completed forms to: King County Safety & Claims Management, 500 4<sup>th</sup> Avenue, Suite 500, Seattle WA 98104.
7. If the initial treating physician refers the injured employee to another doctor, duplicates of the forms described above should not be filled out. The new treating physician should be advised that all forms have been processed.

### **TIME LOSS RESULTING FROM WORK-RELATED INJURY OR ILLNESS**

1. It is the responsibility of the injured employee to notify his/her immediate supervisor of physician-directed days away from work resulting from a work-related injury or illness. The employee must seek medical treatment if the inability to work is due to a work-related illness or injury. The time off work must be authorized by a physician for worker compensation wage replacement benefits to be paid.
2. The injured employee needs to contact his/her payroll clerk to determine what type of medical leave is appropriate.
3. The immediate supervisor must notify Safety and Claims Management (206-477-3350) if the injured employee is absent from work due to a work-related illness or injury.

## **RESTRICTED DUTY**

1. On the initial visit, the injured worker's doctor indicates on a Medical Release - Physical Capacities Evaluation if the injured worker can return to work with full duties, modified duties, or if s/he needs to remain off work. This form goes to the injured worker's supervisor and the work status of the injured worker is reported to Safety and Claims Management.
2. If the doctor says the injured worker can go back to work, but with some restrictions, the injured worker takes a doctor's note that identifies restrictions to his/her supervisor and asks if the restrictions can be accommodated within 24 hours. This same note goes to Safety and Claims Management, and a coordinated effort is made between the claims section, the injured worker's supervisor and doctor on any available light duties.
3. If the doctor says the injured worker cannot continue in his/her usual occupation because of physical limitations, the injured worker may be eligible for the King County Disability Accommodation program or vocational rehabilitation services.

## **RETURN TO WORK**

1. Prior to returning to work, the injured employee must have a written work release from his/her attending physician. The release is to be given to the injured worker's immediate supervisor.
2. The immediate supervisor forwards a copy of the release, or otherwise notifies Safety and Claims Management.

# How to file a Workers' Compensation Claim for benefits



Human Resources Division  
**Safety and Claims Management**  
ADM-ES-0500  
500 Fourth Avenue, Suite 500  
Seattle, WA 98104  
**206-477-3350** Fax 206-296-0514

## You are important to King County

Please know that we want to help you recover quickly. It is important that you feel comfortable asking questions about this process and that your questions and needs are answered. In order to serve you better; we need your help with the following:

- 1 Complete the Self-Insurer Accident Report (SIF-2) and WTD Accident/Incident/Near Miss report form and give them to your supervisor right away.** Your claim number is shown in the upper right corner of the SIF-2 form. This number is used when seeking medical treatment or filling prescriptions and should appear on all correspondence we receive regarding your claim. Only complete the upper portion of the (SIF-2) form. The lower section titled Employer Start here is filled out by your Supervisor.
- 2 Take this folder with you to your first visit for treatment of your injury.** Advise your doctor that this matter is work-related and provide your claim number. The materials enclosed in the left-hand pocket of your packet are for the doctor's use. Please give these to the doctor for completion. This information from your doctor will help us confirm the activities you are able to perform safely as you recover from your injury. **Make sure your physician fills out the King County Physicians' Initial Report (PIR), the Activity Prescription Form (APF), and if applicable, the Transitional Duty Job Analysis (TDJA), and any other forms on the left side of this packet.**

## IMPORTANT NOTE about your medical provider selection:

**Please note: Beginning January 1, 2013, you may choose any health-care provider who is qualified to treat your injury. After your initial appointment, you must make sure your health-care provider is part of the new Labor & Industries Medical Provider Network. This may mean transferring to a new provider, if your current provider is not in the network by January 1, 2013.**

**To find out if your medical provider is in the network, you can check the L&I web site at <https://fortress.wa.gov/lni/fad/>**

The services with non-network providers cannot be passed on to the injured worker and will be a cost that these providers will have to absorb. Per Washington Administrative Code (WAC) 296-20-010 (6), "when a claim has been accepted by the department or self-insurer, no provider or his/her representative may bill the worker for...the allowable fee and the usual and customary charge." Washington Administrative Code (WAC) 296-20-020 indicates, "rendering of treatment" is acceptance of L&I's rules and fees.

- 3 Return the Activity Prescription Form (APF) and, if released to perform transitional duty, the Transitional Duty Job Analysis (TDJA), to your supervisor on the same day of your initial medical examination.** (Please refer to the employee responsibility page.) It is important that we receive medical documentation as soon as possible, in order to expedite your claim. If you are unable to return the medical report by the end of the day; notify your supervisor by phone immediately.

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- ④ **Review A Guide to Industrial Insurance Benefits** *located in this folder.*
- ⑤ **If you were involved in a vehicle accident or other action involving a third party; please notify the claims officer assigned to your claim. They might ask you to fill out the Third Party Election Form.** This form lets us know if you would like King County to seek recovery from the third party involved in the accident, or if you have the option to pursue recovery on your own.

# Instructions to Supervisor



Human Resources Division  
**Safety and Claims Management**  
ADM-ES-0500  
500 Fourth Avenue, Suite 500  
Seattle, WA 98104  
**206-477-3350** Fax 206-296-0514

## Emergency Situations

**Call 911 immediately or transport the injured or ill employee to a medical clinic or hospital.** Once the emergency has been resolved, follow the steps below.

## Non-emergency Situations

- 1** To record the incident, complete *Work Related Illness/Injury Supervisor Report* on-line at [http://des-icomp:8080/kc\\_firstrpt.shtml](http://des-icomp:8080/kc_firstrpt.shtml). Even if the employee does not need medical attention, please fill out the required internal departmental reports for the employee's worksite in addition to the *Work Related Illness/Injury Supervisor Report*. To complete the online report, interview the employee and describe events leading up to the injury/illness as they were reported to you. Note: A paper report is not necessary if an online report is filled out.
- 2** Send the *Self-Insurer Accident Report (SIF-2)* to the Worker's Compensation section of Safety and Claims Management within 24 hours of the time of the injury.
  - White Copy: FAX the *SIF-2* to Safety and Claims Management at 206-477-3350 OR email electronic copy to [workerscomp@kingcounty.gov](mailto:workerscomp@kingcounty.gov) \*
  - ➔\*Before you FAX or email the *SIF-2*, check that the form is filled out completely.
    - Make sure the employee has signed in two places: 1) medical release authorization and 2) acknowledgment of legal warning.
    - Be sure to complete the first three sections of the Employer section in bottom left-hand corner: 1) Date of return, 2) If employee was engaged in regular course of employment when injured, and 3) Do you agree with the employee's description of the incident? If not, explain.
  - Yellow and White Copies: mail as soon as possible to Safety and Claims Management at Mail Stop: ADM-ES-0500.
  - Green Copy: Remains at the worksite.
  - Pink copy: Goes to the employee for his/her records.
- 3** If medical treatment is necessary, make sure the employee completes and submits all forms. The employee must be instructed to take this packet to their first doctor visit and return the following three forms: 1) *Activity Prescription Form (APF)*; and 2) the *Provider's Initial Report (PIR)*. The APF should be returned to you (the Supervisor/Superintendent) and to Safety & Claims Management **immediately following the doctors visit**.
  - If the employee is medically unable to return the completed forms the same day that they see their physician, arrangements must be made to submit them the following day.
  - *If you (the supervisor) were unavailable to help complete the SIF-2 before the initial doctor visit, complete it afterwards, following the instructions above (Item #2 above).*
- 4** If the employee notifies the work unit by telephone of a work-related injury/illness that requires medical attention, *ask the employee to meet with you (the supervisor) before seeing a doctor*, unless the employee needs emergency medical attention.

...continued on back

- 5** If the employee was in an accident with another vehicle or other accident that involved a **third party**, the Safety & Claims office will send a *Third Party Election Form* to the employee to complete.
- 6** **Assist the employee to Return to Work.** When the employee returns to work with a full or limited duty release (Activity Prescription Form [APF]), immediately e-mail (at [workerscomp@kingcounty.gov](mailto:workerscomp@kingcounty.gov)), call at 206-477-3350, or FAX at 206-296-0514, Safety and Claims to report the work status of the employee.
- Contact Safety and Claims if you need help determining whether the employee needs a work accommodation.
  - Email or mail (at Mail Stop: ADM-ES-0500), all notes from a physician, including medical progress notes or return work releases.
  - **You are encouraged to contact your employee at least once per week while he/she is off, to review the employee's Return to Work status.** This will keep the employee connected to his/her workplace and can encourage an earlier Return to Work.

# Work Related Illness / Injury Supervisor Report



**King County**

Human Resources Division  
**Safety and Claims Management**  
 ADM-ES-0500  
 500 Fourth Avenue, Suite 500  
 Seattle, WA 98104  
**206-477-3350** Fax 206-296-0514

Employee Name		Home Address			Home Phone	
Date of Birth	Sex <input type="checkbox"/> M <input type="checkbox"/> F	Marital Status <input type="checkbox"/> Married <input type="checkbox"/> Not Married		Job Title		
Department / Division		Work Phone		Workshift from _____ to _____ (hours)	Days Per Week _____	Regular Days Off _____
Work Location		Supervisor / Chief Name			Supervisor / Chief's Phone #	
Employment Category <input type="checkbox"/> Temporary <input type="checkbox"/> Seasonal <input type="checkbox"/> Regular, full-time <input type="checkbox"/> Regular, part-time		ID #	Org #	SIF-2 Claim #		
Mail Stop	Did accident or exposure occur on King County premises? <input type="checkbox"/> Yes <input type="checkbox"/> No		Location		Date Reported	Date of Occurrence
Time <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Shift <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Doctor / Hospital, Address, Phone #			Eyewitness	
Did injury cause loss of time (other than on day of injury?) <input type="checkbox"/> Yes <input type="checkbox"/> No		If yes, date last worked _____		If known, date returned to work _____	Time lost from work on day of injury _____ hours	
Will this injury restrict employee's normal job duties? <input type="checkbox"/> Yes <input type="checkbox"/> No				If the employee's job duties are restricted, for approximately how many days?		
Police report filed? <input type="checkbox"/> Yes <input type="checkbox"/> No	Do you have light duty available? If so, describe _____					
<b>Transit Only</b>	Coach #	Route #	Run #	Coach Type: <input type="checkbox"/> Trolley <input type="checkbox"/> Motor Coach <input type="checkbox"/> Streetcar <input type="checkbox"/> Van		

**Check one item in each of the following three categories:**

<b>Part of the Body</b>			
<input type="checkbox"/> Abdomen	<input type="checkbox"/> Eye: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Hand: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Mental
<input type="checkbox"/> Ankle: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Face	<input type="checkbox"/> Head	<input type="checkbox"/> Mouth
<input type="checkbox"/> Arm: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Finger: <input type="checkbox"/> Index	<input type="checkbox"/> Heart	<input type="checkbox"/> Multiple – Describe in A _____
<input type="checkbox"/> Back: <input type="checkbox"/> Low <input type="checkbox"/> Upper	<input type="checkbox"/> Middle <input type="checkbox"/> Ring	<input type="checkbox"/> Heel: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Neck
<input type="checkbox"/> Buttocks	<input type="checkbox"/> Little	<input type="checkbox"/> Hip: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Nose
<input type="checkbox"/> Chest	<input type="checkbox"/> Foot: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Internal	<input type="checkbox"/> Pelvis
<input type="checkbox"/> Chin	<input type="checkbox"/> Forearm: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Jaw	<input type="checkbox"/> Respiratory – Upper
<input type="checkbox"/> Ears: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Forehead	<input type="checkbox"/> Knee: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Rib
<input type="checkbox"/> Elbow: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Glasses	<input type="checkbox"/> Leg: <input type="checkbox"/> L <input type="checkbox"/> R	<input type="checkbox"/> Scalp
	<input type="checkbox"/> Groin	<input type="checkbox"/> Lung	<input type="checkbox"/> Shoulder: <input type="checkbox"/> L <input type="checkbox"/> R
			<input type="checkbox"/> Stomach
			<input type="checkbox"/> Teeth
			<input type="checkbox"/> Thumb: <input type="checkbox"/> L <input type="checkbox"/> R
			<input type="checkbox"/> Toe <input type="checkbox"/> Toes
			<input type="checkbox"/> Wrist: <input type="checkbox"/> L <input type="checkbox"/> R
			<input type="checkbox"/> Other – Describe in A _____
			<input type="checkbox"/> _____
			<input type="checkbox"/> _____
			<input type="checkbox"/> _____
			<input type="checkbox"/> _____
<b>Accident Type</b>			
<input type="checkbox"/> Altercation	<input type="checkbox"/> Electric shock	<input type="checkbox"/> Kneeling	<input type="checkbox"/> Slipped, did not fall
<input type="checkbox"/> Animal / Insect	<input type="checkbox"/> Explosion	<input type="checkbox"/> Lack of oxygen	<input type="checkbox"/> Standing
<input type="checkbox"/> Assault: <input type="checkbox"/> Physical	<input type="checkbox"/> Extreme temperature	<input type="checkbox"/> Lifting	<input type="checkbox"/> Stepped in / on or off
<input type="checkbox"/> Verbal	<input type="checkbox"/> Fall from different level	<input type="checkbox"/> Motor vehicle accident	<input type="checkbox"/> Stretched
<input type="checkbox"/> Bending	<input type="checkbox"/> Fall from ladder	<input type="checkbox"/> Noise	<input type="checkbox"/> Struck against fixed object
<input type="checkbox"/> Bicycle	<input type="checkbox"/> Fall from liquid or grease spill	<input type="checkbox"/> Object handled	<input type="checkbox"/> Struck by moving object
<input type="checkbox"/> Carrying	<input type="checkbox"/> Fall from same level	<input type="checkbox"/> Observation	<input type="checkbox"/> Struck by falling object
<input type="checkbox"/> Caught	<input type="checkbox"/> Fall from stairs	<input type="checkbox"/> Over exertion	<input type="checkbox"/> Struck by flying object
<input type="checkbox"/> Caught by fixed object	<input type="checkbox"/> Foreign body	<input type="checkbox"/> Pulling	<input type="checkbox"/> Throwing
<input type="checkbox"/> Caught in or between	<input type="checkbox"/> Gunfire	<input type="checkbox"/> Pushing	<input type="checkbox"/> Training exercise
<input type="checkbox"/> Caught under	<input type="checkbox"/> Gripping	<input type="checkbox"/> Power tool	<input type="checkbox"/> Tripped, did not fall
<input type="checkbox"/> Climbing	<input type="checkbox"/> Hand tool	<input type="checkbox"/> Reaching	<input type="checkbox"/> Tugging
<input type="checkbox"/> Contact w/chemical	<input type="checkbox"/> Horseplay	<input type="checkbox"/> Recreation	<input type="checkbox"/> Twisted
<input type="checkbox"/> Contact w/fire or flame	<input type="checkbox"/> Inhalation	<input type="checkbox"/> Repetitive motion	<input type="checkbox"/> Vibration
<input type="checkbox"/> Contact w/hot object	<input type="checkbox"/> Ingestion	<input type="checkbox"/> Rubbed	<input type="checkbox"/> Walking
<input type="checkbox"/> Contact w/steam or hot fluid	<input type="checkbox"/> Jarring / bouncing	<input type="checkbox"/> Running	<input type="checkbox"/> Workplace environment
<input type="checkbox"/> Driving	<input type="checkbox"/> Jumping	<input type="checkbox"/> Shoveling	<input type="checkbox"/> Other – Describe in B _____
		<input type="checkbox"/> Sitting	<input type="checkbox"/> _____



# Important message for Doctors and health care providers



Human Resources Division  
**Safety and Claims Management**  
ADM-ES-0500  
500 Fourth Avenue, Suite 500  
Seattle, WA 98104  
**206-477-3350** Fax 206-296-0514

Note: King County is a self-insured employer.

**Please complete the forms in this packet.**

If the employee:

- 1** Is able to return to work with no restrictions or minimal restriction (can be accommodated in their job of injury):  
Please fill out the:
  - **Providers Initial Report (PIR)**
  - **Activity Prescription Form (APF)**
  
- 2** If the employee is NOT able to return to their job of injury, King County has a Transitional Duty Program.  
Please fill out the:
  - **Providers Initial Report (PIR)**
  - **Activity Prescription Form (APF) with Phase-In and/or Release-To-Work information**

Please **FAX** completed forms to **206-296-0514** OR **email** electronic versions to **workerscomp@kingcounty.gov**

Please provide a copy of all completed forms to the employee, so that he/she is made aware of his/her restrictions and medical status.

If you need pre-authorization for services or have questions, please contact King County Safety and Claims Management at 206-477-3350.

---

## IMPORTANT NOTE

**Re: Billing after January 1, 2013**

**Beginning January 1, 2013**, for their initial appointment, King County workers may choose any health-care provider who is qualified to treat their injury. This appointment can be billed to King County. **After the initial appointment, however; workers must be treated by a provider who is part of the new Labor & Industries Medical Provider Network, in order to have the costs absorbed by King County Worker's Compensation.**

**To find out if you are in the network, you can check the L&I web site at  
<https://fortress.wa.gov/lni/fad/>**

The department or self-insured employer will pay you according to the Medical Aid Rules and Fee Schedules. Washington Admin Code 296-20-020 indicates "rendering of treatment" is acceptance of the department's rules and fees. Service costs with non-network providers cannot be passed on to the injured worker and will be a cost that these providers will have to absorb. Per Washington Administrative Code (WAC) 296-20-010 (6) "when a claim has been accepted by the department or self-insurer, no provider or his/her representative may bill the worker for...the allowable fee and the usual and customary charge."

# Finding ways for you to work safely as you recover



Human Resources Division  
**Safety and Claims Management**  
ADM-ES-0500  
500 Fourth Avenue, Suite 500  
Seattle, WA 98104  
**206-477-3350** Fax 206-296-0514

*It is your job to return to work as soon as possible.*

## Returning to work

If you are released to return to work with temporary medical restrictions, a determination will be made as to whether or not an accommodation can be provided that will allow you to return to your job of injury and perform the essential functions. If an accommodation cannot be made in your job of injury, we will attempt to assign you to temporary, alternative job tasks that are within the restrictions/limitations set by your medical provider. If it is determined that your medical restrictions are permanent, King County offers a Reassignment Program to assist you in finding other County employment.

## King County offers a Transitional Duty Program.

**There are two principal types of Transitional Duty.**

- 1 Restricted Duty.** Restricted Duty is a type of temporary work assignment in which employees perform work duties within their regular positions, but are restricted in the number of hours worked or the duties performed. If your medical provider approves your returning to work, we work with your department to review your job structure and determine if job modifications can be made.
- 2 Alternative Work Assignments.** Alternative Work is a type of temporary work assignment in which employees perform work duties outside of their regular jobs. We work with your department and other County departments to identify alternative job tasks to which you may be assigned. **If you are released to perform alternative work, please have your medical provider complete the Transitional Duty Job Analysis (TDJA) form, along with your Activity Prescription form.**

**Note:** You may also be released to **Phase-In/Gradual Return** in your job of injury. In this case, your medical provider will communicate a Return-To-Work Plan, releasing you to gradually increase your work hours until you resume working your regular schedule.

## Other options that can help you return to work:

- 1 Disability Services and Reasonable Accommodation.** If you have a medical condition/disability that impacts your ability to perform your job, King County's Disability Services Program can help provide services to get you back to work. Our Disability Services Specialists can facilitate reasonable accommodations – changes or adjustments to your job and/or the work environment – to enable you to perform the essential functions of your job. In addition to working with your medical provider to facilitate reasonable accommodations, Disability Services Specialists can provide other services to assist you; they can help coordinate employment placement services (i.e. gradual return, transitional duty, interdepartmental transfers, reassignment), and can also assist you with applying for disability benefits.
- 2 Reassignment Program.** Employees who can no longer perform their current jobs, with or without accommodation, may be eligible for King County's Reassignment Program (RAP). This six-month program provides priority job referrals to employees who are permanently restricted from returning to the jobs they held before their injury/illness. The RAP will provide you with non-promotional job placement services, until you are either placed in another position with King County, or have been in the program for six months. To be reassigned into a position, that position must be 1) non-promotional; 2) a position for which you meet or exceed the minimum qualifications; and 3) a position that you are able to perform with your medical restrictions, with or without accommodation.

*...continued on back*

- 3 Vocational Rehabilitation.** If it is determined that you have permanent restrictions which prevent you from performing your current job, we may refer you to a vocational rehabilitation counselor for an assessment.

## **Section 30: ACCIDENT STATISTICS, INVESTIGATION AND REVIEW**

### **INTRODUCTION**

Despite accident prevention efforts, accidents and injuries may still occur. Investigation and analysis of accidents can provide insight for preventing future accidents.

### **APPLICABILITY**

Supervisors, Managers, and Directors all have a role in accident investigation and review. It is important for management to be aware of the accidents that occur and the recommendations for prevention of future accidents.

Safety and Claims Management assists department management by providing accident statistics and analysis, by responding to serious accidents, and by making recommendations for accident prevention.

### **ACCIDENT STATISTICS**

The regular compilation of accident statistics aids in measuring the effectiveness of King County's accident prevention programs and helps to efficiently direct resources to identified problem areas. A record of King County's occupational injuries and illnesses (OSHA 300 log) is maintained by Safety and Claims Management. A summary of this record is to be posted from February 1st until April 30th of each year at principle County work locations. Safety and Claims Management sends the OSHA 300 summary to specified locations. If your group does not receive the summary and would like one, call 206-477-3350.

In addition, Safety and Health Professionals conduct an annual analysis of each department's illness and injury experience, and develop recommendations for illness and injury reduction.

### **ACCIDENT INVESTIGATIONS**

Conducting accident investigations is a primary responsibility of all supervisors. Conducting a thorough, effective investigation will prevent similar accidents from occurring, and will save time and expense. Training is available to assist supervisors and management leadership teams in developing accident investigation skills. See Section 4 – "Employee Safety Training."

Any incident that results in a loss of any kind (injury, illness, or property damage) should be immediately and properly investigated. Many parties are interested in the evaluation of accidents, including legal departments, insurance companies, employees, management, government agencies and even the media. A

thorough investigation provides answers to questions from any source.

Supervisor actions after an injury or accident are critical. There are four distinct phases or responses to guide a supervisor during the investigation:

- Response
- Fact Finding
- Analysis
- Recommendations

**RESPONSE** - Employees need to know how to report accidents and injuries, and need to feel free from repercussions for reporting. Supervisors can only investigate incidents they know about, and the investigation must begin immediately.

The first two actions at the scene of an accident are to provide first aid for any victims and to eliminate hazards. The next step is securing the area. Equipment and evidence must be preserved so it can be examined, sketched, or photographed. Finally, interview witnesses at the site to gather information while it is fresh in their minds.

If the accident results in a fatality or the hospitalization of one or more employees, the Department of Labor and Industries must be notified within 8 hours of the incident. The OSHA reporting hotline number is 1-800-423-7233. A citation may be issued to the county if the reporting time exceeds 8 hours.

**FACT FINDING** – The focus is to identify facts, critical information, root causes and systemic problems, not just immediately visible symptoms. Conduct on-site interviews, and gather equipment and materials involved for possible testing and reenactment. Inspect the site and document observations. Take photographs for documentation.

**ANALYSIS** – Review testing results, interviews and physical evidence. Outline the sequence of events leading up to the accident, and determine the cause(s) of the accident. Assigning blame should be avoided, although human error may be a contributor to the accident. Often more than one cause is at the root of the accident. Basic causes of accidents include:

- 1) People/Procedures
- 2) Equipment/Tools
- 3) Materials
- 4) Environment

**RECOMMENDATIONS** – Once the true causes have been identified, recommendations can be made for the elimination of the hazard. Possible solutions may involve

- 1) Personnel actions (training, accountability measures, work practices, management involvement);
- 2) Equipment purchases, modifications, or maintenance programs;
- 3) Material changes or storage and handling methods updated; or
- 4) Changes to the work environment that could include lighting, signs/placards, safety devices, or procedural improvements.

Recommendations should be specific, written, and effectively communicated. The recommendations must address the root causes of the accident/injury to prevent future injuries. Once completed, the investigation and recommendations should go through a departmental review process. Steps can then be taken towards implementing the recommendations.

### **ACCIDENT REVIEWS**

Accident review is a required function of each department's Safety Committee. In addition, departments are encouraged to develop a departmental Accident Review Board to provide a central forum for investigating serious and high-cost accidents, determining causation, and recommending corrective actions.

Large departments may have a two-tiered format, individual divisional Accident Review Boards and a Departmental Accident Review Board which reviews only accidents involving serious injury or high cost damage to property.

Accident Review Boards should meet monthly, or as required in response to serious accidents. Information reviewed should include the "Work Related Illness/Injury Supervisor Report" and/or "Property or Equipment Damage Report." Both the supervisor and the involved employees shall be present and may present additional information to the Board. Accidents may be evaluated as to their preventability by employee actions.

Appropriate representation from Safety and Claims Management is required for review of accidents involving fatalities, serious injuries, or major losses. Safety and Claims Management must be notified (206-477-3350) of the Accident Review Board meetings where this type of accident will be reviewed.

Since the primary objective of the Accident Review Board is to prevent a recurrence of similar accidents, the Board should determine contributing causes. When an accident is found to involve a deficiency in department operating standards, appropriate steps should be taken to correct the deficiency within a specified period of time. Corrective actions may be recommended for employee behavior as well, especially if safety rules were violated.

Attachment 1 is a sample form to be used for accident review.

Attachment 1:

**KING COUNTY ACCIDENT REVIEW**

DEPARTMENT \_\_\_\_\_ DIVISION \_\_\_\_\_

NAME \_\_\_\_\_

OCCUPATION \_\_\_\_\_

DATE OF ACCIDENT \_\_\_\_\_ DATE OF REVIEW \_\_\_\_\_

REVIEW BOARD'S CONCLUSIONS: \_\_\_\_\_

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PREVENTABLE \_\_\_\_\_

NOT PREVENTABLE \_\_\_\_\_

RECOMMENDATIONS: \_\_\_\_\_

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BOARD MEMBERS: \_\_\_\_\_

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SUPERVISOR: DO YOU CONCUR WITH THE BOARD'S FINDINGS? \_\_\_\_\_

REFERRED? \_\_\_\_\_ (yes or no) DATE \_\_\_\_\_

SUPERVISOR'S SIGNATURE \_\_\_\_\_

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## **Section 31: FIRE EXTINGUISHER INSPECTION AND SERVICE**

### **INTRODUCTION**

In each work area, each office, and most vehicles, King County has provided one or more portable fire extinguishers. They should be permanently placed in readily accessible, conspicuous locations. When hung on a wall or column, the top should be no more than five feet above the floor and clearly marked with an extinguisher marker sign approximately 8 feet above the floor. In long hallways or areas where the sign may be difficult to see, it should be mounted perpendicular to the wall or column.

### **USE OF FIRE EXTINGUISHERS**

Portable fire extinguishers are used to perform one function only, to put out a small fire. If the fire cannot be extinguished with a small fire extinguisher, retreat from the area and report the fire by calling 911.

Employees must be trained in the general principles of fire extinguisher use when they are first hired and then annually. This can be accomplished by scheduling a training course offered by Safety and Claims Management, or through the use of safety training videos available from Safety and Claims Management. Call 206-477-3370 or 206-477-3371 for more information.

To use a fire extinguisher:

1. Remove the extinguisher (note that extinguishers are heavier than expected for their size)
2. Hold the extinguisher upright
3. Twist and pull ring pin
4. Stand back approximately 8 feet from the fire
5. Aim at base of fire
6. Squeeze lever and sweep side to side

Extinguishers are classified as follows:

- |       |  |
|-------|--|
| A     | combustibles, such as wood and paper (stainless steel water extinguishers) |
| B     | flammable liquids  |
| C     | electrical   |
| A,B,C | all types of fires (dry chemical extinguishers)                            |

## **FIRE EXTINGUISHER INSPECTIONS**

To make sure extinguishers are maintained in usable condition, they require an annual and monthly inspections:

1. The annual inspection is performed by the Fire Extinguisher Specialist assigned to Safety and Claims Management. The Fire Extinguisher Specialist makes scheduled rounds of King County properties, checking, hydro testing, refilling, and re-tagging extinguishers as necessary.
2. The monthly inspection of fire extinguishers is performed by a person in the work unit. This person may be an organization's Safety Committee member, a Safety Coordinator, or someone specifically assigned to do this task. Fire extinguishers located in motor pool vehicles shall be inspected by the motor pool, and those located in assigned vehicles shall be inspected by the operator and/or the organization's Safety Committee member, Safety Coordinator, or assigned individual. These inspections are required monthly. The monthly inspection consists of:
  - a) Determine that the annual inspection has been done per #1 above.
  - b) Remove the extinguisher from its resting place (if practicable).
  - c) Check the seal on the latch pin.
  - d) Check the dial indicator. If the indicator is in the green area, the extinguisher charge is OK.
  - e) For dry chemical extinguishers (ABC or BC) turn the extinguisher upside down and shake to loosen the powdered substance inside.
  - f) Sign and date the back of the King County fire extinguisher tag.
  - g) Replace the extinguisher in its proper place.

If any part of the inspection fails, the extinguisher must be repaired or replaced. Follow your work unit's procedure. Some organizations have a centralized location where unusable extinguishers can be exchanged for recharged and certified extinguishers, while others must directly notify Safety and Claims Management, 477-3350. Check with your supervisor for the procedure in your area, or call 206-265-3521 to contact the Fire Extinguisher Specialist.

Safety and Claims Management services, but does not purchase, original fire extinguishers owned by King County. King County has standardized the use of Amerex brand fire extinguishers. By doing so, we significantly reduce the quantity of spare parts needed to support the Fire Extinguisher Maintenance

Program and realize commensurate cost savings.

**REFERENCES**

WAC 296-800-300 Portable Fire Extinguishers

## **Section 32: DIVING SAFETY**

### **INTRODUCTION**

This section details the basic requirements and procedures for safe diving by King County employees. These requirements apply to employees whose job tasks include bridge foundation inspections that require working in water using “underwater apparatus which supplies compressed breathing gas at the ambient pressure.” This section is intended to comply with applicable sections of Washington Administrative Code (WAC) 296-37 for surface-supplied air diving of no more than 30 feet deep (no decompression), in a very slow to still waterway, with shore access.

### **RESPONSIBILITIES**

Safety and Claims Management will support departments by:

- Providing technical support to managers and supervisors in updating the diving safety program,
- Assisting departments in meeting the medical clearance requirements of WAC 296-37, and
- Assisting departments in sourcing competent diving trainers.

Each Department whose employees dive to perform work duties is responsible for:

- Contacting Safety and Claims Management to evaluate tasks that may come under this section,
- Ensuring that employees receive:
  - initial medical examinations,
  - annual medical examinations, and
  - medical examinations following an injury or illness requiring in-patient hospitalization,
- Ensuring that their employees are properly trained in dive-planning and use of diving equipment,
- Ensuring proper sanitation and maintenance of all diving equipment,
- Ensuring that this written Diving Safety Program is tailored to the needs of department employees as necessary, and
- Revising and updating the hazard evaluation as needed (i.e., any time work process changes may affect employee exposure).

Employees are responsible for:

- Using required safe diving equipment in compliance with this program,
- Notifying management of equipment malfunction or job circumstances where safe diving protocol might need to be reviewed,
- Ensuring the care and maintenance of their assigned diving equipment,
- Notifying management if their medical status changes and requires an updated medical evaluation for safe diving, and

- Documenting any injury associated with a dive event.

**MEDICAL EVALUATION**

The medical certification of diving employees is required by WAC 296-37 to reasonably assure that divers are both mentally and physically qualified to do the assigned task safely.

An initial medical evaluation is required to determine if employees have any physical condition that may limit or restrict their qualification for diving. The initial and annual medical examinations shall consist of:

- (i) Medical history;
- (ii) Diving-related work history;
- (iii) Basic physical examination;
- (iv) The tests below:

<b>Test</b>	<b>Initial Examination</b>	<b>Annual Re-examination</b>
Chest x ray	x	
Visual acuity	x	x
Color blindness	x	
EKG: Standard 12L <sup>1</sup>	x	
Hearing test	x	x
Hematocrit or hemoglobin	x	x
Sickle cell index	x	
White blood count	x	x
Urinalysis	x	x

<sup>1</sup> To be given to the employee once, at age 35 or over.

Additional tests such as stress electrocardiogram, oxygen sensitivity, carotid sinus sensitivities, electroencephalography, special blood studies, etc., may be conducted at the discretion of the physician.

Medical examinations conducted after an injury or illness requiring in-patient hospitalization shall be appropriate to the nature and extent of the injury or illness as determined by the examining physician.

Employees medically determined to have certain ailments or conditions on initial examination are automatically disqualified from diving under this program, including:

- History of epileptic disease or syncopal attacks
- Cystic or cavitory disease of the lungs or obstructive disease of the lungs or recurrent pneumothorax
- Chronic inability to equalize sinus and middle ear pressure
- Significant central nervous system (CNS) disease or impairment
- Certain cardiac abnormalities, e.g.: Pathological heart block, valvular disease, interventricular central defects.
- Certain joint disorder about the shoulder, hip, or knee
- Chronic alcoholism
- Psychotic disorders
- Drug addition
- Significant hemoglobinopathies
- Significant malignancies
- Pregnancy
- Significant osteonecrosis

On initial examination, an employee may be disqualified from diving for conditions that the Doctor believes may put them at risk, including but not limited to:

- Diabetes
- Morbid obesity
- Perforation of tympanic membrane
- History of neurological decompression sickness
- Grossly impaired hearing
- History of severe motion sickness
- Seriously impaired pulmonary function
- Pulmonary fibrosis
- Peptic ulcer
- Chronic hepatitis
- Sickle cell trait
- Disabilities (or chronic conditions) requiring continuous control by medication.

An employee may be temporarily disqualified on an initial examination for the following reasons:

- Acute alcoholism
- Drug intoxication
- Acute gastrointestinal syndrome
- Acute infection: skin, upper respiratory, ear, etc.
- Recent incident of serious decompression sickness.

## **RECORD KEEPING**

The physician shall furnish written reports of the medical examination to Safety and Claims Management. The report shall include:

- (i) The results of the medical examination, and
- (ii) The examining physician's opinion of the employee's fitness to be exposed to hyperbaric conditions, including any recommended restrictions or limitations to such exposure (see WAC 296-37-585).

The employee shall be provided a copy of the physician's written report. King County shall not lift any restrictions placed on an employee without the consent of the attending physician.

Safety and Claims Management will maintain records of all medical evaluations.

## **TRAINING**

Members of the dive team must receive formal technical diving training and be certified prior to initial diving. Such training shall include the following elements:

- Basic Diving Principles
- Surface Diving Equipment
- Decompression Procedures (when applicable)
- Planning Dive Operation
- Specific Equipment Training
- Standard Hand Signals
- First Aid/CPR

### **Maintenance of Qualifications**

Each diver or attendant must complete an annual review of the training elements unless they have 30 or more field diving days in the prior 2-year period.

Maintenance of qualification must be verified by field experience as documented by:

- Employment records
- Field operations records
- Training review records
- Written statement from previous employers verifying diving activities (new employees)
- Written statement from diving officers or commanding officers (new employees).

Divers must be proficient in the skills required to perform the primary task necessitating diving. For instance, divers diving for the purpose of inspecting bridge foundations must be licensed or certified to inspect bridge structures by appropriate authorities.

## **DIVING PROCEDURES**

### **Composition of a Dive Team**

The dive team shall consist of the following positions:

1. **Designated Person In charge or Dive Supervisor**

The designated person in charge (DPIC) is responsible for the safe and efficient conduct of the entire project. S/he will plan and institute a site specific safety briefing prior to each dive with all crew members and associated personnel in attendance. The briefing shall include the description of the pending operation: dive team assignments; location, depth and planned bottom time for the dive; review of pertinent drawings and/or photos; discussion of equipment, tools and materials that may be required during the operation; discussion of job hazard analysis (JHA); review of the emergency procedures; and assignment of specific responsibilities to each dive team member.

2. **Diver**

The diver is a certified employee working in water using underwater apparatus which supplies compressed breathing gas at the ambient pressure. The diver is under the direction of the Dive Supervisor and shall perform all tasks as required and directed by Dive Supervisor/ DPIC.

3. **Standby Diver**

A diver at the dive location properly equipped and available to assist a diver in the water. A standby diver is required on all dive teams. A standby diver must be ready to reach the primary diver within five minutes of an emergency. When two divers are in water together, they can be considered as standing by for each other if one can reach the other within three minutes.

4. **Tender**

The tender tends the diver's umbilical--The composite hose bundle between a dive location and a diver which supplies the diver with breathing gas, and includes a safety line between the diver and the dive location. The tender assists the diver in and out of water and operates deck equipment as required or directed by the DPIC. The tender is also the time keeper and responsible for monitoring bottom time.

In certain situations such as entry into wreck, tunnels, other confined spaces, a second diver tending the primary diver at the point of entry will be required.

All diving personnel must be qualified and current in their certification. Each diver shall be continuously tended while in the water by a separate dive team member. Note that the Dive Supervisor can perform the tender's tasks on a two-person dive team.

## **Equipment and Clothing**

- All equipment used in diving operations must be in excellent operation condition and systematically tested prior to use.
- Equipment must be inspected and determined to be in good operating condition prior to each dive and continually maintained in such condition throughout the operation.
- All hoses leading to and from the diver which are exposed to potential damage as a result of falling objects, personnel, traffic, etc. must be protected.
- All surface-supplied diving must be performed with the diver wearing a harness where the hose is attached by a quick release mechanism that cannot be accidentally released.
- Dive team members must wear appropriate PPE.
- Divers must wear protective clothing whenever barnacles, marine growth, marine life or other sharp or abrasive surfaces present a potential hazard.
- Provision must be made to control body heat loss during the dive.
- Divers must carry a sharp knife at all times while in water to free themselves from any life-threatening entanglements.
- All pressure gauges should be checked periodically during a dive to assure their accuracy.

## **Pre-dive Check List shall include:**

- Emergency aid contacts: A list shall be kept at the dive location of the telephone or call numbers of accessible hospitals and available physicians;
- An operational decompression chamber (if not at the dive location) when required;
- Available means of transportation, for instance, Aid car from the Fire Department.
- The nearest U.S. Coast Guard Rescue Coordination Center.
- First-aid supplies.
- An American Red Cross standard first-aid handbook or equivalent, and a bag-type manual resuscitator with transparent mask and tubing shall be available at the dive location
- An assessment of the safety and health aspects of the following:
  - Diving mode;
  - Surface and underwater conditions and hazards;
  - Breathing gas supply (including reserves);
  - Thermal protection;
  - Diving equipment and systems;
  - Dive team assignments and physical fitness of dive team members (including any impairment known to the employer);
  - Repetitive dive designation
  - Decompression and treatment procedures (including altitude corrections);
  - Emergency procedures.

- Coordination with other activities in the vicinity which are likely to interfere with the diving operation.
- Employee briefing.
- Dive team member be briefing on:
  - The tasks to be undertaken;
  - Safety procedures for the diving mode;
  - Any unusual hazards or environmental conditions likely to affect the safety of the diving operation; and
  - Any modifications to operating procedures necessitated by the specific diving operation.
  - Inquiry into the dive team member's current state of physical fitness,
  - Discussion with the dive team member of procedure for reporting of physical problems or adverse physiological effects during and after the dive.
  - Confirmation of Equipment inspection.
    - Compressor intake located in an area free from contamination.
  - Placement of warning signal when diving from surfaces other than vessels in areas capable of supporting marine traffic.
- Accurate and positive determination of depth of dive.
- Absence of overhead work while diving is in progress.

### **Water Entry**

A safe means of ingress and egress from the water shall be provided for diving personnel and a means of rescuing surface personnel in the event of a fall into the water.

### **Diving Operation**

Having met the pre-dive planning, equipment and personnel checks, the actual diving operation may be undertaken.

### **Post-dive procedures**

- After the completion of any dive, the Diving Supervisor shall:
  - Check the physical condition of the diver;
  - Instruct the diver to report any physical problems or adverse physiological effects including symptoms of decompression sickness;
  - Advise the diver of the location of a decompression chamber which is ready for use; and
  - Alert the diver to the potential hazards of flying after diving.
- Record of dive.
  - The Diving Supervisor shall record and maintain the following information for each diving operation:
    - Names of dive team members including designated person-in-charge;
    - Date, time, and location;
    - Diving modes used;

- General nature of work performed;
- Approximate underwater and surface conditions (visibility, water temperature and current); and
- Maximum depth and bottom time for each diver.

# RECORD OF DIVE

Diver: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Project: \_\_\_\_\_ Work Order # \_\_\_\_\_

Location: \_\_\_\_\_ Platform/Vessel: \_\_\_\_\_

Dive Supervisor/DPIC: \_\_\_\_\_ Standby Diver: \_\_\_\_\_

Diver Tender: \_\_\_\_\_ Standby Tender: \_\_\_\_\_

Air Temp. \_\_\_\_\_ Water Temp. \_\_\_\_\_ Underwater Visibility \_\_\_\_\_ Current \_\_\_\_\_

Diving Mode: \_\_\_\_\_

Primary Compressor \_\_\_\_\_  Back-Up Compressor \_\_\_\_\_

Maximum Depth \_\_\_\_\_ Bottom Time \_\_\_\_\_

Description of work performed: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Dive Supervisor/DPIC Signature: \_\_\_\_\_ Date \_\_\_\_\_ Time: \_\_\_\_\_

Diver Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Time \_\_\_\_\_

# Record of Site-Specific Safety Meeting

Project: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Location: \_\_\_\_\_ Work Order: \_\_\_\_\_

Description of work plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Job Hazard Analysis Performed: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Job Hazards Discussed: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dive Team (Crew) Suggestions/Action Taken: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Nearest Emergency Facility:

Hospital/clinic: \_\_\_\_\_ Phone #: \_\_\_\_\_

Address: \_\_\_\_\_

Attendees:

Print Name

Signature

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Meeting Conducted by \_\_\_\_\_ Signature: \_\_\_\_\_

DPIC: \_\_\_\_\_ Signature: \_\_\_\_\_

## **Section 33: MARINE SAFETY**

### **INTRODUCTION**

Each department or division is required to develop specific procedures and requirements tailored to its work. This is particularly pertinent to the Marine Division of the Department of Transportation, due to the unique nature of its work and multiple regulatory jurisdictions. The Washington State Department of Labor and Industries has jurisdiction when employees are on land and the Coast Guard and the Federal Occupational Safety and Health Administration has jurisdiction when work is on navigable water.

### **APPLICABILITY**

This section applies to the Department of Transportation Marine Division's Water Taxi operations only.

### **RESPONSIBILITIES**

Marine Division management is responsible for:

- The overall development, implementation, and enforcement of the King County Water Taxi Safety and Health program.
- Developing and updating the Vessel Operations & Maintenance Manuals, which contain King County Water Taxi's specific safety and health program.
- Training each employee on the contents of the Vessel Operations & Maintenance Manuals.
- Training the division's employees tasked with operating and maintaining each vessel on the peculiarities of each vessel.

Employees are responsible for:

- Complying with management directives with respect to training and work around vessels and the maintenance shop.
- Notifying management of any and all unsafe conditions.
- Timely reporting all work-related injuries and illnesses.
- Maintaining all required certifications for their jobs

Safety and Claims Management is responsible for:

- Providing technical assistance to the division in implementing the pertinent provisions of the Operations and Maintenance Manuals (KC Water Taxi program).
- Assist the division in program evaluation as requested.
- Provide training to the division as requested.